

Doctoral Dissertation

**A Proposed Framework for a Post-Secondary Education Program for
Students with Intellectual Disability at a University in Saudi Arabia:
Program Components, Organization, and Evaluation**

AREEJ TALEA ALMUTAIRI

Graduate School for International Development and Cooperation
Hiroshima University

March 2021

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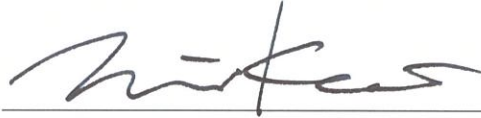
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AREEJ TALEA ALMUTAIRI

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We hereby recommend that the dissertation by Ms. AREEJ TALEA ALMUTAIRI entitled "A Proposed Framework for a Post-secondary Education Program for Students with Intellectual Disability at a University in Saudi Arabia: Program Components, Organization, and Evaluation" be accepted in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY IN EDUCATION.

Committee on Final Examination:



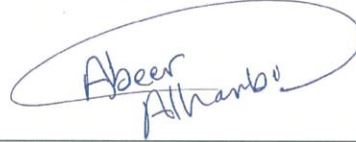
KAWAI Norimune, Professor
Chairperson



YOSHIDA Kazuhiro, Professor



SAKURAI Riho, Associate Professor



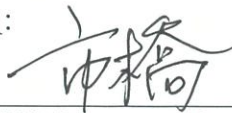
ABEER Alharbi, Assistant Professor at King Saud University



NAGATA Ryota, Professor

Date: January 26, 2021

Approved:



ICHIHASHI Masaru, Dean &
Professor



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ABSTRACT

This multiple case study proposes a framework for a post-secondary education (PSE) program for students with intellectual disability (ID) in Saudi Arabia. The proposed framework draws on the experiences of program directors, faculty members, and administrative staff in transitional and PSE programs for students with ID in the United States (US). It then explores the applicability of the proposed framework of the PSE program and the potential challenges to its implementation and their solutions at a university in Saudi Arabia by exploring the views of administrators, employees, and faculty members, as well as of Saudi students with ID and their parents. Purposeful sampling was used to choose the American and Saudi participants in this study. Case studies were conducted regarding three cases in the US and two cases in Saudi Arabia. Interviews, observations, and document reviews were used to collect data from each US program. The US data were analyzed individually, then reanalyzed using a cross-case method based on Stake's (2006) worksheets, while other interviews and surveys were conducted in the Saudi cases. Multiple statistical tests and thematic analyses were used to analyze the interviews and surveys. The proposed framework of PSE programs for these students highlights the program's mission, vision, objectives, philosophy, and academic, professional, and residential components. Internal and external evaluations were used to predict students' expected outcomes in personal, academic, and career development and gainful employment. The proposed program's applicability was verified through institutional values, the need to implement the program, timeliness of starting the program, available human and financial resources, and organizational expertise and capacity. The challenges facing the program's implementation were analyzed as social, material, human, administrative and executive, and program design and planning challenges. The measures to resolve these challenges included strategic planning, awareness- raising, and cooperation.

Keywords: Intellectual disability, post-secondary education, inclusive higher education, post-secondary education programs, transition services.

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LIST OF ABBREVIATIONS

ADA	Americans with Disabilities Act
C3	Institute for Community Inclusion’s College Career Connection
CFY	Common First Year
EAHCA	Education for All Handicapped Children Act
EHA	Education of the Handicapped Act
HEA	Higher Education Act
HEOA	Higher Education Opportunity Act
ICI	Institute for Community Inclusion
ID	Intellectual Disability
IDEA	Individuals with Disabilities Education Improvement
IEP	Individualized Education Program
KSU	King Saud University
PCP	Person-Centered Planning
PSE	Post-secondary Education
SA	Saudi Arabia
Section 504	Section 504 of the Rehabilitation Act
TPSID	Transition and Post-secondary Programs for Students with Intellectual Disability

UAP	Universal Access Program
UDL	Universal Design for Learning
US	United States
WIOA	Workforce Innovative Opportunities Act

CHAPTER 1: INTRODUCTION

1.1 Background

We will also enable those of our people with disabilities to receive education and job opportunities to ensure their independence and integration as effective society members. They will be provided with all the facilities and tools required to put them on the path to commercial success (Vision 2030, p. 37).

As a developing country, Saudi Arabia has expanded its special education services for people with disabilities, including people with intellectual disability (ID), as part of the modernization of its educational system (Alrusaiyes, 2014) in response to Vision 2030, which calls upon the Saudi community and educational institutions to provide support and ensure equality for all people with disabilities through the concerted efforts of educational institutions to invest in education and prepare them for future jobs (Al-Ajami, 2016; Al-Salahi, 2017; Ministry of Education, 2020a; Vision 2030, Ministry of Education, 2020b).

Like many countries, Saudi Arabia began to focus its efforts on special education by formulating and enacting policies and legislation that guarantee the rights of people with disabilities to access appropriate services. Many special education policies were adapted from those in the United States (US) (Al-Hoshan, 2009; Alnahdi, 2012; Alquraini, 2010, 2013). There is extensive evidence of similarities between the US and Saudi educational policies (Al-Hoshan, 2009; Alquraini, 2010). For example, Saudi Arabia has adopted various concepts used in special education in the US, such as deinstitutionalization and the inclusion of people with disabilities in regular schools (Al-Hoshan, 2009; Alquraini, 2013). Moreover, in 2001, the Regulations of Special Education Programs and Institutes (RSEPI) for the development of special-education policy for students with disabilities in Saudi Arabia were drafted by a representative of the Administration of Special Education in the Ministry of Education in Saudi

Arabia and faculty members from the Department of Special Education at King Saud University (KSU) who hold master's or doctoral degrees from the US in Special Education. They revised the US's special-education policies, including the Education for All Handicapped Children Act (EHA) of 1975 and the Individuals with Disabilities Education Act (IDEA) of 1990, to make them suitable to the culture of the Saudi education system. The RSEPI was drafted in Saudi Arabia based on US policies for people with disabilities (Alquraini, 2010, 2013; Alrusaiyes, 2014) and is considered the first regulations in Saudi Arabia issued regarding students with disabilities (Alquraini, 2013).

Moreover, the Department of Special Education at KSU is adapting US special education literature for the design of the department's curricula, as Saudi special-education teachers who graduated from this department had received similar education from their peers in the US. In general, special-education programs in Saudi Arabia are modeled after existing programs in the US special-education literature. Therefore, cultural differences in special education studies between Saudi Arabia and the US may play a small role in the current study (Alnahdi, 2012).

Moreover, the Saudi American Association of Special Education was established in line with the Saudi government's 2030 Vision to develop special education and services for people with special needs in Saudi Arabia. This association aims to improve the lives of individuals with special needs and their families both inside and outside Saudi Arabia by providing all necessary services and support and improving the skills and knowledge of special-education teachers and researchers in this field. This association seeks to be a leader in the Arab world in the provision of special-education services by appointing the best Saudi scholars from different cultural backgrounds, such as the US, the United Kingdom, Australia, and other Arab countries, in addition to forming partnerships with local and international associations supporting individuals with special needs (Saudi American Association of Special Education, 2017).

Saudi Arabia has not issued special education laws and policies until after it had established special institutions for persons with disabilities. During the period of 1958–1964, special education was only intended for students with visual disabilities, and in 1964, students with hearing disabilities were enrolled in special education. In 1971, special education was also directed to students with ID (Al-Mousa, 2010; Alquraini, 2010). Then, since 1987 Saudi Arabia has issued a variety of laws and policies that guarantee the rights to free education, training, and employment of all individuals with disabilities, including ID, equal to those of individuals without disabilities in Saudi society (Al-Hoshan, 2009; Alquraini, 2010; Alrusaiyes, 2014). Under these laws and policies, people with ID have the full right to live independently and access job training, rehabilitation, and transitional services (Alrusaiyes, 2014; King Salman Center for Disability Research, 2000). Additionally, in 2000, a comprehensive framework for these laws was established under the title “Provision Code for Persons with Disabilities in The Kingdom of Saudi Arabia,” which defined the laws, rights, and services to be provided to this population (Al-Hoshan, 2009; Alquraini, 2010, 2013). This framework was based on the US, where the Individuals with Disabilities Education Act (IDEA) calls for equality between people with and without disabilities in all aspects of life (Al-Hoshan, 2009; Alquraini, 2013).

The government of Saudi Arabia has put in place an ambitious development plan called Vision 2030 that aims to stimulate growth and build a knowledge-based economy by implementing a range of educational, social, and economic programs on a large scale (Al-Hoshan, 2009; Vision 2030, Ministry of Education, 2020b). The infrastructure for these programs was relatively easy to create in a short period of time. As in any society, however, social change does not happen quickly. It took decades for the inclusion of people with ID in regular institutions in the US to yield observable positive results (Al-Hoshan, 2009; Alquraini, 2010; Walker, 2014). Community members need time to understand the nature of people with ID and their ability to learn at a university just like those without disabilities. Nevertheless,

Saudi Arabia still seeks to continue stimulating other economic and social development areas, especially educational reform (Al-Hoshan, 2009).

However, the educational reform process, including special education, does not tend to come without challenges (Al-Hoshan, 2009). Despite the recent efforts of the Saudi government to develop and implement policies for people with disabilities, including ID, and the rapid increase in the number of institutes and schools that serve all people with disabilities (Al-Hoshan, 2009; Alquraini, 2010), the status of Saudis with ID in post-secondary education (PSE) still must be highlighted for any attempt to improve it. There have been no obvious changes in PSE outcomes for people with ID despite the existence of these laws and policies in Saudi Arabia, where students with ID do not enroll in PSE programs (Al-Ajmi, 2006; Almutairi et al., 2020a; Alrusaiyes, 2014). One of the main reasons for the insufficiency of PSE outcomes for people with ID is the lack of Saudi literature regarding inclusive higher education for people with ID apart from studies of the same topic for other types of disabilities. Therefore, there is an urgent need for research on evidence-based higher education practices to facilitate the development of appropriate PSE programs for persons with ID in Saudi Arabia.

Most students with ID stay home after high school and participate in no educational services or jobs. They can enroll in limited vocational institutions, where they receive training in sheltered workshops without finding employment (Al-Ajmi, 2006; Alrusaiyes, 2014). In the same context, people with special needs have the opportunity to access higher education in Saudi Arabia (AlKhushrami, 2003), except for people with ID (Almutairi et al., 2020a). As mentioned earlier, the lack of Saudi literature on PSE programs for students with ID, the lack of interest in designing PSE programs for these students with ID, and the failure to implement and apply laws and policies in the field of special education in Saudi Arabia might thus far have led these students to not access higher education. Al-Hoshan (2009) and Alquraini (2010, 2013) argue that the current laws and policies in the field of special education in Saudi Arabia

are insufficient, as they have not been implemented, creating a gap between the framework of these laws and the provision of the special-education services. Therefore, the desired outcomes have not yet been achieved.

In this study, the term “college” means an institution that has two or four-year undergraduate programs in academic or professional fields. A college is usually smaller than a university. While a university offers undergraduate and postgraduate programs in broad disciplines, it is mainly interested in research.

Many young adults dream of attending college or university, and this is equally true of those with ID. However, this dream has remained elusive for many years, even in developed countries (Lee, 2009; Rayan, 2014; Stolar, 2016). In the US, before the 1970s, students with ID were prohibited from attending regular public schools. Instead, they could only attend governmental institutions (Grigal et al., 2010; Stolar, 2016) that did not provide enough support, as the necessary education and rehabilitation services did not exist (Grigal et al., 2010). In the 1970s, however, the first initiative was implemented to include students with ID in higher education in the US (Almutairi et al., 2020b; Neubert et al., 2001; Papay & Griffin, 2013; Stolar, 2016), after advocates for their inclusion secured funding and drove legislative changes, and stakeholders developed more progressive attitudes toward individuals with ID in post-secondary education (PSE; Grigal et al., 2011; Papay & Griffin, 2013; Plotner & Marshall, 2015). Papay and Griffin (2013) mentioned that, although these programs began in the 1970s, interest in them has increased significantly since the 1990s due to federal funding and technological advances.

Attending university or college is commonly considered a direct route to employment (Leonhardt, 2011; Thompson, 2011). Because of the importance of university education in affording access to employment, PSE institutions have made major efforts to guarantee that students who enroll in PSE programs are adequately prepared for pursuing further studies and

careers. In recent years, the importance of university education has also been recognized for students with ID, especially in the US. As of 2018, US job-seekers require PSE certifications to obtain well-paying jobs (American Association of Community Colleges, 2012). Therefore, as Grigal et al. (2010) noted, it is no surprise that the focus of the conversation of PSE for students with ID has shifted from “Should students with intellectual disabilities go to college?” to “How can students with intellectual disabilities go to college?” (p. 7).

Historically, PSE programs for students with ID in higher-education institutions were designed independently without following a specific approach or program-design mechanism. Instead, these programs were designed according to each individual institution’s mission and administrative system (Fewox, 2018). Therefore, multiple studies have reported significant and obvious differences in PSE programs in terms of, among other things, design, structures, and the admissions criteria for students with ID (Fewox, 2018; Kelley & Westling, 2013; Plotner & Marshall, 2015; Walker, 2014). These differences between the PSE programs for students with ID have led to a lack of understanding among researchers interested in PSE about the design of such programs for students with ID. Moreover, a limited number of studies have demonstrated best practices for developing and implementing PSE programs for students with ID (Fewox, 2018).

Exploring the nature of the PSE program design, including its components, organization, and evaluations, enables the proposal of a theoretical framework for a PSE program for students with ID that includes them in the Saudi higher-education system. In doing so, this study is guided by two theories: program theory (Sidani & Sechrest, 1999) and the theory of student involvement (Astin, 1984). Program theory describes the components, organization, and evaluation of the PSE programs and how they work together based on their expected outcomes. Program theory is based on three basic components: Program activities or inputs, desired results or outputs, and processes implemented to achieve the desired results of

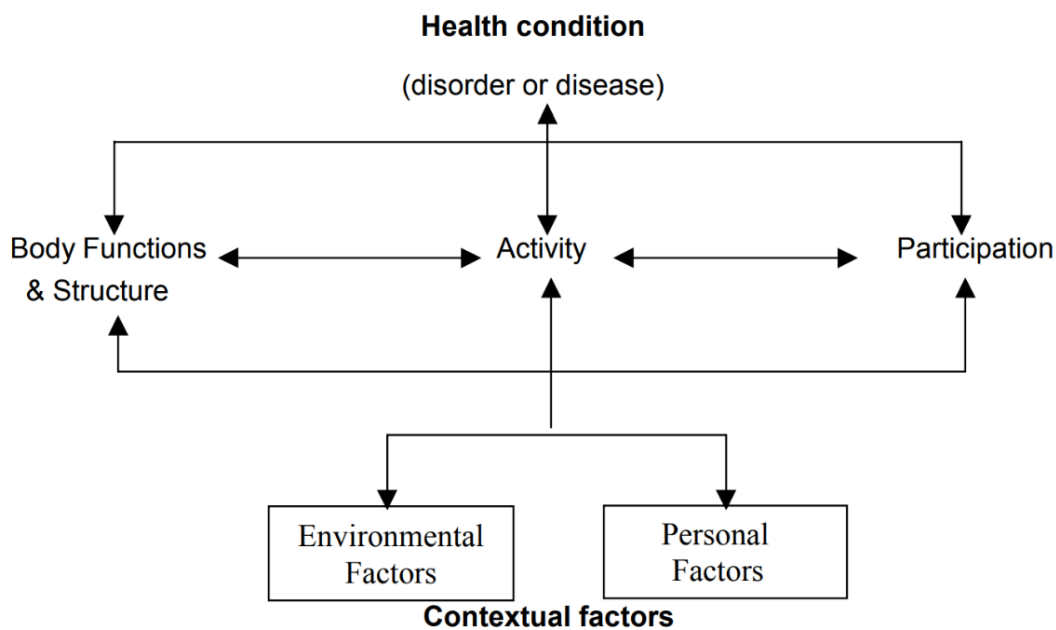
the program (Sidani & Sechrest, 1999). During the design stage of the proposed framework for a PSE program for students with ID, a determination was made of the components of the program theory to ensure organized and diligent planning.

The theory of student involvement facilitates our understanding of how students with ID participate effectively in a university environment. This theory was considered during the design stage of the proposed framework for a PSE program, facilitating a deep understanding of the importance of academic and social inclusion in the university to promote investment in these ID students' capabilities and strengths. The theory of student involvement concerns creating a successful university experience for students with ID by investing in their physical and psychological energies through participation in all aspects of the university inside and outside the classroom. Therefore, this theory stresses that students with ID have to spend a significant time at the university learning, practicing, and enhancing all aspects of cognitive and emotional development (Astin, 1984, 1996).

Moreover, the functional performance of individuals with ID in the proposed framework for the PSE program was considered in the current study using the International Classification of Functioning, Disability, and Health (ICF), one of the groups of international classifications of the World Health Organization. The World Health Organization seeks to achieve better individual health by providing tools to help improve the health systems of different countries across the world based on the basic values of the organization, which include equity, inclusion, and the aim to help individuals to achieve their independent lives by exploiting opportunities to the maximum extent possible. Among these tools is the World Health Organization's accreditation of the ICF as a basis for the scientific standardization of data related to health and disability worldwide, where 191 countries have agreed to and are working on this accreditation. Through this classification, the organization has contributed to developing a multidimensional health scale to measure the functional areas of human health

Figure 1.1

ICF Model



Note. Copyright: World Health Organization, 2002, p. 9.

and deal with cases of individual disability. Through this classification, this organization helps a wide range of countries worldwide to improve their health systems and thus improve the level of individual health (World Health Organization, 2002).

The ICF classification is a classification related to health domains, and it is used to describe the result of complex interactions with the individual's health status and environmental and personal factors that affect the individual's functional performance (World Health Organization, 2002). This type of interaction is critical in proposing the PSE program framework, as it is necessary to understand these factors in order to ensure the success of these students in the university. The ICF model is presented in Figure 1.1.

The ICF is an important concept in inclusive education (Okyere et al., 2019), where the ICF Biopsychosocial Model recognizes the effect of disability on the functional performance of students with ID. However, this model seeks to engage students with disabilities, including

students with ID, in activities and ensure them an inclusive educational environment suitable for their ages, health conditions, and types of disabilities so that they may study in an appropriate learning environment (World Health Organization, 2002). Also, the ICF stresses the need to address any restrictions that negatively affect the success of these students' participation with ID in their educational settings. The ICF supports the theory of student involvement, which forms the basis of the framework proposed in the current study, to enhance students' participation in the university to the maximum possible extent, which can be achieved during the proposed framework design PSE program team.

With regard to the restrictions or challenges that may prevent these students with ID from participating on campus, the challenges that may arise regarding the implementation of the proposed framework for the PSE program at a university in Saudi Arabia in the current study have been dealt with through the ICF, such as the environmental, material, and personal factors facing these individuals with ID.

Students with ID play vital roles in their communities (Hart et al., 2010), and PSE helps such students with ID to obtain well-paid jobs, access information and skills, form relationships, develop a desire for achievement, and build self-confidence (Uditsky & Hughson, 2012). Furthermore, students with ID on campus provide a valuable opportunity for students both with and without disabilities to share their academic experiences, which enriches diversity in the university. Thus, admitting students with ID adds value for both students and the campus as a whole (Kleinert et al., 2012). Accepting students with ID for university study in Saudi Arabia can help to change negative attitudes toward them (Francis et al., 2018; Weinkauff, 2002), increase the positive expectations of faculty members, students without disabilities, and university staff regarding students with ID as college students instead of people with disabilities (Zafft et al. 2004), and contribute to greater diversity on campus (Francis et al., 2018).

On the other hand, integrating students with ID into a campus can cause some issues that should be considered during the proposed framework design in a university in Saudi Arabia. There is still a negative societal view toward people with ID in colleges, which could affect the participation of students with ID (Kelly & Westling, 2013; Morgan, 2014; Stolar, 2016) negatively, as well as the interaction between these students with ID and other students in the college (Jester, 2016; Walker, 2014).

Students with disabilities, including students with ID, are considered one of the groups of students who have traditionally registered lower educational outcomes (Sachs & Schreuer, 2011). As a result, educational planners and policymakers have neglected this group of students when providing education and training (Miles & Singai, 2010). The lack of commitment by all the stakeholders involved in providing education and training to these students with ID through inclusive higher education has profoundly impacted their educational outcomes. In the same context, the low education outcomes registered by students with ID when participating in education and training can be attributed to various factors within and without the school system that remain insufficiently understood by educational planners, policymakers, and faculty members. These factors include but are not limited to lack of support, adverse social attitudes, social isolation, and inadequate financial capacity (Sachs & Schreuer, 2011).

In addition, students with ID have fewer prospects for career advancement and further educational opportunities in higher education institutions or vocational education than their peers without disabilities. This prevents students with ID from obtaining job opportunities due to their disability, which creates a gap in developing their financial independence, social standing, and educational attainment within the community. These students' employment opportunities are highly constrained because they are predominantly offered employment requiring fewer physical abilities and skills.

Additionally, administrators, faculty members, and students without disabilities in college indicate that integrating students with ID into regular college classes may negatively affect other students' concentration by disrupting classroom activities and making other students uncomfortable (Almutairi et al., 2020a; Gibbons et al., 2015; Sharma & Chow, 2008). Moreover, students with ID may have other problems along with ID, such as behavioral disorders, limited opportunities for social communication, and psychological disorders (Test et al., 2014; Wilbertz et al., 2013).

However, inclusive higher education prepares these students with ID to participate in a wide range of integrated settings throughout their lives by facilitating their understanding of their disabilities, abilities, and strengths, and helping them to deal with their shortcomings.

It stands to reason that any new education program, especially for students with disabilities, has both positive and negative aspects. Negative aspects may increase at the beginning of program design and implementation, while over time the program team gains sufficient skills and knowledge to address these negative aspects. The presence of negative aspects in a new program does not preclude taking the first steps to transform the program from an idea and design and implement it.

In many countries, people with ID can easily enroll in PSE programs and join their peers without disabilities at colleges and universities. Countries that offer higher education programs for people with ID include Canada, the US, Australia, and several European countries such as Italy, Iceland, and Ireland (Hart et al., 2006; O'Connor et al., 2019; Uditsky & Hughson, 2012). The experiences of these countries regarding the positive and negative sides of these programs for students with ID should be studied by countries wishing to integrate students with ID in universities. This is the practice of the current study, whereby PSE programs in the US were used as models for the proposed theoretical framework for the PSE program in Saudi Arabia.

More attention should be given to integrating students with ID into universities in Saudi Arabia (Almutairi et al., 2020a). Thus, there is a pressing need to allow these people to pursue PSE, and designing a PSE program in a university for these students is a key step in this process. The proposed framework in the current study draws on the experiences of program directors, faculty, and staff in transitional and PSE programs for students with ID in the US, in addition to exploring the applicability of the framework proposed for a PSE program at a university in Saudi Arabia based on the views of the administrators, employees, and faculty members there, as well as students with ID and their parents.

Therefore, the current research is an attempt to explore this neglected area in Saudi Arabia by proposing a framework for a PSE program for students with ID that can be implemented at a university or college and that may help them to develop and enhance the important skills they require to meet their daily needs (Hart et al., 2010; Kleinert et al., 2012).

This chapter begins with a brief review of special education in Saudi Arabia, PSE programs for students with ID in the US, the foundational benefits of these programs to improving these students' abilities and skills, the current status of students with ID in PSE, the program theory (Sidani & Sechrest, 1999), the theory of student involvement (Astin, 1984), and the ICF, which all form the theoretical proposed framework for this study. Also, Saudi legislation on special education, the support services available for people with disabilities, and the current status of people with ID after high school were identified.

Later, this chapter presents the problem, research purposes, and significance of the current study, the research questions and research hypotheses, and a definition of key terms.

1.2 Statement of the Problem

Access to education is a key human right for all members of society, including young people with ID who want to pursue PSE. Equal access to education is guaranteed under international law—including for people with ID who have the same right to education as people

without disabilities—from their first day of elementary school until the day they graduate from university (Almutairi et al., 2020b; Miles & Singai, 2010; United Nation Educational, Scientific and Cultural Organization [UNESCO], 2012).

Higher education for students with ID has become a significant research topic (Almutairi et al., 2020a). Nevertheless, despite the high level of interest in studying inclusive university education for people with ID in various countries, some developing Arab countries, such as Saudi Arabia, have not yet taken any action in this respect (Almutairi et al., 2020a). In Saudi Arabia, the population of persons with disabilities was 105,929, where 20.2% (21,326) of this population was individuals with ID. ID is more prevalent than any other type of disability in Saudi Arabia, with most people with special needs aged 16–30 years making up 40.8% (43,203; Alwazna, 2003). This study is consistent with the General Authority for Statistics (2017), which found that in the whole Saudi population, the prevalence of disability among individuals aged 20 years old and above was 10.12%, higher than among children aged 5 years and above (7.78%). This illustrates the need to focus on PSE for people with ID in Saudi Arabia (Almutairi et al., 2020a; Alrusaiyes, 2014).

Students with ID in Saudi Arabia have no opportunity to attend university, rarely gain employment, and are not often seen outside their homes (Alrusaiyes, 2014). Alrusaiyes (2014) mentioned that both Saudi mothers and their daughters with ID who were in their last year of high school expressed their desire for PSE options for ID in Saudi Arabia. The mothers were concerned about their daughters' futures after high school, advocating for their daughters' right to access PSE to enhance their independent living skills, even as the mothers themselves did not work outside the home, while the students were interested in how PSE could help them achieve their goals of working, studying, and developing independent living skills. Therefore, there is an essential need to offer PSE options in Inclusive Higher Education Institutions

(IHEIs) in Saudi Arabia to improve these students' skills with ID, which will help them to obtain competitive jobs and integrate into society and live independently.

People with ID who try to pursue PSE face various challenges (Alrusaiyes, 2014; Haneghan, 2012), the main obstacle being the lack of PSE programs in Saudi Arabia (Haneghan, 2012). This education gap is concerning. There is a need, therefore, for educational care for students with ID at higher education levels. Meeting this need requires designing and implementing a PSE program for students with ID to integrate them into the PSE setting to obtain fundamental skills, such as academic skills, independent living, social communication, self-determination, and self-advocacy skills, and, subsequently, employment. Currently, higher education for students with ID is limited to vocational rehabilitation centers (Al-Ajmi, 2006; Alrusaiyes, 2014; Japan International Cooperation Agency Planning and Evaluation Department, 2002), and the lack of adequate training leads to professional incompetence and a lack of access to well-paying jobs (Al-Ajmi & Albattal, 2016; Alrusaiyes, 2014). If these students could gain access to higher education, they would gain the opportunity to discover and invest in their abilities and talents as effective and efficient human resources. Finally, creating such a program would help to fill the gap in research on higher education for students with ID in the Arab world (Almutairi et al., 2020a; Almutairi et al., 2020b), where Saudi literature in special education still needs to be enriched in the field of PSE for people with ID (Alrusaiyes, 2014).

In other countries, such as the US, institutions of higher education seek to meet the special needs of students with ID in PSE, which has led to the availability of more resources for these students, including projects and programs that ease their transition from high school to university life (Alrusaiyes, 2014). Furthermore, US universities offer excellent examples of various programs available to students with ID who are pursuing higher education in the same environment as other students. Saudi universities can draw on their US counterparts' successes

and their continued investment in students with ID, or special-needs students in general, in developing their own PSE programs. Despite the many stakeholders involved in providing education and training globally, studies have indicated that much remains to be done despite their concerted efforts. Baker et al. (2018) stated that although many studies have identified high employment rates for some people with ID and their acquisition of a high level of education, college is still not an option for a large number of students with ID. Therefore, there remains a need to create additional opportunities for these students to enroll in college and prepare themselves for their desired careers (Almutairi et al., 2020b; Baker et al., 2018). PSE is especially important for people with ID because of the essential role it plays in their lives: It creates opportunities for employment and allows them to learn critical daily living skills.

Zafft et al. (2004) observed that allowing students with ID to study at a college or university alongside students without disabilities enhances the futures of students with ID. For example, compared to people with ID who did not continue to PSE, those who studied at a college or university were able to compete for jobs with good wages and showed a significantly reduced need for work support. Therefore, PSE is considered an effective way to improve the lives of individuals with ID (Cook et al., 2015; Gibbons et al., 2015). Therefore, ID should not stand in the way of obtaining a tertiary qualification, even if it is challenging, as many occupations require a higher-education certificate for entry.

Moreover, to date, millions of children worldwide continue to be excluded from education; some are victims of exclusion by the education system itself (UNESCO, 2012). The current study involves designing a PSE program framework to enable students with ID to integrate into a university or college. This may solve the problem of the lack of higher-education options for students with ID in Saudi Arabia. The proposed theoretical framework includes strategies for integrating students with ID into the PSE environment and an outline of activities and services to develop their potential.

1.3 Research Purposes

The purpose of the current study was to propose a theoretical PSE program framework for students with ID in a university in Saudi Arabia. The proposed framework drew on the experiences of directors, faculty members, and staff at PSE programs for students with ID in the US, in addition to a review of the literature on inclusive higher education regarding the current status and future direction of PSE for students with ID in Saudi Arabia. This study was based theoretically on social and realistic constructivism (Creswell, 2013). Three transitional and PSE programs for students with ID in two- or four-year PSE institutions were explored through interviews with program directors, faculty, and staff and a review of documents provided by these PSE programs for a deeper understanding of these programs' main components, program evaluations, and student and program outcomes (Creswell, 2013; Francis et al., 2018; Merriam & Tisbell, 2016; Yin, 2018). The main components of these programs, as identified through observations, enabled an understanding of their practical aspects. In addition, their structure and framework were explored through a document review. These factors were considered when designing the proposed framework of the PSE program in the current study (Mosoff et al., 2009). The proposed framework was designed by analyzing the data obtained from three cases of individual PSE programs to identify cases useful for determining the commonalities of their components, evaluations, and student outcomes (Fewox, 2018; Stake, 2006). Finally, all data were synthesized to design a proposed PSE program framework for students with ID (Creswell, 2013; Stake, 2006).

On the other hand, the applicability of the proposed framework for the PSE program for students with ID in a university in Saudi Arabia was verified based on the experiences of directors, faculty members, and staff at a university in Saudi Arabia, people with ID, and their families. Also, the potential challenges arising in the implementation of the proposed framework for the PSE program for students with ID in a university in Saudi Arabia and

suggested solutions were explored from the perspectives of the Saudi university directors, administrative staff, and faculty members to facilitate the applicability of the proposed framework.

As mentioned earlier, the current study was guided by two theories and the ICF. The two theories were program theory and the theory of student involvement. Through the lens of program theory, the study meets the main research objective of exploring the components, organization, and evaluation processes in two- and four-year PSE programs for students with ID at selected US colleges and universities in order to design a theoretical framework for a PSE program for students with ID at a university in Saudi Arabia. This theory helps design the proposed framework by identifying the PSE program activities or inputs, the desired outcomes or outputs, and the processes undertaken to achieve the desired outcomes of the program to integrate students with ID into the university in Saudi Arabia (Sidani & Sechrest, 1999).

The theory of student involvement is a part of program theory that notes the importance of the program's academic and social components for students with ID. This theory encourages college students' engagement through multiple forms of involvement, as through academic and extracurricular activities and interaction with faculty and staff, to enhance their learning and personal development, including students with ID (Astin, 1984). Additionally, student involvement theory augments our knowledge of how students with ID participate effectively in a university or university environment (Astin, 1984). This theory relies on a social constructivist perspective (Fewox, 2018), which stresses investment in college students' ability to effectively participate in all activities to learn in higher education. This theory also highlights a significant aspect of PSE programs for people with ID and special education in general: the concept of inclusion. The theory of involvement is a necessary component of the college experience for students in the proposed framework (Astin, 1984), and all aspects of the

cognitive and emotional development of college students are promoted by the concept of involvement (Astin, 1996)

On the other hand, through the ICF, the concept of ID was defined as the deficiencies in the functions, performance, and activities of the students with ID. The deficiencies in the capabilities of students with ID were considered one of the challenges facing the implementation of the proposed framework in a university in Saudi Arabia by the Saudi university directors, faculty members, and staff. The biological-psychological-social approach of the ICF justifies the concept of disability as a state conditioned by the interaction between health status, environmental, and personal factors that directly affects the functional performance of individuals with ID in educational environments and life situations (World Health Organization, 2007).

1.4 Significance of the Current Study

This current study has important theoretical and practical implications. The theoretical importance of the current study lies in its application to guiding universities and colleges interested in PSE for students with ID to a better understanding of the important steps in the design of such programs, especially given the limited available information on PSE programs, including best practices, outcome data on employment, data on post-school life, and the role of PSE institutions and their involvement in the program design and implementation (Neubert et al., 2001).

Additionally, a variety of studies have pointed out that the field of PSE for students with the ID still needs clarification of the characteristics and nature of these programs in terms of design, structure, options, mission, policies, objectives, admissions procedures, curriculum, campus inclusivity, non-academic services, student experiences, and expected student outcomes (Fewox, 2018; Grigal et al., 2011; Jester, 2016; Moore, 2014; Papay & Bambara, 2011; Plotner & Marshall, 2015; Thoma, 2013; Walker, 2014). The lack of similarity among

these programs leads to a lack of clarity and knowledge regarding their common denominators, resulting in turn in difficulty determining the type of program that is most effective for a person with ID (Moore, 2014). Moreover, effective practical research is challenging because most of these programs have only recently been implemented. A systematic comparison of PSE program outcomes for individuals with ID remains scarce. Only a few PSE programs and services are available to students without federal legislation, financial support, or regulatory directives. As a result, it is difficult to recognize such practices as meaningful owing to the lack of evidence-based practices in this area. There have also been unsystematic efforts to fund research (Grigal et al., 2010, 2019).

Moreover, while some PSE programs for people with ID focus on inclusive courses, others concentrate on employment and social courses, making it difficult to track these students' inclusive higher education experience. There is also a lack of data related to long-term program outcomes, such as sustained competitive employment or independent living. Indeed, the financial support for research in this area has been limited and falls within a narrow range of study (Grigal et al., 2010, 2019).

Therefore, understanding these programs' designs, including their components, organization, and evaluation through the experiences of program directors, faculty members, and staff in transitional and PSE programs, will help the current study to make recommendations to others developing and implementing new programs (Fewox, 2018). This study can also help those interested in the educational process in special education better use scientific methods to support students with ID and conduct research in this field to collect more information about students with ID and their educational experiences.

In terms of theoretical implications, Saudi and Arab literature on PSE for people with ID remains limited. This study can enrich the body of Saudi and Arab research in the field and serve as a resource to help students with ID recognize their abilities and talents and ultimately

gain access to higher education, shift the focus to educating students with ID in inclusive university settings by creating and developing educational programs for them, and provide a first attempt at creating a framework for a PSE program to integrate adults with ID into higher education in an Arab country. It fills an important gap by supporting the creation and advancement of a successful inclusive environment for students with ID in PSE.

Researchers have heretofore relied on secondary analyses of available data, national surveys, data analyses from the National Focal Point and the Transition and Postsecondary Programs for Students with Intellectual Disability (TPSIDs) model demonstration programs, and several qualitative studies on different topics regarding PSE for individuals with ID (Grigal et al., 2013). Fewox (2018) noted that research on PSE programs for students with ID has taken the form of quantitative survey data, with limited detailed information about the components of these programs, and instead has provided a simplified overview of the presence or absence of specific components among the specific programs. The creation of PSE models for students with ID by higher-education institutions (Grigal et al., 2012c) has led to an increased number of studies on the topic (Almutairi et al., 2020b). To date, there remains a limited number of qualitative studies that use a multiple case study design and a social constructivist and pragmatic paradigm in the field of PSE programs for students with ID using a theoretical lens (Fewox, 2018), specifically program theory (Sidani & Sechrest, 1999) and the theory of student involvement (Astin, 1984). These two theories have not been used in the PSE for students with ID, so it may be valuable to use them to explore PSE programs' components for students with ID, in addition to the ICF, which has had a fundamental impact on the creation of an effective and inclusive higher education environment for students with ID. Incorporation of its view of disability as a result of the interaction between health and environmental and personal factors (World Health Organization, 2007) in the designing phase of the PSE program for students

with ID can help to better determine the needs and abilities of these students in the PSE program and create an appropriate setting for them on campus.

Many of these students still face barriers related to inclusionary practices in PSE programs on campus arising from the differences in these programs in their levels of inclusivity in the university (Fewox, 2018; Kelley & Westling, 2013). Although there are many PSE programs for students with ID, most do not integrate them with their peers without disabilities, which could negatively affect their interactions. Interpersonal communication is an essential aspect of the higher-education experience for all students. As a result, when students with ID are segregated, the gap between them and other students without disabilities increases, creating further obstacles (Walker, 2014), which may make them feel unequal to other students because they cannot participate in the same classes. This may adversely affect their self-esteem (Walker, 2014). This demonstrates the necessity for inclusive educational programs for students with ID at all educational stages. In the US, inclusive higher-education programs are also important owing to the contribution they make to the value of the PSE experience for all students, not just those with ID, as they lead to both groups achieving better results in academic and personal skills, employment, independence, self-advocacy, and self-confidence (Grigal et al., 2011; Hart et al., 2010). Importantly, these students with ID experience social acceptance while participating in courses, clubs, and other extracurricular activities with their peers without disabilities (Jester, 2016); through these activities, they can see themselves as similar to other students, increasing their self-esteem (Grigal et al., 2011; Hart et al., 2010).

The current study's practical importance lies in implementing the proposed framework for a PSE program for students with ID at a university or college in Saudi Arabia, especially in a subject that has garnered international interest. It may also open new research areas, enabling researchers to investigate the shortcomings of the educational process for students with ID, particularly in PSE, that could lead to a radical solution in this area. It may also help students

with ID in Saudi Arabia enroll in PSE institutions, fulfill their education needs, and enhance the university's reputation locally and internationally. Moreover, it may also enable other Arab universities to draw on the experience of Saudi universities or colleges and, in turn, apply this experience to the benefit of students with ID at other universities.

1.5 Research Questions

The importance of PSE for students with ID to improve their diverse abilities and skills has been discussed. In turn, research in Saudi Arabia related to the PSE for these students remains to be conducted. According to the current situation discussed above regarding the lack of studies on PSE for these students in Saudi Arabia, there is also a need to design a proposed theoretical framework of the PSE program for them by exploring the nature of the programs offered to students with ID in the US.

The current study was guided by research questions to design the proposed theoretical proposed framework by identifying PSE programs for students with ID in transitional and PSE programs in two- or four-year post-secondary institutions through the experiences of university director, administrative staff, and faculty members in the US, in addition to the experiences of university directors, administrative staff, faculty members, people with ID, and their families in Saudi Arabia. These questions are:

1. How are post-secondary education programs for students with ID designed in transition and PSE programs for students with ID at two-year or four-year post-secondary institutions in the US from the perspectives of the American university directors, administrative staff, and faculty members?
2. How is a proposed framework for a post-secondary education program for students with ID designed in a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, and faculty members?

3. How is the applicability of the proposed framework for the post-secondary education program for students with ID in a university in Saudi Arabia verified from the perspectives of the Saudi university directors, administrative staff, faculty members, people with ID, and their families?
4. What are the potential challenges facing implementation of the proposed framework of the post-secondary education program for students with ID in a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, and faculty members?
5. What are the suggested solutions to overcome the potential challenges facing implementation of the proposed framework for the post-secondary education program in a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, and faculty members?

1.6 Research Hypotheses

1. The PSE programs for students with ID in the US are designed based on the Think College standards-based conceptual framework. These standards are inclusive academic access, career development, campus membership, self-determination, alignment with college systems and practices, coordination and collaboration, sustainability, and ongoing evaluation (Grigal et al., 2011, 2012a; Jester, 2016; Weir et al., 2013).
2. Identifying the capabilities and anticipated needs of the Saudi students with ID, in addition to the regulations, philosophy, the available resources, and support provided to students with disabilities in a university in Saudi Arabia, will help design the theoretical proposed framework for a PSE program for students with ID (Baker et al., 2018; Francis et al., 2018; Grigal & Hart, 2010), which based on the Think College standards (Grigal et al., 2011; Grigal et al., 2019; Weir et al., 2013).

3. The design of the proposed analytical framework for a PSE program for students with ID in a university in Saudi Arabia will help verify the applicability and validity of the proposed framework in the Saudi context (Booth, 2004; Buffet et al., 2011; Wilson, 2010).
4. The proposed framework for the PSE program for students with ID will face some challenges during the implementation phase in a university in Saudi Arabia, such as lower expectations of stakeholders for the inclusion of students with ID in the university, a lack of student preparation, difficulty formulating suitable placement tests, admissions criteria, and prerequisites, and challenges sourcing funding for services and support (Folk et al., 2012; Foxer, 2018; Grigal & Hart, 2010; Plotner & Marshall, 2015; Walker, 2014), and the development of policies and procedures in these programs (Foxer, 2018; Plotner & Marshall, 2015), selecting program team members, identifying their roles in the program (Foxer, 2018), providing program funding (Jester, 2016; Morgan 2014; Nuebert et al. 2004), and finding employment and internships for students with ID are considered a challenge in these programs (Abushaira, 2011; Al-Ajmi & Albattal, 2016; Foxer, 2018).
5. The suggested solutions to the potential challenges facing implementation of the proposed framework will help address these challenges, including a focus on university's administrative procedures (Handsome, 2018; Izzo & Shuman, 2013) and its infrastructure (Almutairi et al., 2020a; O'Conner et al., 2012), financial resources and support (Grigal et al., 2013; Papay & Bambara, 2011), awareness at the university of the abilities of students with ID (Griffin et al., 2012), and cooperative partnerships on and off campus to develop the program (Flowers et al., 2018; Grigal et al., 2011; Kelley & Westling, 2019; Mock & Love, 2012).

1.7 Definition of Key Terms

- a. *Components*. Parts that combine with additional parts to make something bigger (Cambridge University, 2020a). The proposed framework for the PSE program includes various components such as a mission statement, objectives, target group, academic courses, program structure, admission requirements, support services, physical environment, inclusion type, program team, and program evaluation that help to create a structure for the proposed framework for a PSE program to achieve the program's goal of integrating students with ID at KSU.
- b. *Evaluation*. A systematic and unbiased assessment of an activity, project, or program that focuses on expected accomplishments and examines a series of results, processes, and contextual and causal factors to understand the achievements or the reason for the deficiency (World Health Organization, 2013).
- c. *Intellectual disability*. Disability is characterized by significant intellectual functioning limitations and adaptive behavior that cover many everyday social and practical skills. This disability originates before the age of 18 (American Association on Intellectual and Developmental Disabilities, 2017). Saudi Arabia uses this definition of ID (Alnahdi, 2012). The level of severity of an ID is determined by the American Psychiatric Association (2013) based on intelligence quotient (IQ): mild (IQ 55–70), moderate (IQ 40–55), severe (IQ 25–40), and profound (< 25).
- d. *Organization*. Doing or arranging something through a specific approach (Cambridge University, 2020); arranging all elements according to a method (Oxford University, 2020). The proposed framework for a PSE program involved several procedures that arranged all program elements together to structure the program in its final form.

- e. *PSE program*. Program designed to provide education or vocational training to individuals with ID or other severe disabilities who have completed secondary education in order to provide them with educational opportunities at two- and four-year colleges, universities, and adult education programs (Morgan, 2014; Plotner & Marshall, 2015). Adult education programs are designed for those who have graduated from public schools and are between the ages of 18 and 22, enrolled in public schools, and receiving services or education at the post-secondary level (Neubert et al., 2001; Plotner & Marshall, 2015).

The author defines the term “PSE program for students with ID” as the education offered after completion of high school to students with mild or moderate ID in two or four-year programs at a university or college, where they study in their majors of interest.

- f. *Special education*. At no cost to the parents, especially designed instruction meets the unique needs of a child with disability (Individuals with Disabilities Act [IDEA]). IDEA guarantees that all children with disabilities have the right to be educated (U.S. Department of Education, 2020).
- g. *The proposed framework for the PSE program*. Depends mainly on the program structure, which includes the program philosophy, required components, program characteristics, policies, organizations and evaluation, human resources and management, and development procedures. The program’s structure is a systematic guide that successfully and effectively drives the program (Almutairi, 2018).

The author defines the proposed framework for a PSE program for students with ID as an outline for the PSE program prepared during the program design phase and before its implementation phase. The foundations of the proposed framework include the program’s mission, vision, objectives, philosophy,

components, evaluation, and expected outcomes related to these students and the program. The proposed framework in this study is designed for students with mild and moderate ID to enroll in a PSE program at a university in Saudi Arabia.

- h. *University education.* The total body of knowledge and abilities that enable a student to find a solution to difficult issues the student faces in performing and conducting a study or educational work within their specialized field. Higher education can consist of teaching, examinations, and social services inside educational institutions (Pucciarelli & Kaplan, 2016).

1.8 Summary

Students with ID have the right to pursue higher education like their peers with and without disabilities in Saudi Arabia. Those students with ID in Saudi Arabia have limited PSE programs. However, they are not yet integrated into colleges and universities. One reason for the limited access to IHEIs for these students is that there is no available PSE program for these students in IHEIs in Saudi Arabia. Therefore, designing a proposed framework for a PSE program for students with ID in a university in Saudi Arabia can create an opportunity for these students to access higher education in Saudi Arabia.

Chapter 2: Literature Review

This multiple case study was conducted to design a PSE program framework for students with ID to include them in the higher education system in Saudi Arabia. The researcher followed a constructivist/interpretivist paradigm and drew on the experiences of directors, faculty members, and staff at selected US universities offering two- and four-year PSE programs for students with ID.

This chapter presents an overview of the theories that informed the design of the proposed PSE program framework—the theory of student involvement and program theory—and a literature review on PSE programs for students with ID and these programs' components. The theory of student involvement (Astin, 1984) clarifies how students with ID effectively participate in a PSE environment, whereas program theory (Sidani & Sechrest, 1999) describes a PSE program's components and how the program works based on its expected outcomes.

2.1. Theoretical Framework

A theoretical framework is a fundamental structure that consists of concepts, ideas, terminologies, and references related to particular theories. Theories serve as lenses through which researchers can view problems to identify related phenomena (Merriam & Tisdell, 2016). Theories also provide a clear avenue for a research study to investigate a specific issue and produce results that may help other researchers interested in the same subject. This study focuses on the theory of student involvement and program theory to build a deep understanding of the main components, organizations, and evaluations in two- and four-year PSE programs for individuals with ID in higher education institutions.

2.1.1 *Theory of Student Involvement*

Alexander Astin formulated the influential theory of student involvement in 1984 and later improved it by organizing the available literature to produce an easy and understandable

model that illustrates college's influence on student development (D'Arcy, 2014). Astin (1984) defined the theory of student involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 518). According to Astin, an involved student is one who spends a significant amount of time in college, devotes his or her energy to study, participates in campus organizations, and often interacts with faculty members and other students. Conversely, the uninvolved student spends little time on campus, does not care about studying or participating in extracurricular activities, and rarely contacts faculty members and other students. The theory of involvement is a necessary component of the college experience for students (Astin, 1984), and all aspects of the cognitive and emotional development of a college student are promoted by the concept of involvement (Astin, 1996).

Moreover, Astin pointed out that most aspects of involvement are ultimately behaviors. Motivation is undoubtedly an important aspect of involvement, but behavioral aspects are much more important. Thus, involvement is determined by knowing what individuals are doing and how they are acting (Astin, 1984). Astin (1984) further explained that the theory of involvement is based on the following five assumptions:

- 1) Involvement is attributed to a student's physical and psychological energy investment in a variety of activities.
- 2) Involvement is continuous, and students display varying levels of involvement in a subject, with individual students showing different degrees of involvement in different subjects at different times.
- 3) Involvement includes quantitative and qualitative features. For example, academic involvement is measured quantitatively by the number of hours a student spends studying and qualitatively depending on whether they understand what they are reading or are only staring at the textbook.

- 4) The amount of student learning and personal development linked to any educational program is directly related to the quality and quantity of student involvement in that program.

The effectiveness of any educational policy or practice is directly associated with that policy's ability or practice to raise student involvement in the program.

The latter two assumptions guided the design of a successful academic program for students with ID in the current study. Student involvement theory's main features are student time and energy as institutional resources, even if those resources are limited. College students engage in multiple forms of involvement, such as academic and extracurricular activities and interaction with faculty and other staff. Therefore, this theory helps all institutions and college staff, faculty members, administrators, counselors, and students assess academic and non-academic matters based on the degree of student involvement in the college experience. The theory confirms that students have to be actively involved in the college's learning process, which leads to increased learning and personal development. Moreover, this theory could guide college and university administrators and faculties to design effective learning environments for college students (Astin, 1984). In the current study, the theory of student involvement aided in the process of creating the academic and social components of the proposed framework for a PSE program for students with ID in a university setting, where the level of involvement in activities for such students with other students without disabilities should be increased in and out of the classroom to make the college experience more effective.

2.1.2 Program Theory

All programs are designed to serve humanity, change people's lives, and improve communities (Wilder Research, 2009). A program design requires choosing appropriate theories consistent with the program's objectives and target population and translating

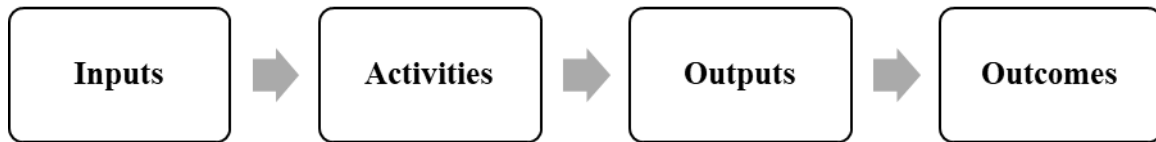
knowledge and theories into practice. Theories can transform any program from the design phase to implementation through effective and accurate procedures.

This study adopted a program theory that aligns with the main research objective of designing a proposed framework for a PSE program for students with ID at a university in Saudi Arabia by exploring the components, organization, and evaluation processes in two- and four-year PSE programs for students with ID at selected US colleges and universities. The program theory aims to describe how a particular program works, why and under what circumstances the effects of the program occur, and predict the program's expected outcomes and what program requirements must be met to achieve the desired effects (Sidani & Sechrest, 1999).

Moreover, the program theory is used to investigate three basic components (Fewox, 2018): the program inputs, the desired outcomes or outputs, and the processes undertaken to achieve the desired outcomes of the program (Sedani & Sechrest, 1999). The input component describes the delivery method of the inputs and determines the method or procedure's strength and the aspects required to reach the expected outcomes (Lipsey, 1993; Sedani & Sechrest, 1999). The processes examined under a program theory occur during participation in the program and include all required information, steps, links, and phases of the transformation process and certain implementation issues that all lead to the desired outcomes (Sedani & Sechrest, 1999; Sharpe, 2011). The output component is determined by nature, expected timing, side effects or potential risks, change patterns, and interrelationships among outcomes. These can be divided into immediate, intermediate, and long-term effects. Implementation issues or resources such as supplies, materials, and skills are essential for delivering program services (Lipsey, 1993; Sedani & Sechrest, 1999). The components of the program theory are presented in Figure 2.1.

Figure 2.1

Components of the Program Theory



The first step in program development involves formulating the conceptual foundation (Sharpe, 2011), and the second step uses this foundation to establish intermediate and outcome goals for the program. Undertaking this planning phase increases the likelihood of a program's success, and the program theory should therefore be developed before the beginning of the proposed program (Prosovac & Carey, 1997; Sharpe, 2011). According to Wilder Research (2009), the program theory aids in making a program effective by providing a logical description of building the program, and the program is then interpreted using a logic model. The logic model can provide a picture of the theory by explaining how one thing can lead to another and exploring the connection between the program components and the required outcomes. Furthermore, the logic model is a commonly used tool in program theory, and it usually takes the form of a flow chart that links program components with required outcomes.

The program theory is expected to provide a better understanding of how PSE programs for students with ID work in US colleges and universities because the programs' aims, components, procedures, and outcomes can be determined by this theory. This theory assists in designing the proposed framework for a PSE program for students with ID at a university in Saudi Arabia.

2.2 International Classification of Functioning, Disability, and Health (ICF)

The ICF appeared in 2001 and was updated in 2007. It is the classification system currently used by UNICEF to clarify the concept of disability. The classification is in line with

the Convention on the Rights of Individuals with Disabilities. According to the ICF, disability is viewed in a broad sense and includes all aspects of impairment, disability, and limitations related to the activities and participation of individuals. Therefore, the ICF is based on a biopsychosocial approach to understanding disability and on knowledge of the interaction among health status, functional performance, disability, and contextual factors, which represent a set of environmental and personal factors that directly affect an individual's functional performance in life situations (World Health Organization, 2002).

The ICF defines an individual's functional performance as a dynamic interaction between an individual's health conditions, environmental factors, and personal factors. The concepts of disability and performance are linked to multiple aspects, including the body's functions and structure, the activities individuals perform, the areas of life in which they participate, and the factors that affect these experiences in their environments (World Health Organization, 2007). The International Classification of Diseases (ICD) was the previous classification system, which focused only on individuals' health problems such as disorders, diseases, injuries, causes, manifestations, diagnostic criteria, and functional characteristics, as a disability was viewed as a result of having a disease. Therefore, the ICF clarifies the impact of these diseases and injuries on the lives of individuals with disabilities. In other words, the ICF describes disability as the dynamic interaction between a person's health status and environmental and personal factors (World Health Organization, 2002).

The ICF is divided into two main parts: the first consists of functional performance and disability, and the second of contextual factors. Each part includes two components. The first component of the first part is the body function and structure, which includes mental functions and the structure of the nervous system; the second component is activities and participation, such as learning and developing knowledge, communication, mobility, and interactions and relationships between individuals. The second part of the ICF comprises the environmental and

personal factors of individuals with ID (World Health Organization, 2002). Therefore, the two parts and their components should be used together to study their dynamics and consequences and thus understand ways to improve the lives of people with disabilities (World Health Organization, 2007).

The ICF is an important framework for understanding the term “disability” in inclusive education. This classification does not exclude any individual with a disability, nor does it identify individuals who are qualified according to the ICF. In a sense, the ICF provides the basic components of the concept of disability, but it does not define disability directly. It is possible to arrive at broad definitions of disability according to a set of multiple dynamic factors related to an individual with a disability (Okyere et al., 2019).

Therefore, the ICF calls on teachers, workers, and those interested in the field of disability to review their understanding of disability and how this affects their perceptions, beliefs, and attitudes toward individuals with disabilities and the methods used to solve the multiple problems of these individuals. The ICF's biological psychosocial model recognizes the effect of disability on functional performance for these students. This model also seeks to include these students in activities, have them participate in the educational environment that is suitable for their ages, and enhance the description of health conditions and disabilities with information that focuses on the learning and development of these students (World Health Organization, 2002). The ICF considers the concept of participation to be closely associated with inclusion and calls for the need to know the dynamic factors that impose restrictions on the participation of these individuals by gathering information from multiple sources to identify these restrictions and deal with them. The concept of inclusion is related to the environment and changes within it, which may help or restrict the participation of these individuals (Okyere et al., 2019). Furthermore, the ICF links diagnostic and educational information related to the student to understand the nature of the impairment in participation in educational settings.

Therefore, the relationships between impairments and the academic achievement of a student or between his or her abilities and performance should be known. This classification accommodates for the fact that such information cannot be known directly in educational settings but rather must be explored and verified in the educational context (World Health Organization, 2002).

Therefore, functional information on impairments related to learning should be combined to gain an understanding of the requirements for creating successful participation in the educational context, which differ across educational settings. Therefore, the ICF provides a common language between classroom and clinical settings to coordinate the educational, social, and health services provided to these students (World Health Organization, 2007).

The ICF has a role to play in supporting inclusive higher education for students with ID by addressing the challenges that may face the implementation of the proposed framework for the PSE program at the university in Saudi Arabia. These challenges may include the absence of policies and legislation to support these students in the university and negative or discriminatory attitudes toward them. Therefore, the ICF provides a framework based on a biopsychosocial approach to understand concepts of disability and a comprehensive basis for assessing students with ID and developing appropriate individual support for full participation and inclusion. In addition, it helps in implementing teaching strategies and collaboration among professionals to provide services for these students in educational contexts and fosters an inclusive and successful higher education environment (Okoye et al., 2019).

2.3 Review of Literature on PSE Programs

To begin exploring PSE programs for students with ID, it is necessary to review the literature published in this area to gain a clear and in-depth understanding of these programs, including their requirements, components, and characteristics, as well as the procedures followed while implementing these programs. Previous studies indicate that these programs

differ greatly in terms of their designs, structures, options, missions, policies, objectives, admission procedures, curricula, campus inclusivity, non-academic services, student experiences, and expected student outcomes (Fewox, 2018; Grigal et al., 2011; Jester, 2016; Stolar, 2016; Moore, 2014; Papay & Bambara, 2011; Plotner & Marshall, 2015; Thoma, 2013; Walker, 2014). Additionally, Fewox (2018) and Stolar (2016) pointed out that understanding the variations of a program for people with ID, including successes and challenges, helps mitigate or overcome obstacles from the development to the implementation phase, which ultimately leads to obtaining a clear vision and guidance when designing a PSE program for students with ID.

The differences among PSE programs may have contributed to the diversity and diffusion of these programs, as their designs have depended on students' needs and capabilities as identified by program officers, faculty members, practitioners, and researchers. However, despite their differences, several basic similarities exist that focus on achieving key objectives in specific areas, including academic skills, community and vocational or employment resources, and the skills required for recreation and independence (Grigal et al., 2013; Papay & Bambara, 2011).

This study intends to address the lack of Saudi and Arab literature reviews in the area of PSE programs for students with ID in higher education (Almutairi et al., 2020a, 2020b; Alrasyis, 2014). Most of the available Saudi studies regarding ID focus on transition services for students with ID in high schools (Alrasyis, 2014). However, there remain limited studies on designing and developing PSE programs for students with ID, and many studies recommend exploring this subject to enrich the literature in higher education.

2.3.1 *Emergence of PSE Programs for Students with ID*

Over the past 30 years, the topic of inclusive higher education for individuals with ID has received great attention (Grigal et al., 2002, 2019; Kardos, 2011; Neubert et al., 2001) from

teachers, service providers, school systems, higher education institutions, researchers, practitioners, and the families of young adults with ID (Grigal et al., 2010; Hart et al., 2010; Warm & Stander, 2011). These stakeholders are beginning to respond to high expectations of the abilities of individuals with ID in higher education by providing them with access to and the benefits of PSE programs that are also available to college students without disabilities (Grigal & Hart, 2010; Kardos, 2011). Their interest has led to an increase in the number of PSE programs offered to individuals with ID, as well as better outcomes for these programs in terms of employment opportunities and higher wages (Grigal & Dwyre, 2010; Grigal & Hart, 2010; Hart et al., 2006; Izzo & Shuman, 2013; Migliore et al., 2009; Thoma et al., 2012). Moreover, this national and international trend is likely to continue (Gibbons et al., 2015; Hart et al., 2010; Kelly & Westling, 2019). Of the more than 4,700 two- and four-year US institutions awarding degrees, about 5% offer PSE programs for students with ID, and the remaining 95% are working on the development of these programs (Gibbons et al., 2015; Hart et al., 2010; Kelly & Westling, 2019).

PSE opportunities for people with ID are made possible by changes in laws and policies and through society's understanding of these individuals' needs and abilities (Martinez & Queener, 2010; Stolar, 2016), which encourages these individuals to transcend societal constraints based on old paradigms, concepts, perceptions, and stereotypes (Martinez & Queener, 2010). Young people with ID would not have the opportunity to complete PSE programs without the laws and regulations that support them (McEathron et al., 2013; Mercier, 2017; Papay & Griffin, 2017). The changes made in legislation over the past 50 years have made major contributions to supporting PSE programs for people with ID and have led to a significant increase in the number of these programs in higher education (Christ & Stodden, 2005). Consequently, individuals with ID now have more opportunities to integrate and participate in society than ever before (Gibbons et al., 2015; Grigal & Hart, 2010; Jones et al.,

2015). The following subsections briefly describe these laws and their contributions to PSE programs for people with ID.

2.3.2 Laws and their Contributions to PSE Programs for People with ID in the United States

In 1990, the US Congress reauthorized the Education for All Handicapped Children Act (EAHCA) and renamed it the Individuals with Disabilities Education Act (IDEA), which increased the number of PSE programs, the quality of the transition preparation from secondary education to PSE, and the employment opportunities for people with ID. All these efforts have led to a significant increase in the number of people with ID attending higher education institutions (Gibbons et al., 2015; Neubert et al., 2001).

Changes in the IDEA include transitional services, which focus mainly on facilitating the transition of people with disabilities from public schools to PSE. These services are individualized according to the strengths, preferences, and interests of people with disabilities to improve their academic, vocational, and independent living skills through PSE (Apling & Jones, 2005). Consequently, the provision of special education services through PSE programs has increased the opportunities of students with ID to participate in PSE alongside students without disabilities in college classes and activities (Papay & Bambara, 2011). Under the IDEA, in the United States, transition services for students with ID must start at the age of 16, although in some states, the transition-planning process is offered at the age of 14. While the students are still in high school, members of the individualized education program (IEP) team, including the student with ID and his or her family, work on the student's PSE goals to ensure that the student has access to the services and support he or she requires to transition to adulthood. The IEP team designs the transition plan and related educational strategy based on each student's needs, strengths, and interests, particularly in the areas of work, education, training, and independent living (Morningstar et al., 2017). Next, the Higher Education

Opportunity Act (HEOA), enacted in 2008, amended the Higher Education Act (HEA) of 1965. This law was the first to advocate access to PSE for students with ID; the HEOA is one of the fundamental pieces of legislation that have contributed significantly to helping students with ID access higher education (Jester, 2016; Kleinert et al., 2012; Stolar, 2016; Thoma et al., 2012). The HEOA has made PSE programs available, accessible, and affordable for students with disabilities, including students with ID. It has furthermore created innovative programs and national coordinating centers that have advanced PSE practices and research.

More importantly, certain provisions of the HEOA apply specifically to students with ID (Madaus et al., 2012). Several provisions of the HEOA improve higher education for people with ID, set out requirements for accountability, and address college-affordability problems. These include provisions that provide equal college opportunities for students with ID by, for example, improving student-loan programs and campus safety and readiness plans (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Lee, 2009; Madaus et al., 2012; Stolar, 2016). Furthermore, the HEOA oversees model demonstration projects and the National Coordinating Center for People with Intellectual Disability. These projects focus on the development of various aspects of PSE programs for people with disabilities, including teaching methods, transition practices and programs based on the principles of the universal design for learning, distance-learning initiatives, teacher training, access to education, research on PSE for students with ID, and, most importantly, improving the abilities and skills of these students through academic enrichment, socialization, independent living, and integrated work experiences (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Kleinert et al., 2012; Lee, 2009; Madaus et al., 2012; Thoma et al., 2012). The National Coordinating Center was designed to support and evaluate the 25 Transition and Postsecondary Programs for Students with Intellectual Disabilities

(TPSID) for five years from October 2015 to September 2020 (Madaus et al., 2012; Think College, 2019).

The HEOA also provides students with ID with Pell Grants, Supplemental Educational Opportunity Grants, and opportunities to participate in the Federal Work-Study Program at PSE institutions that have applied for and been accredited as comprehensive transition programs (Gibbons et al., 2015; Grigal & Hart, 2010; Kleinert et al., 2012; Lee, 2009; Madaus et al., 2012). Before the enactment of the HEOA, these students were not eligible for financial aid because they were unable to meet two criteria:

- 1) They did not have a diploma or an equivalent test, such as the General Educational Development test, and could not pass an Ability-to-Benefit test.
- 2) They were not accepted for enrollment in degree or certificate programs (Grigal & Hart, 2010; Hart et al., 2006; Lee, 2009; Madaus et al., 2012; Plotner & Marshall, 2015; Thoma et al., 2012).

The Americans with Disabilities Act (ADA) prohibits discrimination related to disability in such areas as employment, state and local government, public accommodation, and transportation. Most school districts and institutions of higher education (IHEs) in the United States are subject to this law, and every IHE has an ADA coordinator or disability service coordinator who is responsible for obtaining school compliance to protect students with disabilities from discrimination in elementary, secondary, and postsecondary education. Students with disabilities must also understand their responsibilities and know the regulations of Title II of the ADA that apply to IHEs because they will need to inform PSE program staff of their necessary accommodations for learning, which may include extended test times, assistance from notetakers, access to recording devices, changes in settings, registration arrangements, and a reduced course load (Gibbons et al., 2015; Grigal & Hart, 2010; National Parent Center on Transition and Employment, 2015; Rothstein, 2015; Stolar, 2016).

The Workforce Innovation and Opportunities Act (WIOA) was mandated by the Workforce Investment Act of 1998 and the Rehabilitation Act of 1973. This law aims to facilitate access to PSE and employment and allows for people with ID to develop their professional skills in the workplace through federal funding and government vocational rehabilitation programs (Gamel-McCormick, 2016; Jester, 2016). The most significant section of the WIOA promotes competitive integrated jobs for people with ID, which means that they work in job environments with or without people with disabilities for wages comparable to those earned by people without disabilities (Gamel-McCormick, 2016; Grigal & Hart, 2010; Grigal et al., 2012b). Therefore, schools, vocational rehabilitation programs, and PSE programs must prepare people with ID to work in these settings.

People with ID receive services based on their individualized plans for employment, in line with a state plan approved by the federal government and vocational rehabilitation services from the local offices of state agencies and community-based organizations. In vocational rehabilitation services, the employment goals for students with ID must be linked to PSE programs. The WIOA also mandates transitional services for people with ID, which are provided through cooperative agreements among states, local schools, and colleges (Grigal & Hart, 2010).

The last relevant law is Section 504, a federal law enacted to protect the rights of individuals with disabilities to access programs and activities that receive federal financial assistance (Grigal et al., 2013; Stolar, 2016; U.S. Department of Education, 2018). Both this statute and Title II of the ADA prohibit discrimination based on disability. In addition, these laws have similar requirements, so every school district and PSE institution in the United States is subject to one or both of these laws (National Parent Center on Transition and Employment, 2015; U.S. Department of Education, 2011). Under Section 504, people with disabilities, including people with ID, must have access to rehabilitation services and other programs and

activities supported by federal financial assistance in elementary, secondary, and postsecondary education. The executive regulations of this statute emphasize that all schools that receive federal financial support must make their application forms and course materials accessible to people with disabilities (Congressional Research Service, 2019; Grigal & Hart, 2010; Grigal et al., 2013; National Parent Center on Transition and Employment, 2015; U.S. Department of Education, 1995). According to the terms of Section 504, PSE institutions must provide appropriate academic modifications for students with disabilities, including students with ID, to ensure that no discrimination based on disability occurs. Additionally, PSE institutions must provide physical access to activities, resources, aids, and services and modify policies, practices, and procedures for these people. Furthermore, PSE institutions must provide adequate, accessible accommodations for students with disabilities if they offer accommodations for students without disabilities. Students with disabilities must also know their responsibilities and those of PSE institutions governed by Section 504 (Grigal & Hart, 2010; Grigal et al., 2013; National Parent Center on Transition and Employment, 2015; U.S. Department of Education, 2011).

Benefits of PSE Programs for Students with ID PSE programs for students with ID hold numerous benefits. Researchers have reported the fundamental benefits as improving the outcomes of employment, self-determination, independent living, and community participation (Butterworth et al., 2009; Francis et al., 2018; Grigal et al., 2014; Haneghan, 2012; Raynor et al., 2016; Research and Training Center on Community Living, 2010; Thoma et al., 2012; Zafft et al., 2004). In a study conducted by Papay et al. (2017), 64% of the 59 students with ID included in the research were enrolled in four-year university or college programs, and 36% were attending higher education institutions with two-year courses. After completing their PSE programs, 61% of the students secured paid jobs. In addition, Migliore et al. (2009) found that 312 (58%) individuals with ID who completed a PSE program received higher wages than the

11,261 (32%) such people who did not complete PSE. The findings of Migliore et al. (2009) were consistent with those of Blumberg and Daley (2009) and Grigal et al. (2014), who found that students with ID who completed a PSE program were more likely to obtain competitive jobs and earn higher wages than students with disabilities who did not attend PSE.

Attending a PSE program leads to a 48% employment rate. According to Migliore et al. (2009), in 2007, 36,154 people with ID ages 16–26 were enrolled in vocational rehabilitation services. Later, these people left vocational rehabilitation services, and 1,223 of them (3.4%) were educated in PSE programs; 537 of these (1.5%) graduated from these programs and obtained a non-degree diploma, associate degree, vocational or technical certificate, bachelor's degree, or graduate degree. A total of 312 (58%) people with ID started vocational rehabilitation services without a job and finished a postsecondary program. These people left vocational rehabilitation services with competitive employment, earning, on average, \$338 weekly. Therefore, attending a PSE program led to a 48% employment rate, with average wages of \$316 per week. Conversely, 32% of those who left vocational rehabilitation services and did not obtain PSE had jobs earning an average of only \$195 weekly. The National Vocational Rehabilitation Database (RSA 911) found that 26% of youth with ID who completed a PSE program were more likely to leave vocational rehabilitation services and have a paid job with weekly earnings, on average, 73% higher (Migliore et al., 2009).

College education and the college experience provide ID students with various advantages that transcend academics, including growth in personal skills, employment, self-advocacy, self-awareness, self-confidence, self-determination, and other aspects resulting from campus life. This growth can be seen in increased self-esteem for such students, who come to see themselves as similar to students without disabilities (Blumberg & Daley, 2009; Grigal et al., 2011; Haneghan, 2012; Hart et al., 2010; Kardos, 2011; Kleinert et al., 2012; Stolar, 2016). According to Cook et al. (2015), Haneghan (2012), and Kleinert et al. (2012), people with ID

have reported that completing PSE programs significantly improved their lives through activities such as using transportation on their own, making friends, working competitively, and living independently. Students with ID also experience social acceptance while participating in courses, clubs, and other extracurricular activities with their peers without disabilities (Izzo & Shuman, 2013; Jester, 2016). In addition, Ryan (2014) highlighted that the current generation of students with ID begins their integration and transition process into college hoping that it will help them increase their work experiences, leading to a professional career, and advance their academic, social, and intellectual knowledge, leading to a lifelong learning experience. They also hope that they will be able to continue their social and emotional growth, leading to meaningful relationships and greater confidence and self-determination. Although accessing PSE programs may not be considered a viable option for all students with ID (Grigal et al., 2011, 2012c; Papay & Bambara, 2011; Plotner & Marshall, 2014; Zafft et al., 2004), everyone—rather than any one group that is excluded or judged (Hart et al., 2010)—has the potential for success in college. Students with ID take college courses with their peers without disabilities and learn in environments in which people have high expectations of them, leading to the development of the skills needed to navigate adult life.

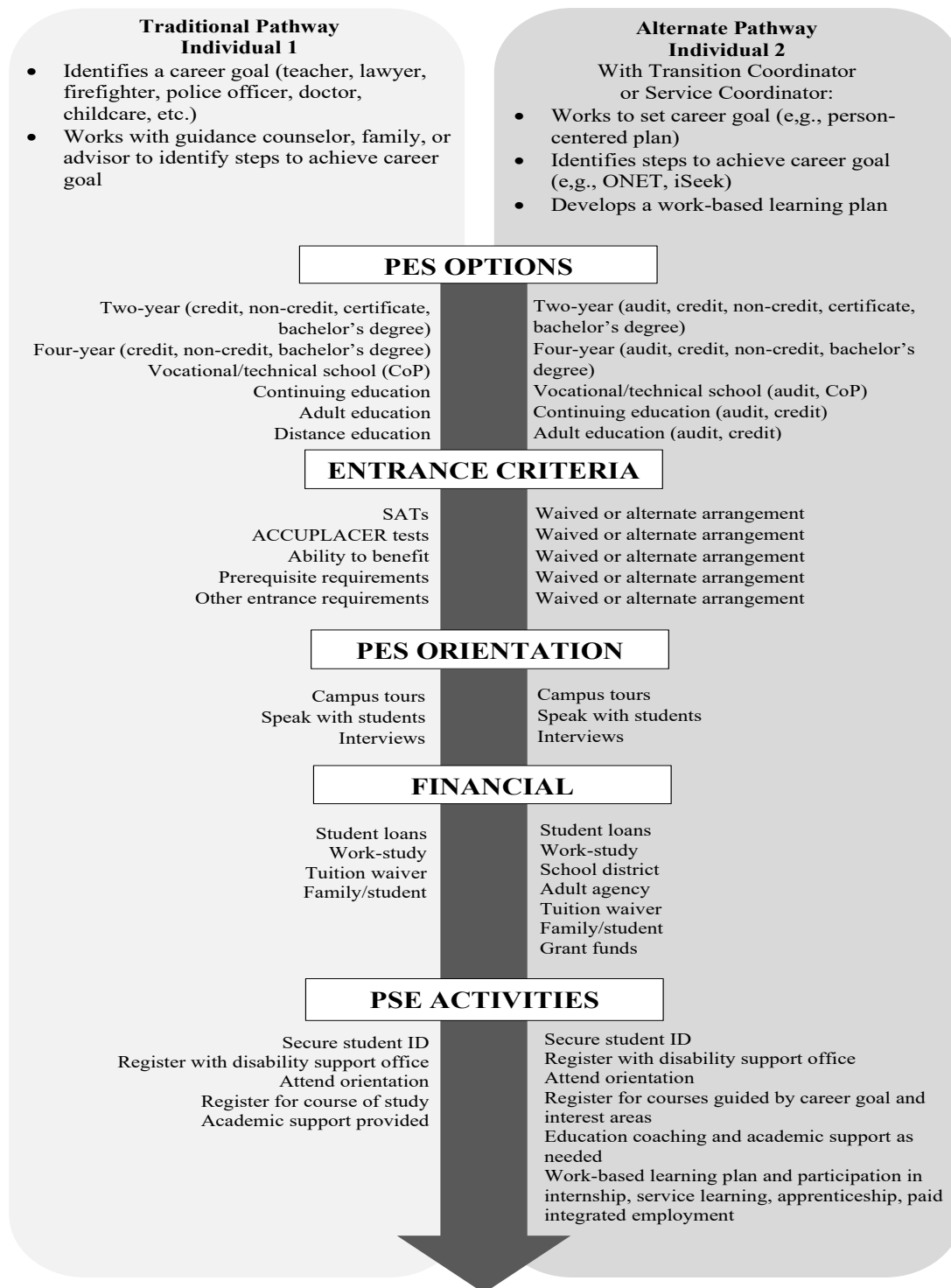
Features of PSE Programs PSE programs' features and characteristics for students with ID vary (Fewox, 2018; Stolar, 2016). Two-year programs are provided through community and technical colleges and four-year programs are provided at colleges and universities (Grigal & Hart, 2010; Grigal et al., 2011; Neubert, Moon, & Grigal, 2004; Neubert et al., 2001; Papay & Bambara, 2011; Research and Training Center on Community Living, 2010; Stolar, 2016; Talapatra et al., 2019; Thoma et al., 2011; U.S. Department of Education, 2019). However, two-year programs are the most common (Kardos, 2011; Papay & Bambara, 2011), with 101 two-year and 65 four-year programs available for people with ID (Think College, 2019).

Moreover, the programs differ in affordability, enrollment policies (e.g., open or selective admission), and academic focus (e.g., vocational or general education), the range of disciplines offered, and the courses' depth. Variations also exist in the extent of disability support services offered and the diversity of the social contexts (e.g., intellectual peer capabilities and independent living options). Differences also exist within categories of two- and four-year institutions: for example, technical and community college programs typically have different goals. Program variations largely arise due to differences in objectives, particularly in the areas of educational, vocational, social, and independent living activities (Grigal & Hart, 2010; Papay & Bambara, 2011; Plotner & Marshall, 2015; Research and Training Center on Community Living, 2010; Stolar, 2016). Programs may offer a degree, certificate, or non-degree; some focus on campus life and others on employment and the workplace (Hart et al., 2006; Kleinert et al., 2012; Migliore et al., 2009; Stolar, 2016; U.S. Department of Education, 2019). However, most of these programs offer non-degree programs for students with ID (Stolar, 2016).

Jester (2016) conducted a study exploring PSE options for students with ID at 12 public universities and 28 colleges in Florida. She designed an online survey adapted from the Think College Evaluation Tool; it inquired about inclusive academic access, career development, campus membership, and self-determination. The characteristics of the PSE programs included in the survey were represented in a set of questions related to program design, the number of students enrolled, the program's duration, program funding, and the type of students eligible for federal financial aid or vocational rehabilitation services. Jester concluded that 60% of IHEs for students with ID in Florida offer inclusive programs, 80% of which specifically support students with ID. In addition, 90% of these programs offer accommodations for students with ID, such as accessible text, alternative formats, and notetakers. PSE programs were found to be more common at universities than at colleges, and the program types differed greatly.

Figure 2.2

Pathways to Access PSE for Youth with ID



Competitive Employment and/or Continued

Note. From "Expanding the paradigm" by D. Hart et al., 2010, *Focus on Autism and Other Developmental Disabilities*, 25, p. 14. Copyright 2010 from the Hammill Institute on Disabilities and SAGE in association with the Division on Autism and Developmental Disabilities of the Council for Exceptional Children.

Inclusive programs are widespread at the university level, whereas mixed programs are more common at the college level.

The differences among PSE programs for students with ID should be explored to understand how these programs are designed and executed (Fewox, 2018; Grigal et al., 2011; Stolar, 2016), in addition to determining whether there are differences in student outcomes regarding employment and social skills in these programs (Stolar, 2016). The following subsections examine these differences.

PSE Pathways for Students with ID There are two pathways available for students with ID to access colleges or universities, as shown in Figure 2.2.

First is the traditional pathway intended for students with ID who wish to obtain a degree or certificate in a PSE program. With this path, students are required to meet college or university admission requirements and complete entrance examinations, applications, and all course and program requirements while the institution provides them with the necessary accommodations, including notetakers, interpreters, tutoring, extended time on tests, counseling, and the use of assistive technology. This traditional course is difficult, or even impossible, for students with ID.

The second pathway is the nontraditional path for students with ID who are not enrolled in college and do not desire to complete a degree or certificate program. There are multiple options for these students to access college or universities. For example, they can audit courses, take credit and non-credit courses, take continuing education classes, enroll under a “special student” status (not related to special education), or participate in a separate curriculum designed for students with disabilities (Hart & Grigal, 2010; Hart et al., 2010).

2.3.3 *Postsecondary Program Options*

Fewox (2018) and Kardos (2011) noted that the types of PSE programs offered to students with ID based on the students’ status have not been adequately explained in previous

literature, which calls for clarification on this important point. There are two main broad categories of PSE programs offered to students with disabilities, including ID: (1) those for students in public schools who still fall under the IDEA and (2) those for people with ID who meet the program's admission requirements, whether they fall under the IDEA or do not qualify for it, such as adults who are no longer in public education because they graduated or aged out (Kardos, 2011).

Furthermore, alternative paths allowing students with ID to complete PSE programs are categorized into three main types: dual or concurrent enrollment for high school students, college-initiated programs and services designed specifically for adults with ID, and individual- or family-initiated support (Hart & Grigal, 2010; Hart et al., 2006). Dual enrollment programs are designed for students who are still receiving services from the school system under the IDEA. Three dual enrollment program models are used: the substantially separate, mixed, and inclusive individual support models (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Hart et al., 2004, 2006; Kardos, 2011; Neubert & Moon, 2006; Stodden & Whelley, 2004). The model choice depends on the degree of ID and the student's participation in inclusive classes and other college or university activities (Grigal & Hart, 2010; Neubert et al., 2001; Walker, 2014).

The following subsections provide a detailed discussion on dual enrollment options, college-initiated programs and services designed specifically for adults with ID, and individual- or family-initiated support as alternative PSE pathways for students with ID, as well as the three models that emerged from these alternative options. PSE options for students with ID are available for each of the three main models (Grigal & Hart, 2010).

2.3.3.1. Dual Enrollment Programs

Dual enrollment programs are open to students with ID ages 18 to 21, and they allow these students to complete their final year of high school in a college with all the necessary

support and transition services from their school systems under the IDEA (Colorado Department of Education, 2010; Grigal & Hart, 2010; Grigal et al., 2010; Hall et al., 2000; Hart et al., 2004; McEathron et al., 2013; Plotner & Marshall, 2014; U.S. Department of Education, 2019). These students must meet college or university criteria to study at PSE institutions (Colorado Department of Education, 2010; U.S. Department of Education, 2019).

To enable students to complete their final years of high school in a college setting, dual enrollment programs rely on cooperative partnerships among local school systems, two- and four-year colleges, special education providers, families, and students with disabilities (Colorado Department of Education, 2010; Grigal & Hart, 2010), as well as cooperation with other service systems such as vocational rehabilitation, one-stop career centers, the Social Security Administration, and human service agencies (Hart et al., 2004). Students can participate in a variety of college activities that relate to their transition goals, such as academic courses, internships, competitive employment, self-determination and self-advocacy skills development activities, using transportation, and developing other skills required for college life (Colorado Department of Education, 2010; Grigal & Hart, 2010; U.S. Department of Education, 2019). In some dual enrollment programs, students with ID study at the college for two to three days a week and work during the remaining time (Grigal & Hart, 2010).

Until these students reach the age of 21 or 22, they continue receiving the services they need, as listed in their IEPs (Colorado Department of Education, 2010; Grigal & Hart, 2010; Plotner & Marshall, 2014; U.S. Department of Education, 2019). Thus, the students leave public schools with strong support from adult service systems such as the Department of Developmental Disabilities and vocational rehabilitation to transfer to competitive employment (Grigal & Hart, 2010).

These programs offer a wide range of benefits for school districts, families, and students with ID. They provide a valuable transition curriculum grounded in understanding the skills

these students need as adults and the environments in which students will use these skills. They further provide peer support, as students without disabilities assist students with ID. In addition, they enable school districts to meet the IDEA requirements that call for the teaching of students with ID in inclusive environments in which they gain the same access to education as students without disabilities (Grigal & Hart, 2010; U.S. Department of Education, 2019).

As previously mentioned, dual enrollment programs follow three models: the substantially separate model, mixed or hybrid model, and inclusive individual support model.

2.3.3.2. Substantially Separate Model

In the substantially separate model, students with ID learn only with other students with disabilities in, for example, life skills courses or transition programs (Association on Higher Education and Disability, 2010; Fewox, 2018; Grigal & Hart, 2010; Hart et al., 2004, 2006; Kardos, 2011; Neubert & Moon, 2006; Stodden & Whelley, 2004). According to Grigal and Hart (2010), these classes are already available at colleges in some cases, and they are typically non-credit courses. Examples include student-centered courses such as personal adjustment and growth, educational assessment and guidance, and broader courses such as prealgebra support, composition, and adapted computer skills. Generally, the curricula under this model are designed specifically for students with ID. An example is the life skills curriculum, including the Council for Exceptional Children's Life Centered Career Education program. Even though students with ID do not take college classes with students without disabilities, they can participate in clubs and organizations on campus with them (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Hart et al., 2004, 2006; Neubert & Moon, 2006; Stodden & Whelley, 2004).

This model also has two other versions. The first is based on cooperation with community service providers and aims to create partnerships with organizations such as adult service providers to design a community program for students with disabilities who are leaving

high school. For example, a college based in Carroll County, Maryland, partners with Maryland-based Target Community and Educational Services and Potomac Community Resources. This kind of cooperation between the college and its two partners helps students with disabilities access classes that lead to workplace opportunities by addressing students' employment and recreation needs and improving their independent living skills through residential and vocational experiences. The second version of the separate model involves creating college courses for students with ID. Course instructors are usually master's or doctoral students at the same college (Grigal & Hart, 2010).

Researchers have highlighted several considerations related to this model. Hart et al. (2004) and Stodden and Whelley (2004) indicated that separate programs for students with ID prevent continuous interaction between these students and college students without disabilities. Students with ID cannot take college classes with students without disabilities, and the college curriculum focuses on life skills, community education, and a limited amount of on-the-job training on or off campus (Grigal & Hart, 2010; Hart et al., 2004; Kardos, 2011; Stodden & Whelley, 2004).

Walker (2014) emphasized the importance of integrating students with disabilities, including ID, with students without disabilities at college. Restricting their interaction with each other may negatively affect the self-esteem of students with ID. Thus, a need exists to improve access to integrated PSE programs and enhance the level of interaction between student populations (Hart et al., 2004), as interpersonal communication is an essential aspect of the higher education experience for both types of students. When they are separated, the gap between them increases and more obstacles are created (Walker, 2014). Another major concern in the separate model is the lack of campus space in which the program can operate. When designing the program, a series of separate courses are created that may prevent students from participating in traditional college courses (Grigal & Hart, 2010). Overall, there is a lack of

adequate information regarding the separate model in the literature (Kardos, 2011; Neubert & Moon, 2006).

2.3.3.3. Mixed or Hybrid Model

In this model, students with ID audit college courses or enroll in credit or noncredit courses and participate in a variety of activities with students without disabilities, such as on- and off-campus jobs; life skills courses, including independent living and financial literacy classes; and social activities in campus clubs and organizations. Students with ID often take courses specifically designed for students with disabilities, such as life skills or transition classes and community-based instruction (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Hart et al., 2004, 2006; Neubert & Moon, 2006; Stodden & Whelley, 2004). Programs vary widely concerning the types of services provided and the degree of inclusion of students with ID in college activities. The level of inclusion also varies, sometimes supporting one student in one college course or many students in different college courses (Grigal & Hart, 2010). The mixed model differs from the separate model in that students with ID can interact with students without disabilities on campus. Students with ID also can take inclusive college classes, although most of the curriculum focuses on life skills, community-based instruction, and employment experience (Hart et al., 2004). However, the mixed model has several challenges. As with the substantially separate model, institutions face difficulties in finding space to run a mixed program. Other challenges are associated with lower expectations for all stakeholders involved, including students with ID, as well as the lack of student preparation and difficulty formulating suitable placement tests, admission criteria, and prerequisite requirements and in sourcing funding for services and support (Grigal & Hart, 2010). Nevertheless, despite these challenges, most institutions use this model to enable students with ID to access PSE (Grigal & Hart, 2010; Hart et al., 2004; Kardos, 2011; Neubert & Moon, 2006).

2.3.3.4. Inclusive Individual Support Model

This model provides students with ID individualized services such as educational coaching, tutoring, technology assistance, accommodations, and support to help them access college classes (audit, credit, or noncredit) and certificate or degree programs. The individualized services in the inclusive model are designed by considering students' visions and career goals. This model does not offer a specific program for such students, who participate in inclusive classes and other college activities with students without disabilities. Rather, the main focus of this model is to set a student-centered career goal that drives the courses and employment experiences (Association on Higher Education and Disability, 2010; Grigal & Hart, 2010; Hart et al., 2004, 2006; Neubert & Moon, 2006; Stodden & Whelley, 2004).

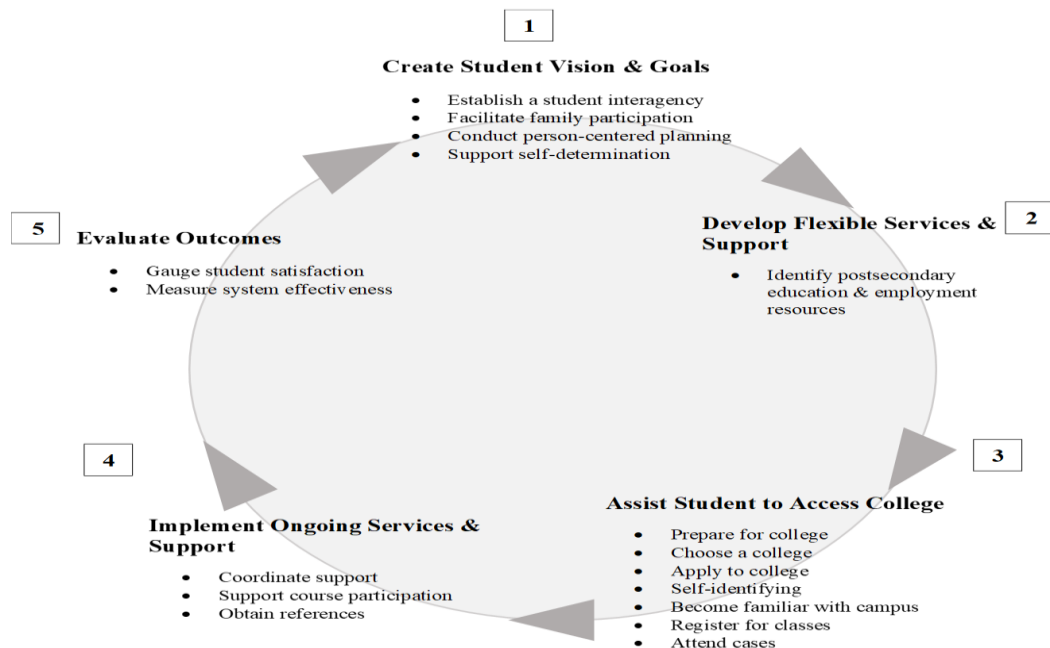
However, it is exceedingly difficult to operate the inclusive model for students with ID due to their varied schedules and the degree of inclusion available to them in the academic and non-academic settings within college or university life. This issue was addressed by the Institute for Community Inclusion's College Career Connection (CCC) model demonstration project, which was designed to enable these students to access college courses by establishing an alternative pathway from the traditional enrollment criteria for students without disabilities. The CCC primarily aimed to help students with ID access PSE programs and employment options based on their preferences, needs, strengths, and career goals. Figure 2.3 presents the key elements of the model (Grigal & Hart, 2010).

2.3.3.5. Sponsored Programs and Services for Adults with ID

Adult services agencies or organizations offer another PSE option for adults with ID by partnering with IHEs. This option provides services and support, similar to the dual enrollment program. However, the main difference between dual enrollment programs and sponsored adult PSE programs is that the local education system no longer provides services and support for

Figure 2.3

Key Elements of the College Career Connection Model



Note. From "Think college! Postsecondary education options" by M. Grigal & D. Hart, 2010, p. 62. Copyright 2010 from Paul H. Brookes Publishing Co.

students with ID in adult PSE programs. Rather, the family members of students with ID must pay for the support and services that the IHE provides to the students. Federal and state financial support, such as education grants and state vocational rehabilitation grants, may be available (Grigal & Hart, 2010; Grigal et al., 2006, 2010).

2.3.3.6. Student- and Family-Initiated Experiences

People with ID can access PSE opportunities at colleges and universities by following standard admission procedures (Grigal & Hart, 2010; Grigal et al., 2006). The families of people with ID believe that their children have the right to develop employment and independence skills the same as college students without disabilities (Stolar, 2016), and family financial support is one of the main sources of access to PSE programs for students with ID

(McEathron & Beuhring, 2011). According to Grigal et al. (2011), many PSE programs were created through families' and educators' efforts. In addition, students with ID and their families independently work to access PSE programs at an IHE without the assistance of intermediary agencies such as public schools and adult agencies (Martinez & Queener, 2010). However, their efforts have received little attention (Grigal et al., 2011; Stolar, 2016), and most have not been documented or reported in studies. Most of these efforts are unplanned and based on information obtained by searching the Internet (Grigal et al., 2011).

Families have created multiple ways for young adults with ID to access IHEs. Some follow the traditional path of the standard admissions process, whereas others ask tutors to obtain permission for the adults with ID in their care to attend an IHE. Families also ask sympathetic champions on campus to mediate college access, and they work with disability services personnel to help determine which courses students with ID are interested in and to choose instructors who are known to support these students and who are familiar with using a variety of teaching styles with them. Students with ID and their families can combine these methods to secure access to PSE (Grigal & Hart, 2010; Grigal et al., 2006, 2010; Weir, 2004).

2.3.4 *Postsecondary Program Components*

Researchers have highlighted the lack of studies addressing the components of PSE programs for students with ID, including their design, instruction, curricula, admissions criteria, funding, and evaluation methods (Fewox, 2018; McEathron & Beuhring, 2011; Neubert et al., 2001), and the limited research on the development and implementation of these programs (Fewox, 2018). Because of the lack of published information regarding the PSE options available to students with ID, several researchers have developed taxonomies to determine the characteristics of such PSE programs to gain a deeper understanding of them and clarify their differences and similarities (e.g., Grigal et al., 2012b; Hart et al., 2004, 2006; McEathron & Beuhring, 2011; Neubert et al., 2001; Papay & Bambara, 2011; Stodden &

Whelley, 2004; Stodden et al., 2002; Thoma et al., 2011). Although these taxonomies help capture their key features, the extant literature provides limited assistance in developing a common classification scheme (McEathron & Beuhring, 2011). The lack of an available taxonomy has hampered efforts to find similarities and variances and to evaluate PSE programs' outcomes. It is difficult to develop a taxonomy to identify the most useful characteristics of these programs in terms of describing, comparing, and evaluating them in general terms (McEathron & Beuhring, 2011).

However, McEathron et al. (2013) developed a taxonomy of the characteristics of 21 two- and four-year PSE programs for students with ID. Data were collected from each program through interviews with disability service staff and program directors, in addition to a review of program documents. One finding of the study was the presence of similarities among the objectives of these programs, including providing an opportunity for students with ID to acquire academic, employment, independent living, and self-determination skills in the college environment.

Foxer (2018), who conducted a multiple case study of three PSE programs for students with ID in the southeastern United States, found that these three programs generally had academic, employment, and independent living components that work together to provide a rich university experience, which improved the students' skills and prepared them to obtain paid jobs and live independently.

As previously mentioned, researchers have determined that there are three PSE program models for students with ID: separate, mixed, and inclusive (Grigal & Hart, 2010; Hart et al., 2004; Neubert & Moon, 2006; Stodden & Whelley, 2004). These models guide the main components of the PSE programs. Academic and vocational components form their backbone, but a residential component is not provided in all programs (Hart et al., 2004; Papay & Bambara, 2011).

In their survey of 87 programs for students with ID, Papay and Bambara (2011) found that 40 used a mixed approach, six used an inclusive approach, and six used the separate model. These PSE programs were located in four-year colleges or universities, two-year colleges or universities, and technical schools (Grigal & Hart, 2010; Hart et al., 2010; Papay & Bambara, 2011), with the majority located in two-year or community college campuses (57.7%), rather than four-year college or university campuses (42.3%). The most common admissions criteria of these programs were that the students must be over a specified age (87% of programs), have a desire to be on a college campus (52%), and be a resident in a particular school district (46%). The programs using mixed and separate models had additional admissions criteria, including completion of a specified number of high school years (38% of mixed models and 67% of separate models), prerequisite experiences (18% and 50%, respectively), prerequisite skills (38% and 33%, respectively), and the ability to move in (35% and 33%, respectively) and around the campus (33% and 17%, respectively). Most students with mild or moderate ID audited classes in 29 of the PSE programs. A few students with severe ID in two PSE programs took non-credit, continuing, or adult education college classes. No students with ID were enrolled in a college degree program (Papay & Bambara, 2011).

2.3.5 *Academic Components*

The academic content of these PSE programs for students with ID is based on the curriculum designed according to each IHE and in line with their missions. The curricula focus on developing students' academic skills, including reading and writing. In general, curriculum design in these IHEs is based on research on developing academic content for students with ID. Moreover, the instructional design in the IHEs focuses on improving the students' employment skills in addition to research-based teaching. The students are taught job-exploration, achievement, and resume-writing skills, and participate in internships (Foxyer, 2018; Stolar, 2016).

The accommodations provided for students with ID in college courses help them access the course curriculum, but the course contents have not been changed under the ADA of 1990 for students who learn in PSE classes, as it is not allowed under this law to make modifications that change the requirements for students' participation in credit classes. In this type of class, all students, including students with ID, have the same course content and assessment method, but students with ID still receive accommodations (not modifications). However, modifications are made in addition to providing accommodations in audited classes for students with ID (Papay & Bambara, 2011).

There is a marked difference in the number of courses that students with ID are required to take in PSE programs, as some programs offer only one or two core courses at the university to these students. Thus, the courses may be limited by the specific number of courses offered for these students (McEathron et al., 2013).

a. 2.3.5.1. PSE Program Admission

The following compilation presents some examples of the shared admissions requirements for students with ID listed by several relevant PSE programs (Alnahdi, 2013; Cook et al., 2015; Foxer, 2018):

- Has a documented ID;
- Has completed an admissions application and an interview;
- Has the motivation and desire to participate in the college experience;
- Knows technology (using a cell phone and laptop) at a basic level;
- Is aged 18–25 years upon admission;
- Can self-administer medications;
- Exhibits behaviors suitable for a college setting;
- Can express needs and communicate with others;

- Can handle certain changes in routine and is flexible in fluctuating circumstances; and
- Has parents to support his or her independence.

The process of admission is usually multi-step (Cook et al., 2015; Foxer, 2018), involving:

- Attending a program tour or open house and information session;
- Finishing and submitting the required documentation and application by the defined deadline;
- Responding to the invitation to proceed with the interview process;
- Attending an admission interview; and
- Responding to the notification of acceptance.

2.3.5.2. PSE Programs' Duration

Accredited programs are generally two-year, full-time courses presented at a university. The interdisciplinary curriculum is based on the interests of students with ID who are accepted and enrolled at the university. In these PSE programs, students with ID can offer feedback about their experience at the university and the things they wish to see for future incoming students with ID (Spassiani, 2018). A two-year, full-time PSE program can be divided into several interdisciplinary modules that include advanced learning and self-development, applied science, math, technology, marketing and business, languages, and fine arts. This proposed PSE program provides students with knowledge of several academic disciplines, taking an interdisciplinary approach to the program's structure to examine how disability is affected and reinforced through the academic environment and perspective (Bouck, 2012).

Spanning two years in a PSE program, the modules are structured and presented in 12-week (one academic semester) or 24-week (two semesters) periods. The PSE program is

offered within a framework of awards and motivation, and the total aggregated grade for the two years is the credit-weighted mean of the grades presented in the modules. Certificates in this program are awarded as merit, pass, or distinction. The score to earn a merit is 55%, a pass is 40%, and a distinction is 70%. These percentages are aligned with the regulations governing university undergraduates (Bouck, 2012).

The PSE program modules are structured to provide students with ID with varied and multiple assessment types to ensure that their optimal learning methods are significantly considered. For instance, each module promotes collaborative learning, class discussion, and input; students receive an assessment of their learning needs to determine the most suitable accommodations for them. Regular summative and formative evaluations are given in each module to help reinforce the concepts learned during lectures. Evaluations are offered in several formats; students decide the format that best serves their learning needs and designate independent hours of study, in which they can finish their assessments with their friends or ask for support from the faculty members teaching the programs (Spassiani, 2018).

2.3.5.3. PSE Program Curricula

The curriculum must be relevant and tailored to suit individual learner interests and dynamics without excluding students with ID. Similarly, pedagogy functions in the middle ground between the curriculum and the student. Knowledge regarding the abilities, characteristics, and interests of students with ID is pivotal in curriculum practice and theory.

In general, scholars have attempted to develop taxonomies to determine the characteristics of PSE curricula for students with ID that facilitate a deeper awareness and understanding of such curricula and clarify the similarities and differences within the educational structure of the PSE programs. Several taxonomies in the PSE curricula for students with ID are seen in studies such as those by Grigal et al. (2012), McEathron et al. (2013), Thoma et al. (2011), and Papay and Bambara (2011). These studies capture the

fundamental variables of the PSE curricula implemented in PSE programs. Understanding adaptive behavior is essential to a PSE program due to its role in discerning the aspects of students with ID and providing a curriculum and framework for individual-referenced education objectives, concentrating on the essential dimensions of human functioning.

For this population of students, a PSE program curriculum, both in practice and theory, should address the developmental possibilities in both the adaptive and intellectual domains associated with ID. Selecting the material to teach should be consistent with the materials the student needs to learn. Considering social and practical skills, the developed program curricula for students with ID can provide the educational materials needed by this population of students (Becht et al., 2020).

The curriculum should focus on social interaction with peers without disabilities, safety awareness, self-advocacy, and independent-living skills (Zager, 2006). The curricula in these programs are designed to help these students develop knowledge, information, and skills in line with the mission of the program (Foxyer, 2018; Stolar, 2016). These should include career, academic, social, and independent living skills. However, the ultimate goals of these programs are to prepare the students to find jobs, provide academic counseling, and ensure the students spend at least 50% of their time in inclusive classes with peers without disabilities (Stolar, 2016). These students strive to obtain an accredited certificate, and, in return, these programs must work to provide the students with educational credentials, although not necessarily a degree (Kleinert et al., 2012).

2. 2.3.6. Type of Courses in PSE Programs

PSE programs offer varying degrees of participation in regular college classes for students with ID (Grigal et al., 2011). They may be completely inclusive, meaning that social events, academics, and independent living support occur with other students without

disabilities (Alruwaili, 2016; Foxer, 2018). Other programs provide less inclusive courses, in which students spend their time in activities and classes with peers with ID.

The HEOA requires that a minimum of 50% of the program time is used to introduce extensive transfer, and PSE programs consist of access to college courses filled by students without an ID. To this end, students with ID should enroll in non-credit or audit classes based on their abilities, preferences, and objectives. If possible, students with ID should have access to the institution's credit-bearing courses when they align with the students' objectives (Grigal et al., 2011).

The main goal of offering PSE services in universities is to give students with ID an age-appropriate environment for their final stage of public education and transition experiences. Postsecondary options at universities and colleges widely vary in the services and support they provide to students with ID, particularly the IHEs that take into account the students' desires and needs and aim to avoid limiting or prescriptive approaches when developing PSE programs (Grigal & Hart, 2012).

Students with ID in IHEs should have the choice to enroll in credit-bearing, non-credit, or audit courses that match their abilities and goals (Grigal et al., 2011; Jester, 2016; Papay & Bambara, 2011; Papay & Griffin, 2013). Students with ID who have higher academic abilities can usually take credit classes and are not considered as having ID compared with other students with ID but rather as having limited academic abilities, and they can audit classes and have their IDs taken into account in the inclusive classrooms (Papay & Bambara, 2011). Students with ID can choose various types of classes in a university, including credit vocational, credit remedial and college preparation, computing, health and fitness, arts, academic, and leisure and home courses (Stolar, 2016).

PSE programs are generally described by one of three main categories, as discussed earlier. These descriptive categorizations are detailed in several studies (Grigal & Hart, 2010,

2012; Kelley & Westling, 2013; Kleinert et al., 2012; Martinez & Queener, 2010; Plotner & Marshall, 2015).

- Hybrid/mixed model: Students with ID engage in academic classes and/or social activities with students without ID (for credit or audit) and participate in other classes with other students with disabilities (often known as transition or life skills classes). It typically offers students the experience of employment off or on campus.
- Substantially separate model: Students with ID participate only in classes with other students with disabilities (often known as transition or life skills classes). Students with ID might have the chance to participate in general social activities and be offered employment experiences, usually through a rotation of pre-created slots of employment off or on campus.
- Inclusive individual support model: Students with ID receive individualized services (e.g., a tutor, educational coach, peer support, and/or technology assistance) in certificate programs, college courses, and degree programs for credit or audit. The career goals and vision of each student drive his or her support and services. The goal is to establish a student-identified vocational goal that directs the path of employment and study experiences (e.g., apprenticeships, internships, and work-based learning).

2.3.7. PSE Program Accreditations

There are two types of PSE programs offered for students with ID. In the first, a program awards a degree to students who have completed all credited classes, and these students must complete the same program requirements as students without disabilities, with no changes made to the course curriculum (Kleinert et al., 2012; Papay & Griffin, 2013; Stolar, 2016; Think College, 2020). Because these students can meet traditional university program requirements, they are enrolled in those programs rather than accepted into PSE programs

designated for students with ID (Grigal & Hart, 2010; Think College, 2020). The second type offers a non-degree certificate for those students who have finished taking auditing classes (Grigal & Hart, 2010; Kleinert et al., 2012; Papay & Griffin, 2013; Stolar, 2016; Think College, 2020). In this case, modifications and accommodations are provided for these students, but they are still required to meet all course requirements to complete the program. Most PSE programs for students with ID offer non-degree certificate curricula, in which the students earn a certification in such areas as welding, plumbing, pedagogy, nurse aide studies, and truck driving, but most of these students earn a nurse aide or culinary certification (Grigal & Hart, 2010; Stolar, 2016; Think College, 2020).

2.3.8. Campus Inclusion

Evidence shows that inclusive practices encourage social acceptance among students with ID in IHEs (Izzo & Shuman, 2013). For example, peer mentors (students without disabilities) of students with ID on campus had more positive views of students with ID and were better able to engage socially with them than students who had no interaction with students with ID (Izzo & Shuman, 2013). This indicates that an inclusive college experience for students with ID leads to better social acceptance and fewer stereotypes of them. Moreover, students with ID reported that they had positive experiences with their peers without disabilities in college and politely and kindly interacted with them. These students felt more acceptance and competence and had a greater ability to make friends beyond the program than others (O'Brien et al., 2009).

Supporting the inclusion of students with ID is not limited to academic access but extends to all facets of campus life. This allows students with ID to participate in extracurricular and/or co-curricular activities, clubs, and social sports (Handsome, 2018; Izzo & Shuman, 2013; Jester, 2016; Papay et al., 2013; Zafft et al., 2004). Students with ID may attend university football games with students without disabilities for the first time and

participate in other campus activities (Papay et al., 2013). For students with ID, the academic component of the program is not the primary goal of attending college. Instead, they want to experience college on campus as well, including participating in clubs, making friends, and working. They acquire life experiences along with their peers without disabilities, in addition to independent living and employment. All PSE program components work together to achieve the program's outcomes (Handsome, 2018).

Additionally, students with ID need self-determination to effectively adapt and stay at school and achieve their educational degrees (Thoma, 2008, p. 78). Field and Hoffman (1994) described self-determination as the ability to define and achieve one's goals based on the foundation of valuing and knowing oneself. Self-determination is a major part of transitional services and, thus, a component of postsecondary learning. Colleges and universities should engage students with ID in the goal-establishment process to help them develop their self-determination skills (Grigl et al., 2011).

More importantly, students with ID must be educated not only to develop life skills but also to understand the social, political, and economic aspects of life. Students with ID must be mindful of how their disability affects their lives directly. It is necessary to educate people with ID about their disability, ability, and their major role to be productive members of their communities.

Therefore, almost all PSE programs strive to provide a wide variety of support activities for students with ID in different college aspects, whether through academic training, peer guidance, residential assistance, or social mentors (Neubert et al., 2004). Despite the variances within support activities and program models, they share some essential similarities, such as their principal objectives. According to Papay and Bambara (2011) and Grigal et al. (2013), the focus should be placed on resources, academic practices (e.g., instruction in basic and new skills), vocational training, job creation, recreational activities, and independent living.

2.3.9. Residential Component

Some PSE programs include a residential component; this gives them an advantage. Grigal and Hart (2010) and Plotner and Marshall (2015) have stressed the significance of residential options for students with ID in these programs. PSE programs designed for students with ID should consider including residential components to provide these students with unique learning experiences, preparing them to live independently and participate in their communities upon graduation. When given a chance to live on campus in university housing alongside other university students, students with ID become more dependable and gain self-confidence. Considering that relatively few programs provide a residential component for ID students (only 39% of programs that responded to a survey by Hart et al., 2010), having this as a priority may limit the colleges or universities that could offer the program. To maximize the effect of these PSE programs, their designers need to take into account the number of students with ID, the number of students without disabilities, the available space in dorms, the availability of services, and the options offered by the university.

2.3.10. Employment Component

The employment experiences in IHEs for students with ID are usually teacher-directed. Many students participate in training experiences or job tryouts on a rotation basis that are not linked with the student's interests, coursework, skills, or a paid position that they seek. These preparatory employment experiences in IHEs prepare students with ID for adult employment, just like their high school experiences prepared them to go to college (Love & Mock, 2019). There is, however, no formal employment training provided for students with ID in high school (Papay & Bambara, 2011). Using the university campus as the general platform for their

education, students with ID can learn how to access employment as an adult, connect their education to a paid job, and navigate between jobs (Love & Mock, 2019).

Parental advocacy and policy changes over the last decades have made PSE a more feasible choice for students with ID (Grigal et al., 2013; Kleinert et al., 2012). Kleinert et al. (2012) further reported that people with ID have access to higher education and can choose their jobs due to interagency partnerships and the use of co-financing sources. There is collaborative responsibility among statewide agencies concerning these students' coordination of services (Winsor & Landa, 2015). Students with ID who attend PSE often succeed in the university experience and their academic fields, which happens to expand their vocational and social skills, thereby becoming valued and active members of society. Two of the most important outcomes for students with ID attending PSE programs include increased chances for integrated employment and improved employment experiences, leading to personal independence, better wages, self-determination, and economic self-sufficiency (Cook et al., 2015; Petcu et al., 2015). In 2010, the US American Community Survey conducted by the Census Bureau was administered to better understand how communities are developed (Smith et al., 2012). The survey contained questions about ID and jobs for students with ID. The findings showed that students with ID who have completed higher education also have higher-paying jobs (Smith et al., 2012). These results should be taken into account by PSE providers and the program team in the design and development stages of a PSE program when making recommendations to students.

Many students with ID consider PSE a fundamental avenue for pursuing a competitive career, increasing their quality of life, gaining more independence, and improving their social and vocational skills (Moore & Schelling, 2015). Students determine the services and support needed for them to make the transition process to the workplace successful, including access to career services and support, paid job training, vocational courses related to students'

interests, and career preparation (e.g., resume building, job interviews, work culture and ethics training, and employment applications). Furthermore, the chance to collaborate with peers who have similar interests and engage in a supportive environment are two important aspects of the university experience and are particularly highly valued by students with ID in PSE programs (Kubiak, 2015). Culture is another highly important consideration that should be taken into account when designing PSE programs for students with ID. The roots of PSE programs for students with ID are in Western cultures, with the first program being founded in Alberta, Canada, more than 45 years ago (Stolar, 2016; Uditsky, 2016) before spreading to the United States (Stolar, 2016), Italy, Iceland, Ireland, and Australia. This normalization movement aimed to allow people with ID to experience college life just as other college students do and continue with higher education, thereby improving their academic, self-determination, social, and employment skills (Grigal & Hart, 2010). As Alsuhaibani (2018, p. 6) noted:

Although the roots of [the] normalization movement are found in Western culture, this movement has profoundly affected the world due to a growing awareness of the implications of cultural diversity to the construct [of PSE programs for students with ID].

Exploring the cultural influences and potential barriers students with ID may face in PSE programs is crucial.

The next section highlights the cultural influences, education system, special education system, and the current status of PSE programs and the options available for students with ID in Saudi Arabia.

2.4. Cultural influences in Saudi Arabia

2.4.1. Cultural Values

Caring for people with disabilities is an essential part of Saudi culture due to Islam's principles, which values the care given to these people, so Saudi culture calls for individuals and organizations in the community to cooperate in serving them.

Throughout history, religious beliefs have positively affected the positions of people with disabilities. In the Middle Ages, Islam played a major role in the movement for the care and habilitation of individuals with disabilities. For example, Al-Azhar University in Egypt was the first university in the world to open its doors for the education of the blind in 970 (Farrell, 1956; Ross, 1951, cited in Al-Mousa, 2010), and in the 18th and 19th centuries, special education institutions began to emerge worldwide (Al-Mousa, 2010). Most religions call for equality for all, with no differences between people due to gender, color, or origin.

As an Islamic state, Saudi Arabia places a high value on equality because equality for all occupies a special position in Islam. No exception is made in Islam for anyone not to perform Islamic duties, even people with disabilities, as long as they can perform them in the same way as others without disabilities. People with disabilities in Islam are the same as any other society members in that they have rights and duties. Islam also rejects the isolation or exclusion of these individuals and calls for their integration with people without disabilities in religious rites (Al-Jadid, 2013; Al-Mousa, 2010; Alhudaithi, 2015; Japan International Cooperation Agency, 2002). Because the Islamic religion is highly valued in Saudi culture, Islam touches all aspects of people's lives, especially education (Al-Jadid, 2013; Al-Mousa, 2010; Alhudaithi, 2015; Japan International Cooperation Agency, 2002). Therefore, education in Saudi Arabia is free form and available to all citizens and residents (Al-Jadid, 2013; Almutairi, 2018).

Saudi culture has not been influenced by foreign cultures, as Saudi Arabia has not been colonized by other countries. However, the annual arrival of many Muslims from foreign

countries to perform the Hajj, which is an essential pillar of Islam, has transferred some different cultural values to Saudi Arabia (Nouraldeen & Elyas, 2014).

2.4.2. Educational Culture

The official and most spoken language in Saudi Arabia is Arabic. English is the second language in the country. Saudi students learn English in the primary years of education, as English is the universal language for communicating with the world and transmitting experiences and cultures (Nouraldeen & Elyas, 2014).

The Saudi school system is similar for all students, with six years of primary education, three years of middle school, and three years of secondary education (Al-Battal, 2016; Alrusaiyes, 2014). People with ID in Saudi Arabia graduate from high school between the ages of 18 and 21 (Ministry of Education, 2020c), quite similar to students in the United States, where all students are expected to complete six years of primary and six years of secondary education, with the latter comprising the middle and high school levels. US students can attend a college or university after completing 12th grade. Some people with ID can pursue higher education at the age of 18 and older under the IDEA, but these students are often ages 21–22 (Hart et al., 2006; Martinez et al., 2012).

2.4.3. Traditional Culture

In the United States, male and female students usually learn together in the same classes at all stages of education, whereas in Saudi culture, students are still somewhat separated by gender in education and other facilities (Al-Jadid, 2013; Alnahdi, 2012). Typically, schools, colleges, and universities allow only male or only female students. However, Saudi society has recently changed greatly, becoming more open and placing less importance on gender than before. Therefore, males and females can now often learn and work together.

2.5. Literature Review of Special Education in the Saudi Context

If education is necessary for children without disabilities, it will be more than necessary for children with disabilities. (Article 3, Rules and Regulations of Special Education Institutes and Programs [RRSEPI, 2001])

Education is one of the top priorities in Saudi Arabia (Al-Mousa, 2010; Alhudaithi, 2015). Every year, more than 25% of the Saudi government's budget is spent exclusively on education, and the Saudi government has not neglected the education of people with special needs. A variety of support and efforts have been made for Saudi people with disabilities to take advantage of their full rights to education. The efforts made in the field of special education by the Saudi government have made it the first Arab country to contribute to the interests of people with disabilities in the Arab world, especially concerning inclusion, which has received international attention over the years (Al-Mousa, 2010; Alhudaithi, 2015).

In 1958, special education services were first provided for those with disabilities in Saudi Arabia (Alquraini, 2010). However, a major shift in special education history occurred in the late 1990s, when the Ministry of Education began integrating students with disabilities into public schools, although these students learned in special classes. Since then, the number of special education programs and public schools that integrate students with special needs has expanded rapidly (Al-Mousa et al., 2008; Alnahdi, 2012). However, the actual implementation of inclusive education took place in 1996 (Al-Mousa et al., 2008). The first successful inclusion experience was in the city of Al-Hofuf in the Eastern Province of Saudi Arabia in 1984, and in 1989, the King Saud University (KSU) kindergarten began to integrate children with special needs (Al-Mousa, 2010).

The term "inclusion" in Saudi Arabia is defined by the Rules and Regulations of Special Education Institutes and Programs (RRSEPI, 2001) as educating students with disabilities in regular schools while providing special education services. Inclusive education in Saudi Arabia

takes two forms. The first is partial inclusion, which means establishing specialized programs for students with disabilities in regular schools. Students with disabilities are enrolled in special classes and receive education, care, and all necessary services and support. They can also integrate with their peers without disabilities in some classrooms and extracurricular activities in public schools. The second form is full inclusion, which provides supportive special education programs in public schools, such as resource-room programs, itinerant teacher programs, and teacher-counselor programs, and students with disabilities learn with students without disabilities in the same classroom for almost the entire school day. Those with disabilities can receive supportive special education programs if their needs in some subjects are not being met in general classrooms by general teachers (Al-Mousa, 2010).

For Saudi Arabia to address the global development of inclusive education, the special education system has made many important amendments and developments (Alhudaithi, 2015). The Ministry of Education recognizes the importance of developing and implementing an educational policy that includes legislation, laws, and regulations for individuals with disabilities to ensure equal educational rights in Saudi Arabia (Alquraini, 2010).

2.5.1. Special Education Laws in Saudi Arabia

Saudi Arabia follows the international trend toward inclusive education (Dare et al., 2017). It has adopted elements of the US EAHCA of 1975, which ensures the right to education for all people with special needs, into its own legislation (Al-Batal, 2016; Al-Mousa, 2010; Alhammad, 2017; Alhudaithi, 2015; King Salman Center for Disability Research, 2000). In 2000, Saudi Arabia enacted the Provision Code for Individuals with Disabilities in the Kingdom of Saudi Arabia to guarantee the rights of people with special needs (Al-Jadid, 2013; King Salman Center for Disability Research, 2000). These laws and regulations were enacted to guarantee the rights of people with special needs through intensive collaborative efforts among the Ministry of Education, Ministry of Health, and Ministry of Social Affairs of Saudi

Arabia (Al-Battal, 2010; King Salman Center for Disability Research, 2000). For example, Article 2 states that the Saudi government assures the right of all people with disabilities to obtain prevention, care, and habilitation services and encourages all institutions and individuals to contribute to charitable work in the area of disability. In addition, the same article states that educational services will be provided for people with special needs at all educational stages (preschool, public education, technical education, and higher education), as well as appropriate training, rehabilitation services, and vocational and social centers. People with disabilities are also guaranteed a paid job to gain income, as are others without disabilities in Saudi society (King Salman Center for Disability Research, 2000).

In addition, the Provision Code for Individuals with Disabilities in the Kingdom of Saudi Arabia (2000), in Article 3, mentions that Saudi education policy contains a set of foundations and constants related to the field of special education following contemporary educational trends. Examples of these foundations and constants include:

- Identifying individual differences among students and helping them grow according to their abilities, readiness, and preferences;
- Providing special education for students with disabilities, which encourages education among all students, and developing special cultural and training curricula according to their needs;
- A belief that public school is the natural environment for students with disabilities in its educational, psychological, and social aspects, where special education services are provided in public schools according to the type and degree of disability and individual needs of each student;
- A belief that students with disabilities in a regular school should spend no more than 50% of their school day in the resource room. They should also be integrated with their peers without disabilities in the classroom and non-classroom activities;

- The idea that negative attitudes toward people with disabilities are considered more challenging than the disability itself. Therefore, the positive attitude of the general teacher toward students with disabilities is a significant factor in the success of these students' education with their peers without disabilities;
- Understanding that school administrators have the role of creating inclusive education for students with disabilities through flexible school management, providing a variety of learning options, and supporting students in facing problems; making the regular school building accessible to students with disabilities and free from any obstacles that prevent them from moving easily in the school environment; and a belief that people with disabilities can learn and integrate into public life with others without disabilities, so people must focus on what can be done instead of what cannot be done.

In 2008, Saudi Arabia signed the Convention on the Rights of Persons with Disabilities. Article 24 of this convention emphasizes the right to inclusive education for all students with disabilities (Al-Mousa, 2010; Alhammad, 2017; Alhudaithi, 2015; Althabet, 2002). Thus, access to higher education for people with special needs is a guaranteed right in Saudi Arabia (King Saud University, 2018). In 2009, Saudi Arabia worked with the Arab University to develop an action plan to implement the Convention on the Rights of Persons with Disabilities in the Arab World (Al-Mousa, 2010).

2.5.2. Special Education System

Even though the RRSEPI requires schools to educate students with disabilities in Saudi Arabia in the public sector, they are educated in different settings based on the nature and severity of their disabilities (Alquraini, 2013). For example, eligibility for study in special schools or public schools is based on many variables, such as the severity of the disabilities, the nature of the disabilities, and students' educational needs for those who require more

attention. This means that students with mild to moderate disabilities study special education curricula designed for them in special classes in public schools. These students with disabilities can integrate with their peers without disabilities only through extracurricular activities and acquire multiple skills, such as psychological, social, educational, and adaptive skills, whereas students with severe disabilities study in special schools (Al-Mousa et al., 2008; Alquraini, 2010, 2013).

The Ministry of Education determines special education curricula at the primary-, middle and high school levels for both regular and special schools. The necessary modifications to these curricula can be made according to each student's abilities and needs (Alhammad, 2017; Article 94, RRSEPI, 2001). In addition, education in Saudi Arabia is curriculum-based, so the curricula are a mixture of traditional Islamic religious education and lessons in other fields, such as science, arts, and mathematics. The schools' curricula are usually adopted from the United States or the United Kingdom, and their schedules are similar to the US system. Maintaining the Saudi and Arab identity based on religious and societal principles, values, and culture, however, plays a fundamental role in the Saudi education system, where the teachings of the Holy Qur'an and the hadiths of the Prophet are taught in schools as part of Islamic culture (Almutairi, 2018; Alquraini, 2010).

There are two types of educational placements for students with disabilities, including ID, in Saudi Arabia: inclusion and institutes. Al-Mousa (2010) argued that institutes separate those with severe and moderate disabilities from typically developing students, concentrating on categories of disabilities such as visual impairment, ID, and hearing impairment. Inclusion programs and services place individuals with mild disabilities into general and mainstream schools, providing services such as self-contained classrooms, resource rooms, follow-up programs, and itinerant teachers. However, Al-Mousa (2010) found that, in reality, only self-contained classrooms and resource rooms are available. Although students with mild to

moderate ID are mainly separated from typically developing students in public and mainstream schools, they might interact during certain activities, such as recess or lunch. The curriculum for these individuals differs from the public curriculum. They can continue their education at general schools until the age of 18, but they do not have certain opportunities to continue their education outside of a few vocational and developmental centers for training (Al-Mousa, 2010).

The outcomes of the development programs of special education services have been reflected positively in student services for those with ID. All students with disabilities, including people with ID, receive financial support, academic education, vocational training, and other support from the Special Education Office of the Ministry of Education, with the ministry overseeing the system (Al-Jadid, 2013; Almutairi, 2018; Alquraini, 2010).

The first institute for students with ID in Saudi Arabia was started in 1970. It offered services such as training and housing for children with severe disabilities. About 100 students with ID were shown to attend special education institutions in 1970. The number of students with ID attending these institutes has increased since, indicating these programs' positive outcomes. The statistics from the Ministry of Education show that 19,000 students have benefitted from the special education services of nearly 5,500 instructors across Saudi Arabia, and 65% of these students access special education programs in public and mainstream schools. Institutes for students with ID represent 60% of all disability programs in Saudi Arabia (Alnahdi & Elhadi, 2019).

Special education programs and services in Saudi Arabia have evolved substantially over the last decade, with their development listed in the "Public Education Policy Goals in Saudi Arabia" report of 2005. The number of programs has grown since then, providing services for individuals with different disabilities. By 2007, 90% of all students with disabilities in Saudi Arabia were being educated in regular and public schools. According to the

Directorate General of Special Education in Saudi Arabia, the number of services for students with developmental and intellectual disabilities increased from 600 to 750 in 2007, which is more than 10% in one year (Alruwaili, 2016).

In Saudi Arabia, programs in middle and high schools for students with ID were created for the first time in 2004. For all individuals with or without disabilities, high school and college represent critical academic junctures, as every year builds an academic foundation for the next. Many scholars have reported the urgent need to move from a focus on and interest in the special education process to post-school objectives and outcomes in secondary and higher special education (Grigal et al., 2013; Mercier, 2017). They suggest that the focus should move from following correct educational procedures to promoting meaningful results (Plotner & Marshall, 2015).

Accomplishing these significant outcomes has become one of the main goals of transition services, which include, among many other things, active community participation, independent living, and employment. Although there is a clear interest in and focus on the results as a significant element in the educational process and literature, middle and high school programs for individuals with ID in Saudi Arabia have not yet achieved the ambitions of the educators, officials, and families regarding preparing these students for life after college (Alruwaili, 2016).

As mentioned, the first school for students with ID was built in Saudi Arabia at the beginning of the 1970s (AlKhushrami, 2003; Alnahdi & Elhadi, 2019; Althabet, 2002). Now, there are 1,000 programs and institutions for these students (Alnahdi, 2014). Since the late 1990s, students with ID have been integrated into regular schools in most major cities, such as Riyadh, Jeddah, and Dammam (Al-Ajmi, 2006; Ministry of Education, 2020a). The main goal of integrating these students is to help them acquire learning skills and communicate with others without disabilities, as well as to employ them in companies as active members of

society. However, most of these students have continued to study in special education schools or separate classes in public schools (Al-Ajmi, 2006). Recently, the Ministry of Education has focused on educating students with ID at various academic stages to meet their psychosocial, educational, and social needs (Ministry of Education, 2020b). According to statistics released in 2011, 62% of students with ID attended special education programs at inclusive schools. Of the Saudi Arabia institutions, 58% are dedicated to students with special needs, and 50% to 60% of all special education services provided are primarily directed to students with ID (Ministry of Education, 2002).

Moreover, in 2019, the Ministry of Education sought to raise the percentage of students with disabilities in special education programs and improve the services provided to these people by building a national education strategy for people with disabilities. The number of special education programs for students with disabilities has increased to 5,600 programs in the 2018–2019 academic year, and the number of students in these programs has also increased to more than 76,000. Approximately 14,000 teachers in various specializations teach these students (Saudi Press Agency, 2019).

2.5.3. PSE for Students with ID

Saudi Arabia has a similar prevalence as the United States concerning people with ID, which is that developmental disabilities, including ID, are widespread; consequently, healthcare, education, and other services for this sector of the US population have received great attention. Boyle et al. (2011) investigated the prevalence of developmental disabilities in American children between the ages of 3 and 17 from 1997 to 2008. They concluded that the percentage of people with developmental disabilities grew from 12.84% to 15.04%. Moreover, one in six children had developmental disabilities in the United States from 2006–2008. Another study found that the most common type of disability in the age group 18–44 in the

United States was cognitive disability (10.6%) (Okoro et al., 2018). Additionally, Lindstrom et al. (2014) estimated the US population of people with ID to be 2.5 million.

The United States, therefore, has been working for years to address the needs of the population with ID by creating opportunities for them to pursue higher education, claim their rights, and believe in their abilities (Almutiari et al., 2020b). Papay and Griffin (2017) stated that opening the doors of US colleges and universities for adults with ID has been a national concern for more than 10 years.

Saudi Arabia also has a high rate of individuals with ID, the most common type of disability (Al-Jadid, 2013; Alwazna, 2004), and most Saudi people with special needs are adults ages 16–30 (Alwazna, 2004). This underscores the need to focus on PSE for students with ID in Saudi Arabia (Almutairi et al., 2020a).

Higher education for people with disabilities has also received attention in Saudi Arabia, where all students with disabilities who qualify for entry to higher education institutions are admitted. These institutions are required to provide orientation and follow-up programs to help these individuals succeed. The Ministry of Education provides scholarships for people with disabilities to complete their higher education. In 1977, financial support was also provided to people with ID who had scholarships outside Saudi Arabia and were in pre-university institutions, as well as their peers studying at universities (Human Rights Council, 2016).

However, students with ID have not been integrated into Saudi universities yet, although they have been integrated into many US universities since the implementation of the EAHCA of 1975. Moreover, PSE for students with ID in Saudi Arabia has not received public attention, and many Saudi students with ID are leaving high school without opportunities to pursue higher education. Their only available options are vocational rehabilitation centers offered by the Ministry of Education to develop professional and communication skills (Al-

Ajmi, 2006; Alrusaiyes, 2014; Japan International Cooperation Agency, 2002; Ministry of Human Resource and Social Development, 2020c). Alternatively, they can attend educational and vocational rehabilitation programs offered by private centers that teach, for example, academic, social, and practical skills (Human Rights Council, 2016; Ministry of Human Resource and Social Development, 2020a). There is also an institution called the Technical and Vocational Training Corporation, which trains and qualifies people with disabilities, including ID, following the requirements of the labor market (Human Rights Council, 2016; Ministry of Human Resources and Social Development, 2020a).

Although Saudi Arabia guarantees the right of people with disabilities, including ID, to live independently and obtain employment, rehabilitation, transition services, and other services and support, there remains a need to consider and address the shortage of PSE programs (Alrusaiyes, 2014). It seems that the current laws and policies concerning these individuals in Saudi Arabia must be activated to achieve the desired results in special education (Alrusaiyes, 2014).

2.5.4. PSE Options for Students with ID

2.5.4.1. Vocational Rehabilitation

Some students with mild ID enroll in vocational institutions, where training is provided to them in sheltered workshops in various professional fields, such as electricity, carpentry, computers, bookbinding, typewriting, painting, and tailoring, so that they may obtain jobs (Japan International Cooperation Agency Planning and Evaluation Department, 2002).

According to the Provision Code for Individuals with Disabilities in Saudi Arabia, rehabilitation is defined as providing medical, social, psychological, educational, and vocational services to individuals with disabilities through coordinated and organized lessons. It is also a process in which the maximum extent possible is invested into the capabilities of

these individuals to help them integrate socially and independently and make them productive members of society (King Salman Center for Disability Research, 2000).

Moreover, Article 5 states that the Saudi government will grant individuals with disabilities loans to help them run businesses commensurate with their capabilities. Furthermore, Article 8 states that the Supreme Council for the Affairs of Persons with Disabilities, a governmental board in Saudi Arabia, must allow individuals with disabilities to participate in issues related to them (King Salman Center for Disability Research, 2000).

The Ministry of Human Resources and Social Development (2020c) outlined some admission requirements of individuals with disabilities for governmental and private rehabilitation centers:

- A physical, sensory, or intellectual disability; in some cases, people with multiple disabilities can enroll if they can rehabilitate and get a job after training;
- IQ not less than 50;
- Saudi nationality, although no more than 10% of non-Saudis may be accepted;
- Age between 15 and 45; and
- A documented certificate of their type of disability.

In addition, the ministry directly carries out a set of rehabilitation, training, and employment projects for people with disabilities. These projects have been implemented in cooperation with a number of governments, as well as private and non-profit agencies in three cities in Saudi Arabia: Tamkeen and Qadir.

The Tamkeen project employed approximately 81 people with disabilities in rehabilitative training programs. These individuals were trained in several areas, including administrative work, accounting, design, public relations, media, sorting, numbering, and production lines. The Qadir project is concerned with training and employing people with

disabilities who are enrolled in rehabilitation centers and daycares but can work. So far, 38 of its trainees with disabilities have been employed.

These projects are based on the philosophy of investing in the capabilities and energies of people with disabilities in the professions suitable for them according to their interests and desires, providing diversity in the fields of vocational training for these individuals, and finding suitable job opportunities for people with disabilities compatible with the requirements of the labor market.

The ministry has implemented these projects in line with Vision 2030, which calls for empowering people with disabilities to obtain education and appropriate job opportunities to ensure their independence and integration as active individuals in society while giving them the facilities and tools they need to succeed.

The National Transformation Program 2020 focuses on eight dimensions, one of which is empowering segments of society to enter the labor force and raise their marketability, and one strategic goal of this dimension is to enable the integration of people with disabilities into the labor market. To implement the goal, a strategy was followed to develop qualification and employment programs for people with disabilities in line with the needs of the labor market and increase the percentage of employees with disabilities who can work from 7.7% in 2017 to 12.4% by 2020.

The General Administration for the Care and Rehabilitation of People with Disability in the Ministry of Human Resources and Social Development (2020b) implements planning, supervision, and follow-up procedures for services provided to people with disabilities by the ministry. The administrations and centers under the supervision of the General Administration are:

- The Administration of Social Rehabilitation: Provides all administrative and technical procedures related to housing services in rehabilitation centers and

institutions for people with disabilities and offers social care services and financial aid;

- The Administration of Vocational Rehabilitation: Educates the paralyzed, provides vocational rehabilitation for those with physical, sensory, or ID for occupations appropriate to their abilities, and continues their training, whether inside or outside the centers, to help them integrate into society and achieve their independence as effective people in society.
- The Administration of Private Rehabilitation: Responsible for daycare centers, non-governmental housing centers, and private rehabilitation centers. This administration can issue licenses to establish non-governmental rehabilitation centers and supervises these centers, their programs, activities, and the level of services provided to people with disabilities.
- Comprehensive rehabilitation centers: These 38 centers care for and rehabilitate people with severe disabilities. All rehabilitation and professional services are provided to these individuals. These centers are also concerned with housing for those people not subject to vocational rehabilitation due to the severity of their disability or multiple disabilities. People with moderate disabilities are also accepted in these centers.
- Vocational rehabilitation centers: There is one vocational rehabilitation center and 13 Departments of Vocational Rehabilitation in Saudi Arabia affiliated with the vocational center. This center and its departments provide rehabilitation services for those with physical, sensory, or intellectual disabilities in professions suited to their abilities. Training can be done with external parties for professions that are not available in the centers according to programs and a joint training plan between the centers and training parties. This center and its affiliated divisions accept people

with mild disabilities, as well as those with other disabilities who are capable of vocational rehabilitation.

- Daycare centers: There are 12 government daycare centers and departments in Saudi Arabia and 120 non-governmental daycare centers. These centers provide various services and programs for severely disabled individuals during the daytime. Social, psychological, health, recreational, and training programs are provided, in addition to family counseling and education programs offered according to need and the students' individual plans. These centers also provide appropriate care and rehabilitation programs for people with disabilities, including physical and occupational therapy and training in life skills. These centers were established as an alternative to families placing their children in institutional care due to their inability to provide care for them.

2.5.4.2. *Technical and Vocational Training Corporation*

Colleges of Technology. There are 13 colleges of technology, with the first established in Riyadh in 1982. It was the first technical college in Saudi Arabia under the supervision of the Technical and Vocational Training Corporation. This college aimed to expand the base of the Saudi workforce in various technical and vocational fields, ensure that it was capable of keeping pace with the rapid developments in these fields, contribute to building the national economy and ambitious development projects, and open new paths of technical vocational training for high school graduates (Riyadh College of Technology, 2009; Technical and Vocational Training Corporation, 2018a).

The training year is divided into three periods. Each of the two training semesters' durations shall not be less than 14 weeks, including preparation and final evaluation. The one-week break between the two semesters is spent preparing for the next training semester. By applying the three-way training system, the training that the student receives during the day

increases to eight hours, and training days increase to 210 annually, which leads to an increase in the trainees' skills and mastery of their chosen specialties or professions and a linking of the training environment with the practical environment (General Administration for Curriculum Design and Development, 2020; Riyadh College of Technology, 2009).

The colleges of technology target high school graduates to qualify them in professional, technical, and administrative specializations. The graduate obtains an intermediate university degree (e.g., assistant engineer in one of the technical specialties or administrative assistants in one of the administrative, financial, and business specialties), which is accredited and functionally classified by the Ministry of Civil Service (Riyadh College of Technology, 2009; Technical and Vocational Training Corporation, 2018b, 2019a).

The College of Technology in Riyadh includes specialized scientific departments, the Department of General Studies, and the English Language Center, which teach general humanities and basic science courses to all college students (Riyadh College of Technology, 2009; Technical and Vocational Training Corporation, 2019b).

The Department of General Studies plays an active role in supporting other departments and provides the college's trainees with general science knowledge to understand the specialized sciences offered by other departments. The department occasionally develops and updates the specialized courses to match those taken by the trainees in the technical departments to meet those students' needs. The department council proposes training plans and distributes these course plans, studies, lectures, exercises, and training work to the trainers (Technical and Vocational Training Corporation, 2019b).

The department also organizes public lectures and holds courses in its specializations, including Islamic culture, Arabic, mathematics, physics, and learning skills, in addition to English, computers, communication skills, business skills, career guidance, professional ethics, and leadership, all of which help the trainees identify their professional tendencies and acquire

the necessary skills to choose the appropriate specialized fields for them, particularly through the learning-skills and vocational-guidance portfolios (Technical and Vocational Training Corporation, 2019c).

Table 2.1 *Diploma and Bachelor’s Programs in the College of Technology by Department*

Diploma Programs (intermediate university degrees) Students must have a high school certificate to enroll in diploma programs.		
Department	Specialization	Work Fields
Electrical Technology	Electrical power installations	Electricity institutions and their companies; power plants and their control centers.
	Electrical machinery and equipment	Electricity institutions and their companies; power plants and their control centers.
Electronic Technology	Industrial and control electronics	Operation and maintenance of electronic devices in various companies, factories, and hospitals.
Computer Technology	Technical support Software	Computer centers in government and private administrations, computer installation and maintenance companies, and information-systems development companies. Operation and maintenance of electronic devices in various companies, factories, and hospitals.
Chemical Technology	Chemical production	Production institutions and factories in the field of chemistry.
	Chemical laboratories	Laboratories of various industrial companies; fertilizer and plastic factories.
Mechanical Technology	Industrial production	Production department, maintenance department, and production lines in factories.
	Motor-vehicle technology	Vehicle repair and maintenance workshops, periodic inspection of vehicles.
	Refrigeration and air-conditioning technology	Governmental sectors, food companies, air-conditioning

Construction Technology	Architectural, technical construction Civil technical construction	companies, refrigeration companies (maintenance of air-conditioning systems). Architecture and construction institutions, engineering offices, and engineering departments in the government sector.
<hr/> Diploma Programs (intermediate university degrees) Students must have a high school certificate to enroll in diploma programs.		

Department	Specialization	Work Fields
Management Technology	Accounting and administrative work in the public and private sectors. Human resources management	Recruiting officer, human resources specialist, client relationship supervisor, personnel specialist, training specialist, a specialist in job classification, payroll auditor, employee affairs controller, employee salaries specialist, and human resources manager.
Accounting	Office management Warehouse management	All administrative office work in public- and private-sector organizations. Stock classification, stock procedures, warehouse quality, secretarial work in warehouses, shipping and insurance in warehouses, security and safety, and warehouse operations management.
	Marketing	Managing purchases in the government sector and marketing departments; sales representative in the private sector.
Food and Environment Technology	Environmental protection Food safety Occupational health and safety	Technician or health observer in departments and sections in the fields of environmental protection and health, safety, and occupational health.
Special Technology	Office applications for hearing disability Office applications for visual disability	Trainer assistant in the field of specialization, bilingual machine typist, administrative assistant, writer, automated account maintenance technician.

Tourism and Hospitality	Food services (hospitality)	Hotel restaurants and local and international companies, catering for airlines, catering for events and celebrations.
	Hotels	Reception, hotel marketing, organizing celebrations, flight preparation, public relations, air hospitality, and customer service.
	Food production (cooking)	Food production, such as in restaurants.

Diploma Programs
(intermediate university degrees)

Students must have a high school certificate to enroll in diploma programs.

Department	Specialization	Work Fields
Technology	Events management	Providing services at events, contributing to their management, designing and planning events, providing services, food, and beverages to guests, and transportation.
	Travel and tourism	Booking and issuing tickets and travel documents.
	Tour guidance	Fields related to the tourism industry, including tourism guidance, organizing and designing tours, leading tour groups, working in travel and tourism offices.
Design and Clothing Production Technology (for females only)	Sewing and clothing production	Clothing factories, institutes specializing in sewing, and fashion design.
	Cosmetic Technology (for females only)	Fields related to salons in private and public business markets, beauty specialist, makeup lecturer, hand and foot care specialist, cosmetic center supervisor, operator manager, beauty technician, and assistance in the fields of skin beautification and care in the health sector.

Bachelor's Programs:
Technical Engineering
Students must have an intermediate university degree (diploma) from one of the technical colleges in Saudi Arabia in a specialization that students

desire to continue through a bachelor's program.		
Department	Specialization	Work Fields
Electrical Technology	Electrical machinery and equipment	Power-generating stations, substations, high, medium, and low-pressure networks, operation and maintenance of motors and generators of all kinds, and operation, development, maintenance, and management of control systems in complex industrial processes.
Electronic Technology	Industrial and control electronics	Computer and information centers in various government sectors, ports and airports, and satellite communication stations.
Computer Technology	Computers	Computer centers in the government and private sectors, and computer installation.
<p>Bachelor's Programs: Technical Engineering Students must have an intermediate university degree (diploma) from one of the technical colleges in Saudi Arabia in a specialization that students desire to continue through a bachelor's program.</p>		
Department	Specialization	Work Fields
Chemical Technology	Chemical production	Petrochemical factories, cement, glass, fertilizers, petroleum refining.
	Chemical laboratories	Research centers, specifications and standards, plastics, polymers, and construction materials, gaseous material manufacturing.
Mechanical Technology	Industrial production	Production and operation of traditional and programmed machines, production management, maintenance departments, production lines in governmental and private factories.
	Motor-vehicle technology	Maritime transport, aircraft services, various military sectors for the inspection, operation, and repair of all kinds of vehicles.

Food and Environment Technology	Environmental protection Food safety	Technician or health observer in departments and sections specializing in the field of environmental protection and health, safety, and occupational health.
Tourism and Hospitality Technology	Food services (hospitality)	Hotel restaurants and local and international companies, catering for airlines, catering for events and celebrations. Reception, hotel marketing, organizing celebrations, flight preparation, public relations, air hospitality, and customer service. Food production, such as in restaurants. Booking and issuing tickets and travel documents.
	Hotels	
	Food production (cooking)	
	Travel and tourism	
Management Technology	Accounting	Accounting and administrative work in the public and private sectors. All administrative office work in public- and private-sector organizations. Stock classification, stock procedures, quality control in warehouses, secretarial services in warehouses.
	Office management	
	Warehouse management	

Bachelor's Programs:
Technical Engineering
Students must have an intermediate university degree (diploma) from one of the technical colleges in Saudi Arabia in a specialization that students desire to continue through a bachelor's program.

Department	Specialization	Work Fields
Management Technology	Warehouse management	Shipping and insurance in warehouses, security and safety, and warehouse operations management.
	Marketing	Managing purchases in the government sector and marketing departments; sales representative in the private sector.
Food Production Technology	Food production	Technician in operating machinery and food-processing equipment and appliances, food plant quality control, standards, and metrology technician,

Communication Technology	Communication technology	technical warehouse keeper or assistant. Communications technician, specifications and metrology technician, assistant trainer, and technical warehouse keeper.
Civil and Architectural Technology	Architectural technology Civil technology	Architecture and construction institutions, engineering offices, and engineering departments in the government sector.
	Space	Aerial surveying, assistant trainer, specification, and metrology technician.
Special Technology	Office applications for hearing disability Office applications for visual disability	Trainer assistant, bilingual machine typist, administrative assistant, writer, and automated account maintenance technician.

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All departments of the college grant two intermediate university degrees (diplomas) and bachelor's degrees in various majors, except for the Department of Administrative Technology, which awards the graduate an intermediate university degree (diploma) only (see Table 2.1; Technical and Vocational Training Corporation, 2018b, 2019a).

As shown in Table 2.1, the colleges of technology grant diplomas and bachelor's degrees in a number of technical and administrative disciplines. The diploma program is the basic training program in the college. The number of trainees accepted for each semester is determined based on the training program's capacity in the specific department, and preference is given to applicants who meet the admission requirements (Technical and Vocational Training Corporation, 2019c).

The duration of the diploma programs is two and a half years. Some bachelor's programs also have a duration of two and a half years, or the program's duration might be specified according to the student's study plan by the institution (General Administration for Curriculum Design and Development, 2020). The difference between the two-year bachelor's

and diploma programs is that the diploma programs offer simple, basic courses, such as an introduction to computers, whereas the bachelor's programs have advanced courses, such as advanced computer skills.

Admission Requirements in Departments and Majors of the College. According to the Technical and Vocational Training Corporation (2018a, 2019a), applicants to the college must:

- Be a Saudi national, although non-Saudis may be accepted according to the regulations and directives;
- Have graduated from high school, Al Noor Institute for the Blind, a deaf and mute high school, a secondary industrial institute, or their equivalent;
- Not have been accepted into another institution in the same period of study in the colleges of technology;
- Not be a graduate or continuing in the training program;
- Not have a previous certificate equivalent to or greater than the level of the certificate being applied for;
- Not be an employee or have approval from the employer;
- Have the required qualification for specialized training;
- Be medically fit for the program or specialty being applied for;
- Be in full-time coaching; and
- Fulfill the requirements and provide the documents specified at the time of submission.

Students with disabilities, including students with ID, can major in any desired field for which they have the ability. Students with moderate or severe disabilities can be accepted and given financial aid by the institution (Technical and Vocational Training Corporation, 2018b, 2019c).

Training. The institution helps the trainee make the right decisions in choosing a specialization and profession appropriate to his or her capabilities and inclination, as well as works with governmental and private institutions to determine labor market needs through the Professional Guidance and Coordination Center in the institution. The Professional Guidance and Coordination Center also offers courses that aim to develop the trainees' skills and prepare them to enter the labor market.

These courses cover a range of topics, such as CV writing, interviewing strategies, work ethics, job-search methods, employee duties and rights, methods of dealing with colleagues at work, small and medium-sized enterprises' work mechanisms, and the work system in Saudi Arabia (Technical and Vocational Training Corporation, 2018a, 2019b).

According to the Technical and Vocational Training Corporation (2018b), training, which happens in the last semester of the study plan, is a requirement for graduation. This training is characterized as cooperative, whereby students are directed to work in centers commensurate with their specializations after coordination between the technical college and the training authorities. This cooperative training benefits the trainee, the training destination, and the college in the following ways:

- Trainee: The student has the opportunity to gain practical experience and training before graduation, become acquainted with the work environment, and obtain the skills of taking responsibility, adhering to deadlines, dealing well with others, and becoming acquainted with the equipment and supplies in the workplace.
- Training destination: Private and governmental institutions are provided with the opportunity to observe the trainee's skills and employ him or her.
- The technical college: The college can identify the requirements of the labor market, which provides opportunities for an exchange of experiences and cooperation between the college and training parties.

2.5.4.3. Services

Teqani Website. The Teqani website is an online platform that links the graduates of technical colleges and industrial institutes throughout Saudi Arabia with companies that are willing to employ them. The employment services offered by the Teqani website between the students and the companies are free.

To help students find appropriate job opportunities, they can enter their data in the Teqani portal starting with their enrollment in one of the institutes or affiliated colleges. After the trainee graduates, the system automatically updates the institution's data and verifies the evidence required to obtain job opportunities (Technical and Vocational Training Corporation, 2015).

Appropriate Specialization Program. This program aims to help the trainee or student choose an appropriate major with the help of scientifically approved standards and an international court. The career guide of the institution is the basis on which students are guided, in accordance with the specifications and standards followed internationally and the database of the institution; this is presented on the website, where majors are classified on the Holland Scale, and the abilities, skills, and work values needed for these specializations are determined (Technical and Vocational Training Corporation, 2015).

Extracurricular Activities. The Activities Administration at each institution enables trainees to take part in sports and cultural, social, and other general programs appropriate to their desires and to maintain their psychological and physical health. Many local and international activity programs are also organized and, more importantly, invest in the trainees' capabilities and skills. Coordination is also made with the relevant authorities to support and develop the Technical and Vocational Training Corporation (2018a, 2019c).

2.5.5. Processes in the Design and Applicability of the PSE Programs

2.5.5.1. PSE Program Design

Several studies have explored PSE designs for students with ID. Stolar (2016), Papay and Griffin (2013), and Foxer (2018) outlined some strategies for developing PSE programs for students with ID before accepting these students into a university. For example, working with several university stakeholders to advocate for creating a PSE program for students with ID is one of the most important factors for those interested in designing such a program. In addition, building strong partnerships both inside and outside the campus, providing resources and support for the program, and ensuring positive perceptions of students without disabilities, administrators, faculty, and all persons involved on campus in integrating students with ID into the university are other important factors for the program design. Finally, the university's stakeholders must learn from similar programs, develop a common vision with these implemented programs, and communicate with the university administration about the program's vision. They must also determine the type of student the program will serve, develop the program admission requirements, the appropriate model, and curricula, choose the type of courses, define program guidelines, financing, procedures, and policies, and identify the program staffing needs. However, there is still a general demand for standards and guidelines for designing PSE programs for students with ID. Many universities have developed standards-based conceptual frameworks to advance collaboration and increase awareness and understanding of PSE opportunities for learners with ID through improved practice and research. Many universities also provide a structural and philosophical framework for planning, applying, and evaluating admission guidelines and practices (Grigal et al., 2012). The PSE programs' standards provide a framework that supports the admissions structure and offers innovation while maintaining mechanisms of feedback on the effectiveness of such structures and their services and guidelines. Many scholars believe that structured language is required to communicate the developing models of PSE, which constitute a broad intervention array that could be applied to solicit a variety of results for the diverse group of individuals

with ID. The general framework that PSE is provided under would continue to serve as the basis for developing a more complex system that reflects the students, institutions, and other involved parties (Becht et al., 2020). The admissions policies of PSE programs for students with ID are usually established during these programs' development and implementation phases. These policies change as the programs improve (Fewox, 2018). Therefore, the people responsible for setting the admissions requirements for the students in these programs must be aware of their characteristics, goals, and needed skills, as well as ways to identify partners and the need to provide facilities at the university that meet the needs and goals of students with ID (Alrusaiyes, 2014; Cook et al., 2015; Fewox, 2018; Folk et al., 2012). Plotner and Marshall (2015) found additional aspects to consider in a PSE design: the university's policies for admission and matriculation, the acceptance of students with ID, their inclusion in non-academic activities, the availability of courses, and teachers' willingness to teach students with ID. In addition to understanding the elements that contribute to successful participation, students' families can start early in providing the desired opportunities for skill-building at home for their children and advocating the IDEA's goals and services of transition, which will supply these students with the necessary skills for college (Cook et al., 2015). The admissions requirements for these programs must be developed and aligned with the programs' goals and the institutions' overall missions (Folk et al., 2012).

Additionally, Foxer (2018) and Cook et al. (2015) have stressed the importance of finding support on campus to advocate for the program as a key part of designing it. This support can help with the delivery of programs and services in the university and may come from student affairs, student support, housing facilities, and emotional and medical services. More importantly, work should be done with the university's Department of Legal Affairs to establish policies and procedures that meet the needs and abilities of students with ID, including admissions criteria, on-campus housing, behavior and discipline, course

participation, attendance, internships, employment, and campus activities. These policies would be applied consistently and delivered via student and parent orientations. In addition, Cook et al. (2015) have stressed the importance of building partnership networks in PSE programs that represent families, society, organizations, and higher education services, all of which can be revised or updated to align with the programs' needs and those of students with ID. Some additional components should also be considered when designing PSE programs, including the university websites, which should be designed for both students with ID and those without disabilities. The websites should be simple, user-friendly, and up-to-date. The courses should be designed and taught to be understood both by students with ID and those without disabilities, and they should be easily accessible online and offer content downloads for offline use (Papay & Bambara, 2011). Collaboration at different university levels is also considered an important part of program design, starting with cooperative university administration across campus and extending to community partners. These collaborators help ensure the availability of resources and support that the PSE program cannot provide. Therefore, these programs rely on building partnerships both on and off campus to operate sustainably and meet the needs of these students effectively. These program-planning strategies and partnerships help students with ID experience internships and obtain paid employment, which allows them to live independently (Cook et al., 2015; Foxer, 2018).

Interagency collaboration is defined as a systematic process that requires cooperation among a diverse group of participants to achieve a shared vision and goals (Alrusaiyes, 2014). Many program developers seek to collaborate with disability service organizations to support the needs and academic goals of students with ID. Such partnerships demonstrate that the institution values intellectual diversity by offering students with ID access to academic resources equal to that of their peers (Jones et al., 2015). It is common for disability service organizations to cooperate with PSE programs. Plotner and Marshall (2015) showed that nearly

35% of PSE programs had cooperated with disability services organizations during their development. The study also showed that nearly 25% of PSE programs continued receiving their support after the development stage.

Almutairi and Kawai (2019) highlighted the essential roles of interagency cooperation in inclusive higher education for people with ID in the United States, which includes providing these students with the necessary services, resources, and support through cooperative partnerships inside and outside the institution. Interagency cooperation in PSE programs leads to the success of both the students and the programs, as a variety of participants, agencies, organizations, and individuals help improve the quality of the programs' services, secure jobs, and instill important skills for daily living in students with ID. The authors further explored two significant themes contributing to the promotion of PSE programs for students with ID across the United States: interagency cooperation in PSE programs and federal support as a focal point for interagency cooperation in colleges or universities. This interagency cooperation was described through an example of a PSE program at Western Carolina University and the primary partnerships in PSE programs for students with ID highlighted by Kelley and Westling (2019), such as community partners, local businesses, vocational rehabilitation, benefits counselors, public transportation, local management entities (LME), managed care organizations (MCOs), community service agencies, family support networks, other colleges and schools, and advocacy organizations. The authors go on to provide an example of cooperation at the Iowa state level and the fundamental principles of successful cooperative partnerships in PSE programs for students with ID, including transparency, trust and integrity, dependability, openness, efficiency, celebration, proactivity, acceptance of feedback and criticism, and thinking outside the box.

As mentioned, federal support for students with ID in PSE is a focal point for interagency cooperation. This occurs when the federal government's support is in line with

interagency cooperation efforts to promote inclusive higher education for students with ID by enacting laws that support them, funding the PSE programs, and meeting their needs in such areas as education, healthcare, accommodations, and a range of technical and therapeutic aids provided through federal financial support and coordination among agencies. This represents a significant point that should be noted by other governments, stakeholders, officials, and decision-makers interested in inclusive university education for people with ID (Almutairi & Kawai, 2019). The authors concluded that the US experience of interagency cooperation in PSE programs for students with ID offers several lessons for supporting people with ID, defending their right to higher education, and providing adequate support for them to succeed in colleges or universities. Additionally, researchers and program decision-makers should be encouraged to form external collaborative partnerships for students with ID in PSE programs (Almutairi & Kawai, 2019).

Hines et al. (2016) used the change model approach of Kotter (2012), which includes eight steps to building a PSE experience for students with ID for the program planning team. The first step is building a sense of urgency in leadership and planners about creating the program, as the university administration and other members must participate in its establishment. This step requires a great deal of time, effort, and energy before moving on to the next step.

The second step is to form a strong alliance among the workgroup members to construct the program, meaning that there must be a real desire from the working group to be agents of creating the program and making their presence felt. Therefore, the team's philosophical beliefs must be taken into account, as they have the right to defend their opinions and answer the complex questions directed to them by the school or society. The presence of members of the planning team with diverse interests, experiences, and personal convictions is important in building the program because embracing different voices and beliefs in the team is an important

way to build an alliance of the main leaders and stakeholders in addition to generating their interest and enthusiasm for the program. Therefore, carefully selecting the planning and advisory team members is critical to building the program and a coalition of leaders at the university.

The third step is to create a vision for change, meaning that a clear vision for the PSE program helps team members and university leaders understand the reason for building it. There may be a lack of knowledge among stakeholders about the form of the PSE program, however. Therefore, one member of the workgroup should be identified to present an overview of the program and obtain the group's views on the program's shape, the extent of the program's inclusion, their understanding of inclusion, their beliefs and values, whether they share the same values related to inclusion, and the program model (i.e., whether it should involve full integration or separation). Therefore, having an expert on the program team is critical, even if his or her expertise is not in the field of ID, as the expert can express to others, such as university leaders and stakeholders, the meaning of inclusion from the perspectives of the team members and formulate a group mission statement for the program.

The fourth step is to communicate the vision. The authors state that at this phase, the vision of the program and all its aspects must be conveyed iteratively and powerfully to leaders, faculty, and other stakeholders in the university environment. For example, at a university, the capabilities of individuals with ID should be emphasized instead of their disabilities. Making positive language changes, such as renaming "disability services" to "student support" or "accessibility services," can also help. The services should then also be formally renamed to correspond with the nature of the program and the planning team's use of consistent language to express the capabilities of these individuals and the support services provided by the program to help them succeed at the university. These steps help direct others' thinking about the potential of these new students and the nature of the program.

The fifth step is removing obstacles. Students with ID can face barriers in areas such as admissions, housing, and academics, so these should be represented during the development of the program's mission statement, which can reduce confusion and obstacles in the program. In addition, other management decisions related to the program, such as how these students enroll in courses and how they are coded in management systems, may cause hindrances; thus, the personnel responsible for handling these issues should be identified. Housing is another consideration when developing the program. Can the program accommodate these students in university residences? What are the potential obstacles? It is also important to understand the obstacles that faculty and staff may face in the program.

The sixth step is creating short-term victories, meaning that, when achieving short-term goals, the program team should feel victorious and show others these victories regarding the program early in its development. This step helps defend the program against criticisms to avoid impeding its progress. The opinions of faculty and staff should also be recognized. The authors recommend that once a program mission statement is developed, holding a reception or opening celebration for the program can allow campus members and stakeholders to meet together and celebrate.

In addition, displaying the program's achievements, development, and updates via social media or other means of communication helps maintain a sense of positivity for team members and enhances its progress. At an advanced stage in the program, it is also important that the word "win" be defined in the context of the program. This may mean that team members have achieved the goals of planning and implementing the program, finding the right people to activate the program, or preparing a system to collect the data related to the program once it starts.

Building on this change is the seventh step. Here, the authors explain that clarifying the program's wins is important for its continuation, but announcing them too early may lead to its

failure because change on a university campus takes a significant amount of time. Therefore, attention must be paid to how to create a university climate that allows for change and to foster the necessary attitudes to sustain the program. A focus should also be placed on establishing a basic language to demonstrate the program's mission at the level of university departments, as well as the university as a whole. Collecting data on what is successful in the program and building upon it is another important task that should be focused on early by the program team to maintain the continuous flow of positive energy for the team members.

Another element in building change is inviting students with ID and their families to the university to identify their desired academic goals for the program. This may lead to cooperation among educational agencies to provide the requested academic opportunities. It is worth noting that many students with ID and their families may not consider going to college, so inviting them to the campus may help them see it as an option.

The last step in building the program is anchoring the changes in the university culture. It may be appropriate for some institutions to find a strong and persuasive administrator who can create a culture of inclusion. However, consideration must also be given to ensuring that the mission of inclusion continues over the long term by sharing the mission comprehensively and deeply throughout the institution. To ensure consistency, the program should reflect every aspect of the institution. More importantly, the main members of the program coalition that brought about the change must be recognized, as well as the contributions of both established and new program members.

Baker et al. (2018) used their experiences in the field to create a simple and easily applicable guide for other researchers interested in PSE programs to help them design such programs for students with ID. The researchers provided step-by-step strategies for preparing the framework, noting that some situations may require additional steps not mentioned in their study. Their main steps include understanding the philosophical foundations, program design,

and launching the program. Each of these parts contains a set of tasks to be taken into consideration during the program design. Almutairi et al. (2020b) concluded their study with some recommendations for countries that have not yet established PSE programs for people with ID, taking advantage of the US experience as follows:

- Begin planning the program based on the college or university's culture, resources, and funds, as well as examples of positive programs in the United States. This represents a starting point for meeting the needs of people with ID.
- Learn from the United States or other countries' experiences in integrating students with ID into a university and the challenges and solutions involved. This step can pave the way for designing these programs and help save time and effort.
- Following international laws that protect people's rights with ID is crucial, but a country should enact its own laws and legislation that protect these people. Because local politics and funding status affect the direction of any educational initiative, these PSE programs differ by country (Gadow & MacDonald, 2019) and culture, which also should be considered when enacting the laws or designing the program. For example, sex segregation in schools and vocational centers as an Islamic value is common in some Middle Eastern countries, so this should be considered when designing the program.
- Combine efforts among multiple sectors of a country when designing a PSE program to ensure that it works efficiently to benefit people with ID.
- Build relationships and partnerships with other PSE programs. This is an important step that could benefit the program.
- Avoid copying directly from other programs without making any original contributions to the field. Also, document the efforts and experience of developing

the program, which could be valuable to other countries preparing such programs in the future.

- Continuously evaluate the program. It is critical to see the progress made or revise aspects of it to ensure the quality of the program.

2.5.5.2. *Lessons Learned from the US Experience*

Almutairi et al. (2020b) investigated the lessons offered by the United States' experience in integrating students with ID into PSE, grouping them into four categories: educational laws supporting PSE, financial support, research, and issues in the PSE systems. Educational laws, such as the HEOA, IDEA, and ADA, have a tremendous opportunity to help people with ID access PSE. Therefore, the first lesson is to enact laws in an educational or social initiative capable of supporting the initiative and informing community members of its importance, while taking into account these people's needs.

The second lesson is regarding the financial support provided by federal and state governments to create inclusive higher education programs for people with ID. The fundamental connection between legislation and funding has made the US experience successful. More importantly, many studies in the PSE field for students with ID have been published by research institutions, colleges, and universities in the United States. In addition, a support and service center called Think College has helped track the progress, or lack thereof, of these programs and evaluate them. All these research efforts have helped document these programs for other researchers to benefit from both locally and internationally, making a valuable scientific contribution to this field, all of which can be taken as the third lesson of the US experience. However, there are some shortcomings in the US experience integrating students with ID into PSE, as highlighted by researchers, which form the fourth category of issues in the PSE systems. For example, the eligibility criteria for admitting these students to universities and colleges remain unsettled, and universities may not provide these students the

required support (Grigal & Hart, 2010; Plotner & Marshall, 2014). The other issue previously discussed is the lack of clarity about these programs regarding their design, teaching styles, and educational environments. The lack of knowledge about these programs' commonalities has resulted in researchers and those interested in this field failing to determine which are the most useful and effective (Moore, 2014; Plotner & Marshall, 2014).

The other issue is that most research in this area is descriptive, comprised either qualitative or case studies. Thus, this field lacks studies comparing the systematic results of these programs. Moreover, some of these programs and services are without federal legislative or financial support. This has complicated the process of identifying the best evidence-based practices in this area (Grigal et al., 2010, 2019).

Of particular note is that Grigal et al. (2019) and Grigal and Hart (2010) have highlighted the same lessons and issues in the field. They also discussed other important lessons in this area, such as TPSIDs, PSE credentials, standards of practice, program accreditation, types of PSE programs for people with ID, program components, employment, and community participation.

Countries such as Saudi Arabia that wish to begin including students with ID in higher education can learn lessons from the US experience (Almutairi et al., 2020b). Saudi Arabia has taken the United States as a model for the development of special education services in Saudi society, benefitting from examples of relevant US laws. Saudi Arabia transferred and applied these laws to the Saudi community to achieve a better society and provide equal educational opportunities for students with ID and others with special needs (Almutairi, 2018). Saudi Arabia can also benefit from the US experience in formulating its own higher education system, adding components compatible with Saudi culture. Grigal et al. (2019) stated that the US experience since the 1970s should be taken into account by those wishing to create effective PSE programs for students with ID (Almutairi et al., 2020b).

2.5.6. Applicability of the PSE Programs

Although there is currently no PSE program for students with ID in Saudi colleges or universities, Saudi Arabia is committed to the Convention on the Rights of Persons with Disabilities that it signed in 2008, which obligates it to provide education at all stages for people with special needs (Al-Batal, 2016; Al-Mousa, 2010; Alhammad, 2017; Alhudaithi, 2015; King Salman Center for Disability Research, 2000). Additionally, the Disability Code issued by the Saudi government guarantees the rights of people with special needs and stresses the provision of educational services for them at all educational stages (preschool, public, technical, and higher education institutions) that are commensurate with the students' abilities (Al-Jadid, 2013; King Salman Center for Disability Research, 2000).

The Saudi government should invest in these young people's potential and guide them to become productive members of Saudi society, starting by providing comprehensive opportunities for Saudi adults with ID to continue their higher education at King Saud University, also known as KSU, as US universities have done for students with ID over the years. However, accepting students with ID requires a great deal of preparation on the part of all members of the PSE community, including teachers and students, among others. It is also challenging to include these students in higher education because they require extensive support and demand high commitments from institutional personnel to enable study in an effective environment (Almutairi & Kawai, 2019; Almutairi et al., 2020a; Alrusaiyes, 2014).

Additionally, students with ID, both in the United States and Saudi Arabia, face numerous obstacles during their transition from secondary school to PSE (Almutairi, 2018). In Saudi Arabia, although the procedures for providing transition services for people with disabilities are defined and described in detail in the RRSEPI, these transition services, such as

for those transferring from high school to college or from college to the work environment, have not been provided for people with disabilities in a prescribed and practical way (Alquraini, 2013). Thus, Alrusaiyes (2014) and Almutairi et al. (2020b) have highlighted that the most significant aspect of special education programs for students with ID is providing them the necessary educational and transitional services. These services exist in US and Saudi public schools for students with ID, but not at universities in Saudi Arabia. However, KSU offers them through its Disability Services Centers and universal accessibility program (UAP), which aim to create a suitable environment for students with special needs on campus. Still, KSU should develop a PSE program framework to integrate students with ID into the university community, as this type of program is currently lacking in higher education in Saudi Arabia.

Saudi Arabia appears to be moving toward the inclusion of students with ID because of its commitment to Saudi Vision 2030, which has marked a major transformation in Saudi society. This vision pays great attention to people with disabilities. It encourages all members of Saudi society and educational institutions to provide support and equality to these people. Vision 2030 seeks the concerted, non-discriminatory efforts of educational institutions toward investing in education by providing students with knowledge and information to prepare them effectively for careers, in addition to trying to bridge the gap between higher education outcomes and labor-market requirements (Al-Ajmi, 2016; Al-Salahi, 2017; Ministry of Education, 2020a; Vision 2030, Ministry of Education, 2020b).

Through Vision 2030, Saudi Arabia seeks to advance in the field of education by improving five Saudi universities in the international university rankings (Vision 2030, Ministry of Education, 2020b). Al-Salahi (2017) contended that one way to reach this goal is to focus on the quality of scientific research, as international classifications pay more attention to this aspect in evaluating a college or university. For example, the Shanghai Ranking allocates 60% to a university's scientific research outputs.

KSU, therefore, is working to align its efforts with Vision 2030 to convert Saudi Arabia to a knowledge society and economy. It has focused on several aspects, one of which is research. Research centers and chairs have thus been established to support the importance of scientific research and develop the university's knowledge and academic and economic assets (Al-Salahi, 2017).

2.5.7. KSU's Strategy to Contribute to the Three Pillars of Vision 2030

Al-Ajmi (2016) indicated that Vision 2030 is based on three pillars: a thriving society, a prosperous economy, and an ambitious nation. KSU contributes to the pillars as follows:

Thriving society:

- Habilitates students with disabilities for the labor market by providing accessible learning tools, technology integration, and curriculum alignment to facilitate learning;
- Achieves equal opportunities for students with disabilities in learning at the university; and
- Establishes the rights of individuals with disabilities in the university according to specific policies and standards regarding education, buildings, technology, and support services.

Prosperous economy:

- Supports students with disabilities in learning and training in the university by providing them with the knowledge and skills necessary for their future jobs, whether in the field or remote work; and
- Improves the university's digital infrastructure to serve as a model to facilitate access for students with disabilities. Developing a special infrastructure in communications and information technology is a key element for building

advanced educational or industrial activities, attracting investors, and improving its competitiveness.

Ambitious nation:

- Establishes the university as a national center specializing in special education to achieve the vision of the Ministry of Education;
- Supports the national transformation plan (Vision 2030) to affirm the rights of people with disabilities, support their independence, and help them recognize their own success;
- Supports interaction and communication with all people involved, including students with disabilities, to unify the goals of the university and achieve prosperity for all; and
- Achieves transparency and flexibility in solving problems and improving weaknesses at the university.

2.5.8. KSU's Contributions to Supporting Students with Special Needs in Saudi Arabia

One of KSU's major contributions to improving the quality of special education in Saudi Arabia was establishing its Special Education Department in 1984. KSU, which is interested mainly in graduating specialists in special education fields, offers undergraduate and graduate degree programs (AlKhushrami, 2003). KSU was the first university in the Arab world to integrate students with special needs arising from, for example, physical, visual, hearing, learning, and multiple disabilities into higher education.

KSU accepts students with disabilities who have graduated from high school or its equivalent no more than five years prior (i.e., ages 18–22 years). Most admissions requirements for the PSE programs are limited to students with mild or moderate ID (Fewox, 2018; Papay & Bambara, 2011) and with an IQ of 70 or below (Stolar, 2016). Mild ID is defined as having

an IQ of 55–70 and moderate ID as having an IQ of 40–55 (American Psychiatric Association, 2013).

At KSU, students with disabilities can earn a bachelor's degree if they complete four years at the university or a diploma if they complete two years of college. Students who complete two years of college and have an excellent GPA (at least 3.75) can continue two more years in the university to earn a bachelor's degree in the same major. Recently, KSU announced that it would begin in late 2020 to offer a non-degree program, in which students can learn in any courses in their areas of interest except field courses of a research, clinical, or therapeutic nature (KSU, 2020a).

KSU has designed a suitable environment that fully serves these students' needs by establishing two Disability Service Centers, one for male and one for female students (AlKhushrami, 2003). In addition, in 2008, KSU established a UAP for people with special needs to identify and address architectural and technical obstacles that prevent students with disabilities from feeling comfortable on campus and to serve as a point of contact for university faculty and administrators who want to report problems facing students with special needs at the university (King Saud University, 2018).

Under Saudi legislation, KSU (2018) approved five key policies to support students with special needs in pursuing higher education:

- 1) Nondiscrimination policy: KSU is committed to granting people with disabilities the right to participate fully in its programs, services, and activities following the system of care for the disabled in Saudi Arabia established in 2000. Therefore, no student is excluded because of a disability.
- 2) Documentation of disability: KSU offers educational services and assistance instruments in accordance with the process of documenting a disability, its type, and its level following eligibility criteria at the university.

- 3) Service entitlement: Students with disabilities are provided with the necessary services after obtaining the relevant disability document issued by the Deanship of Student Affairs and confidentially determining the type of service required.
- 4) Confidentiality of the information: All information obtained with respect to the students with disabilities is strictly confidential and will not be disclosed to anyone except the official authorities concerned with providing academic and support services after ascertaining the objectives of using the data and obtaining an official approval letter from university specialists.
- 5) Freedom to declare disability: Detecting disabilities and requesting services is a personal freedom for students with disabilities. KSU does not require these students to report their disabilities if they prefer not to do so.

KSU (2018) defines “a student with disability” as a person who is different in their mental, sensory, physical, health, communication, behavioral, and/or academic capacities and cannot meet the same general requirements of study as their peers at the university and need special services. KSU accepts students with disabilities that include hearing, visual, physical, and health disabilities, psychological disorders, learning difficulties, autism disorders, communication disorders, and attention deficit and hyperactivity disorders.

Although this list does not include students with ID, Article 10 of KSU’s policy states that the KSU Council is entitled to review and add or amend rules every two years if necessary. Rules not mentioned in KSU’s policies are dealt with by following applicable regulations, resolutions, and instructions. Therefore, based on the provisions of Article 10, an opportunity exists to include students with ID at KSU if there is a need for integration. Additionally, it may be possible to convince the university to consider including such students by proposing a PSE program framework that helps them integrate into the university community (KSU, 2018).

2.5.8.1. KSU Readiness

When 200 administrators and faculty at KSU were asked about the university's readiness to implement a PSE program for students with ID, 60.7% of administrators and 54.7% of faculty disagreed somewhat with the statement that "KSU is not currently ready to integrate students with ID due to its preoccupation with important developmental programs in the coming years." In addition, 50% of administrators and faculty disagreed somewhat with the statement that "Accepting students with ID would expose universities to the financial crisis" (Almutairi et al., 2020a). These results suggest that administrators and faculty members at KSU have knowledge and awareness of the material and human capabilities available at the university to embrace such higher education programs for people with ID.

2.5.8.2. Human Resources

The university's Special Education Department has more than 100 faculty members and nine professors in various special education areas that hold doctoral and master's degrees from the United States or other overseas universities (Alquraini, 2010, 2013; Alrusaiyes, 2014; At-Twajjri, 1989). Furthermore, KSU competes with other Saudi universities to align with Saudi Vision 2030, which calls for an investment in education and equipping university students, including students with disabilities, with the knowledge and skills necessary for professional success. It also calls for increasing the number of quality services and support for all students and for bridging the gap between higher education outcomes and labor market requirements) Al-Ajmi, 2016).

KSU has sought to establish cooperative partnerships with many Canadian and US universities, such as the University of California, Oregon State University, and the University of Minnesota, that apply the requirements of universal access for students with disabilities to create an accessible university environment (KSU, 2020; KSUg, 2018). Al-Ajmi (2016), Alhamad (2010a, 2010b), the Disability Services Center (2020), and KSU (2020g) reported that the number of students with special needs studying at KSU has increased. Therefore, the

university administration has focused on developing support services for these students, aiming to raise the university to the international level.

In addition, KSU administrators and faculty members had positive attitudes toward accepting students with ID into the university. This trend was identified after surveying 28 administrators and 172 faculty members in different departments and centers across KSU to identify their attitudes toward the university's inclusion of students with ID. Administrators and faculty both agreed to some extent that students with ID should be allowed to obtain certificates through higher education programs. They felt that integration of these students into the university would not only provide a good opportunity for them to prepare for life, but it would also benefit students without disabilities, who would learn how to better communicate and interact with students with ID. Furthermore, the administrators and faculty disagreed to some extent that students with ID should be taught in special schools, isolated from other students (Almutairi et al., 2020a).

2.5.8.3. *Material Resources*

At the beginning of 2003, KSU established the Disability Services Center to develop special needs student services. The center aims to provide an appropriate university environment for students with special needs through four key programs. First, the Universal Access Program is concerned with developing the spatial environment for university study in terms of equipping university buildings and facilities to suit students with special needs and achieve safety and security for them. Second, the Adaptive Technology and Assistive Technology Program is concerned with adopting assistive technology and offering equipment for students with special needs to develop technological skills. Those with visual disabilities are trained for the International Computer Driving License (ICDL) through three university training centers. The program also provides electronic training systems, content, and digital resources. Third, the Academic and Educational Development Program aims to create an

appropriate academic and educational environment by providing facilities that help raise the scientific and academic levels of students with special needs. An appropriate educational environment begins with providing educational resources and designing the students' educational activities, curricula, course compliance requirements, exams, and extracurricular programs. Finally, the Professional Development Program, through cooperation with the university's authorities, aims to develop the capabilities of faculty members in line with the educational requirements of students with special needs, and the project tries to attract those with profound experience in this field.

KSU has two main support service centers for students with disabilities to facilitate their learning on campus: the UAP and the Persons with Disability Services Center. These two centers are under the Special Education Department's umbrella, and the program directors, their assistants, and most of the program staff are specialists in special education. In every branch, KSU has a Disability Services Unit under the supervision of the two main support service centers. The university has integrated individuals with disabilities, except students with ID and developmental disabilities, into undergraduate and postgraduate programs.

The university planned the Disability Services Center in 1985 (AL-Zahrani., 2012; Alhamad, 2010b; Disability Services Center, 2020). A working group of specialists was formed to determine the center's needs and plans and build partnerships with national and external experts to support its achievement and implementation objectives. The center was granted a license as an ICDL center for the visually impaired by the UNESCO ICDL Initiative. KSU thus became the first university in the region to host a training center for the granting of the ICDL for visually impaired people (Alhamad, 2010b; KSU, 2020g).

KSU established the UAP because the institution believes in the critical importance of universal design in line with international standards for the success of individuals with disabilities. The university has played a prominent role in providing services to individuals

with disabilities by establishing laws and regulations for those eligible for these services and providing financial and technical support that enables them to overcome obstacles they may encounter. Following successful international practices for people with disabilities, the UAP designed MyAccess web services to allow faculty members, university staff, and students to report structural and technical obstacles that may make university buildings, facilities, educational materials, and webpages inaccessible. This service is the first of its kind among universities in the Middle East and North Africa.

The UAP also focuses on accessibility requirements for the design and construction of new facilities following international parameters and regulations. Moreover, this program provides guidelines that include the KSU Students with Disability Services Regulations and Procedures Guidebook, the KSU Web Accessibility Procedures Guidebook, and a readily achievable barrier removal checklist for university staff and students to help them improve universal access throughout the campus and facilities (Al-Ajmi, 2016; KSU, 2020g). According to the university, “KSU is committed to achieving, where practicable, universal accessibility over its entire operation. This will contribute towards the highest standards of accessibility, environmental quality, and sustainable development. We at UAP are continuously working to meet this commitment” (KSU, 2020g). To provide this support, according to the Disability Services Center (2020), after a student with a disability is deemed eligible to benefit from the center’s activities and services, an electronic file is opened for the student that includes the following:

- Basic information about the student, including contact information and the preferred means of communication, supplied by the Academic Follow-up Unit;
- Academic information;
- Health information, completed by the Medical Services Unit;

- Educational and academic support services for each case, supplied by the Academic Follow-up Unit;
- Social, cultural, sports, and artistic activities in which the student wishes to participate, completed through the Activities Unit; and
- Support services from which the student wishes to benefit, completed by the Support Services Unit.

2.5.9. Challenges Faced in PSE Programs

There are a variety of challenges students with ID experience when attempting to access inclusive PSE programs. First, these programs have rigorous admissions requirements that these students must meet to enroll, resulting in some colleges only accepting one to three students with ID every year (Walker, 2014). An applicant with ID must have a minimum high school GPA, hold a high school diploma or its equivalent, have an acceptable performance on one of the nationally recognized exams, demonstrate adequate community participation (Fewox, 2018; Grigal & Hart, 2010), and possess a specific IQ, in addition to displaying a certain level of writing, reading, communication, self-care, and social skills and an ability to adapt (Stolar, 2016; Walker 2014). In addition, an applicant with ID must not be able to meet the traditional university or college program entrance criteria to be accepted into the PSE programs (Kelley & Westling, 2013; Papay & Bambara, 2011; Papay & Griffin, 2013; Plotner & Marshall, 2015; Stolar, 2016). Most students with ID cannot meet these rigorous requirements, resulting in the university's refusal to accept these students for enrollment in these programs (Fewox, 2018; Folk et al., 2012; Stolar, 2016; Thoma, 2013). In turn, these institutions cannot provide the support required for adults with ID in higher education (Plotner & Marshall, 2015).

Another challenge is that there are no guidelines for quality or standards for PSE programs for students with ID; each PSE program determines its own standards and sets its

own direction, with no empirically validated document available to the field (Roberts et al., 2018). Moreover, there remain gaps in presenting the students with methods of accessing programs, progressing in the academic curricula and content, and being supported (Becht et al., 2020). The range of PSE services, programs, and intended focus shows a lack of consistency, and there are more academically segregated environments than inclusive opportunities (Grigal et al., 2012; Papay & Bambara, 2011). The reluctance to register students with ID in postsecondary courses affects scholars' ability to compare and understand the academic access, development, and results. In addition, studies have shown that, despite the major efforts made to provide a simple transition from secondary education to PSE, PSE data reveal that only 20% of youth in special education move on to PSE options. Students with ID usually move from segregated high school programs into segregated adult programs. However, the latest statistical data show improving conditions, with an actual awareness and underestimation of the real scope of previous programs accessed by and available for students with ID (Berg et al., 2017). It is also known that the main objective of PSE programs is to offer an inclusive environment to the fullest extent possible to help students with ID access the same support resources as students without disabilities (Berg et al., 2017). However, individuals, both with and without disabilities, go through an educational process and take prescribed study courses. Still, high schools offer students limited opportunities to select elective classes, and students with ID would likely have even fewer options in their course selection than their peers with or without other forms of disabilities. They might be included in a variety of regular education courses but have few choices regarding which ones they could attend in the future (O'Neill & Gutman, 2020). They also might be limited to functional academic courses or the life skills classes offered to students with significant support needs in their district (O'Neill & Gutman, 2020). These challenges require the college's diligence, attempts to reform, and acceptance of failure as readily as it accepts success (Almutiari et al., 2020b).

The last challenge is related to the employment of students with ID. The number of people with ID in the United States who hold jobs is lower than those with other types of disabilities. There remains a large gap in adults' employment rates with different types of disabilities (National Association of County Behavioral Health & Developmental Disability Directors, 2018). For example, only 14.7% of youths with ID work, whereas 32.5% of individuals with other types of disabilities are employed (National Core Indicators, 2017). Foxer (2018) noted that there remains a significant gap in employment skills in the United States and the need for trained workers with ID who are otherwise qualified for their positions.

In Saudi Arabia, the right to employment of people with disabilities is guaranteed by the government, and these individuals are employed in occupations commensurate with their abilities. They also improve their abilities through on-the-job training to enable them to be financially independent (Alrusaiyes, 2014; Human Rights Council, 2016).

Currently, few people with ID obtain well-paid jobs in Saudi Arabia. Saudi employers still face obstacles to employing people with disabilities, including ID. Abushaira (2011) observed that the main issue that hinders the employment of people with disabilities in Saudi Arabia is that employers do not have a clear understanding of what abilities they have, and they do not know about the rehabilitation centers that train such individuals. In addition, they are unfamiliar with the benefits of hiring such individuals. To encourage business owners to employ disabled Saudis, the government has stated that the employment of one disabled Saudi person is the equivalent of employing four nondisabled Saudi workers, which reduces the number of Saudi employees that employers are required by law to hire (Abushaira, 2011; Human Rights Council, 2016).

Furthermore, Al-Ajmi and Al-battal (2016) have noted that individuals with ID in Saudi Arabia struggle to find work because of their lack of adequate training. This leads to reduced

efficiency in the workplace and lower salaries. Saudi Arabia has not paid enough attention to integrating students with ID after they complete high school into the workforce.

2.5.10. Concerns and Challenges

Students with ID experience significant challenges in accessing inclusive PSE programs at college. Major issues include the low expectations set for these students in continuing their academic learning after finishing high school and the lack of knowledge regarding inclusive PSE options. Universities also experience challenges supporting students with ID. Although there are obstacles to expanding credit and non-credit program courses, a clear desire exists for more opportunities and programs. With or without a disability, every student enrolls in PSE programs with his or her own unique set of challenges and personal needs, but students with ID present additional needs. The following are potential challenges facing students with ID and the universities implementing PSE programs:

- A lack of awareness regarding the desired outcomes of access to PSE for students with ID;
- Changing behavior on campuses, as many universities do not include PSE programs in their curricula, creating an additional barrier to serving students with ID;
- Space limitations for students with ID; however, if the PSE programs are inclusive to the fullest extent, such a challenge can be easily overcome; and
- Staffing, liability, and transportation problems for students with ID.

To address these challenges and concerns, a comprehensive system of support is required that includes sustainable mentoring and logistical assistance for students with ID along with an academic advising system for them. This academic and support system is needed on a group and personal basis, along with:

- Resources and information about support and services to improve the success and achievement of students with ID, which should be structured as a person-centered strategy within the PSE programs;
- Professional development for the PSE programs to ensure that students with ID are accepted and included on campus; and
- Modifications to facilities, depending on the level of disability and inclusive PSE programs.

2.5.11. Summary

Studies on PSE program design and development for students with ID are still limited. The existing PSE programs vary based on college or university regulations, missions, visions, objectives, and philosophies. These differences among the PSE programs lead to a need to explore these programs' design to guide colleges and universities that plan to integrate students with ID into their campuses in understanding their components, organization, and evaluations. This study fills the gap existing in the Saudi and Arab literature in the field of PSE programs for students with ID in higher education, starting with designing a proposed framework for a PSE program for students with ID in Saudi Arabia as a foundation for understanding these programs in IHEs.

CHAPTER 3: METHOD

This section presents every step the author took to address the research goal, including all the methods and instruments used in data collection and analysis, a description of the study participants, and the procedures followed to maintain strict ethical standards.

3.1 Research Design

The author implemented an exploratory embedded multiple-case study to obtain a rich description of the post-secondary education (PSE) program's proposed framework for students with intellectual disability (ID) in different environments (universities) by collecting and analyzing data from various sources (Creswell, 2013; Merriam & Tisbell, 2016; Stake, 2006). A mixed methods approach (qualitative and quantitative) was considered the most appropriate research design to achieve the main study objective, to design a framework for a PSE program for students with ID at a university in Saudi Arabia. This was done by exploring the components, organization, and evaluation processes implemented by directors, faculty members, and administrative staff of two- and four-year PSE programs for students with ID in United States (US) universities. Comparing the various programs offered at US universities using a multiple-case study design was critical to discovering program commonalities in designing the proposed framework. Using Stake's (2006) worksheets to analyze data in the current study, commonalities among the three cases in the US were found. Finding differences is beneficial, especially if the differences among the cases are significant and obvious, as it enriches the proposed framework design. In this study, all three cases follow the Think College Standards, which most PSE programs follow for students with ID at US universities. Therefore, it was difficult in the current study to find differences among the three cases.

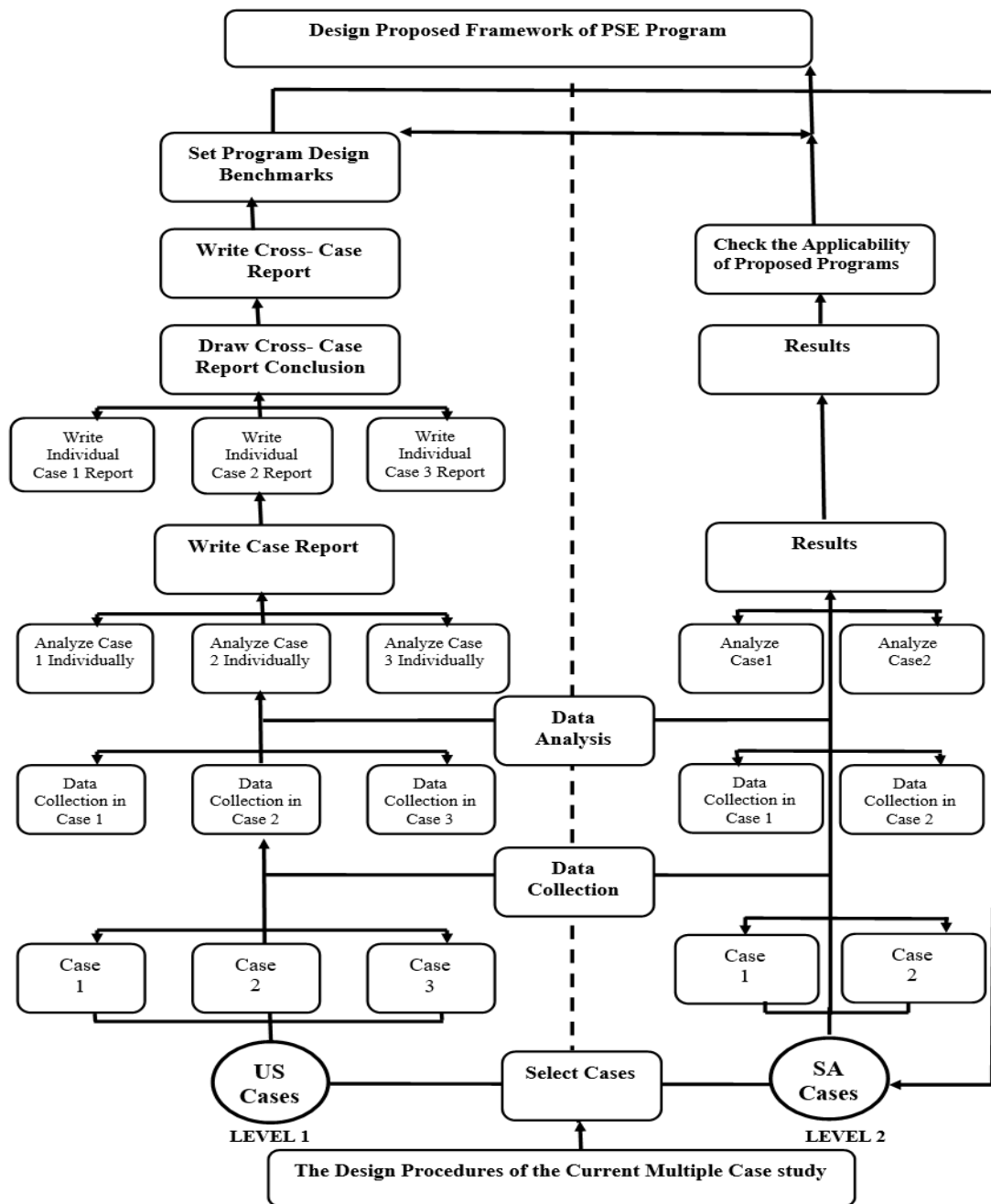
In the current study, two levels of procedure were undertaken to achieve the main study objective. The first and second levels included procedures taken for cases in the United States

and Saudi Arabia, respectively. Starting with the first level, the author selected three cases of PSE programs for students with ID in the United States that met the selection criteria of the US cases in the current study, which are mentioned later in the next section. Then, data collection instruments were conducted for each case individually. Next, the data were analyzed for each case individually. After writing the individual case report, a cross-case report conclusion was drawn among all the three cases, and then a cross-case report was written. Finally, the proposed framework design benchmarks were set based on the synthesis results of these three cases.

After completing all the first level procedures, the second level was conducted by selecting two Saudi Arabian cases. The first case involved collecting data from administrators, employees, and faculty members at King Saud University (KSU), while the second case involved the collection of data from Saudi students with ID and their parents. These two cases met the selection criteria of the Saudi Arabian cases in the current study, which are mentioned later in the Saudi Arabia section in this chapter. These two cases were selected to investigate the applicability of the proposed framework for the PSE program for students with ID at KSU by conducting surveys and interviews with administrators, employees, and faculty members at KSU, in addition to conducting interviews with students with ID and their parents in Saudi Arabia. Data collection instruments were conducted, and the data were analyzed for each case. The case study results were then used to design the proposed framework at KSU to include students with ID in higher education. A visual representation of the case study procedure, which is based on a review of Yin's (2018) procedure for conducting a multiple case study, is shown in Figure 3.1.

Figure 3.1

Procedures followed in the current case study



Note. From “Case study research and applications,” by R. Yin, 2018, p. 28. Copyright 2018 from Sage Publications.

This multiple case study used natural generalization, or what is called a hermeneutic, or interpretive paradigm. The author played an interpretive role during data analysis and

discussion by clarifying as much as possible the perspectives and insights of the American and Saudi participants in the current study and presenting some of the participants' quotes regarding the proposed framework design for PSE programs through the three PSE programs for students with ID in the United States (Creswell, 2013). Then, the applicability of the proposed framework in a university in Saudi Arabia was verified. In addition, the challenges facing the implementation of this program and its suggested solutions in a university in Saudi Arabia were identified in their natural context. Through the identification of the use of multiple case studies in different geographical areas (the United States and Saudi Arabia) and with people of different backgrounds and nationalities, the proposed framework was designed, which is the main goal of this study, through a natural generalization (Creswell, 2013; Foxer, 2018; Mills et al., 2010).

This chapter is divided into two sections based on all the procedures taken to collect and analyze the data. The first and second sections are the US and Saudi Arabia sections, respectively. Each section includes the selection of cases and participants, data-collection instruments, and data analysis procedures.

3.2 The US Section

3.2.1 Selection of Cases

The author selected cases through qualitative nonprobability sampling—the type of purposeful sampling most used in qualitative research (Merriam & Tisbell, 2016; Stake, 2006). Purposeful sampling helped the author identify cases through deep examination to obtain “information-rich” cases (Patton, 2015, p. 53). This rich information assisted in the design of the proposed framework. To obtain information-rich cases, the author determined the following criteria for the characteristics of PSE programs for students with ID to focus on relevant cases at US universities:

- Two- and four-year PSE programs, as these would allow the collection of a variety of information about the nature of both programs.
- Inclusive, mixed programs and those separate from students without disabilities, which would allow a comparison of the advantages and disadvantages of all program types.
- Programs focused primarily on developing academic skills similar to other skills, such as vocational or social skills.

The author reviewed the Think College database of transition and PSE programs for students with ID to select cases based on these criteria. Think College is the US national coordinating center for postsecondary transition programs for students with ID, and is dedicated to developing, expanding, and improving research and practice in inclusive higher education for people with ID. Think College provides an accessible online database that contains details about PSE programs for students with ID across the United States (Cook et al., 2015). Some PSE programs for students with ID focus more on academic than other professional and residential aspects, while other programs emphasize the professional aspect (Thoma, 2013). From the Think College database, 33 PSE programs were found that met the selection criteria. The author reviewed all 33 PSE programs individually and excluded 28 programs that did not meet the selection criteria. The directors of the five remaining PSE programs were contacted via email to explain the purpose of the study and obtain their approval to collect data before proceeding with the study. Two program directors could not participate because they were in the middle of a program-update process. As a result, three programs were selected.

The three US cases were selected as successful and eligible universities in the current study because they represent good performance and outcomes mentioned in the next section

(description of the cases). In addition, Worksheet 3 (Appendix B) reports the performance and outcomes of these three cases.

The three selected cases for this study were deemed sufficient because many prior multiple case studies have included fewer than four cases (Stake, 2006). Extensive information was provided on each case's setting, including the college or university location, history, and the number of students, faculty members, and staff. The database offered information about the PSE programs, years of study for students with ID, the percentage of integration of students with ID with other college students, the types of available courses and activities, and whether a certificate or degree is provided at the end of a course.

The author assumed that the three cases would produce similar results; therefore, literal replications were used (Yin, 2018) to explore the components, organization, and evaluation processes in the selected programs to design the proposed framework. The three cases were explored individually using analytical replication and then across cases through cross-case analysis (Fewox, 2018). This step allowed the author to discover common themes within and among the three cases to identify the components, organization, and evaluation processes.

Concerning cross-case analysis, the author used Stake's (2006) Worksheets 2 to 6, included as Appendixes A to E, to analyze the case data. The worksheets, which are easy to use and understand, function as follows:

- Worksheet 2 – identify research questions or themes (see Appendix A);
- Worksheet 3 – conduct separate analyses of cases, create case summaries, and identify themes from the interviews, observations, and document reviews in each case (see Appendix B).;
- Worksheet 4 – determine the importance of each theme in each case by rating them as high, middle, or low importance; assessment helps determine the importance of each case in developing a particular theme (see Appendix C);

- Worksheet 5 – generate results through a theme-based assertion process by clarifying the importance of each theme in each case and then rating the importance of the themes as high, medium, or low importance (see Appendix D); and
- Worksheet 6 – present multiple case assertions found through the data analysis process (see Appendix E).

3.2.2 Description of the Cases

Case 1. This case is a four-year transition and PSE program for students with ID at a Ranking 2 (R2) public research university located in western United States. R2 is a classification used by the Carnegie Classification of Institutions of Higher Education. It is a basic classification for US universities developed by the Carnegie Commission for Higher Education in 1970, which was last updated in 2018. In the 2018 update, doctoral universities were reconfigured to fit the “doctoral degree-professional practice” within the methodology of this classification. R1 and R2 refer to first-rank doctoral universities with very high research activity and second-rank doctoral universities with high research activity, respectively (The Carnegie Classification of Institutions of Higher Education, 2018).

The PSE program considered in Case 1 is a non-degree program, and is one of the three programs in the state that offers inclusive higher education for students with ID. Additionally, the program has partnered with an inclusive higher education group in the state and two other schools that are a part of this cohort to make inclusive higher education available for all students with disabilities.

The U.S. Department of Education has approved an opportunity for students with ID, creative abilities, and developmental disabilities, and the curricula provided by the Education website. The program offers a mixed model for students with ID. This case is of a public doctoral research university committed to the success of its 13,000 students, with more than 100 undergraduate programs and 120 graduate programs. The institution operates transitional

and PSE programs for students with ID. All enrolled students are eligible to complete the Free Application for Federal Student Aid (FAFSA) form and receive financial assistance, including Pell Grants and Funds for Work-Study. Financial aid is also currently available for participating students through institutional grants, for example, the National Down Syndrome Society. Students with ID aged 18 and over in the program receive financial aid. Tuition and fees for resident and non-resident students are approximately \$ 6,603.30 and \$ 14,887.80 per semester, respectively.

The program includes courses offered by the college, allows students to live on an inclusive residence on campus, offers on- and off-campus integrated work experiences, and helps students obtain competitive jobs. The website also provides students with ID with a program tailored according to their interests and strengths, maximizing students' achievements in their university and career lives. Therefore, all majors can accept these students at university. However, these students take full responsibility for their own success in the program. Seventeen students with ID were enrolled in the PSE program in 2020. Every student registered at the university through the PSE program takes several training courses and must adhere to high standards both inside and outside the classroom. Upon completion of the program, students earn a comprehensive higher education certificate.

The independent skills outcomes of the program show an increase in students' self-determination, self-advocacy, and independent skills through student-directed person-centered planning. This in addition to academic, social, personal, and vocational skills through inclusive colleges and individualized courses, including career preparation, campus engagement, and independent living. The university completed a survey in the spring of 2019, reporting that 64% of typically matriculated students worked six or more hours weekly. According to the Think College report, upon leaving the program, these students were about 15 times more likely to hold a paid job than those who did not. The employment rate of people with ID reached 17%

in 2018, and 73% of the previous year's graduates from the program worked from their homes. Students in this program complete 72–80 credit hours using a combination of modifications and accommodations (University of Northern Colorado, 2020).

Case 2. This case is a two-year transition and PSE program for students with ID at a R1 public research university located in southeastern United States. The university is a public institution that currently enrolls over 66,000 students from 12 degree-granting colleges and an honors college. The case offers a non-degree, mixed-model PSE program as a unit within the Department of Student Development and Registration Services through the university's College of Education and Human Performance that offers an undergraduate learning experience to students with ID. Upon completing the five-semester program, students earn professional services credentials through the division of continuing education.

The PSE program for students with ID at the university was established in August 2015 with six continuing students and finished its first year with 10 enrolled students. As of spring 2020, 16 students were enrolled, all of whom lived on or off campus with traditional undergraduate students. It is the first and only US university in the state to allow students with ID to live on campus. The university is currently seeking a comprehensive transition and postsecondary program status for its program.

The program provides information that includes advice and steps for preparing students for college and association with the program, and offers the monthly program, Preparing for College, that prepares people with ID for the college experience. Professional services credential was developed through a study of the state job market, specialties of the state, and the interests of current and prospective students. On the other hand, students without disabilities in the university are also permitted to enroll in any professional services credential course to fulfill the degree requirements for their majors.

The name of the disability center is not as negative as that of the other programs. The program publishes a handbook that outlines all the university aspects for all stakeholders, rules on academic standing, probation, disqualification, and unique academic probation and disqualification policy. One of the most prominent comprehensive education services for students with ID in this program is that students receive a comprehensive academic experience without a degree and must commit to two years of study. Students must choose a specialization from the following fields of study: hospitality, social services, and education (Case 2). According to the National Association of Colleges and Employers, students are assessed on their abilities to demonstrate desirable employment attributes. The appreciative advising model is used to facilitate semester course planning; the model employs the intentional, collaborative practice of asking positive, open-ended questions that help students optimize their educational experiences and achieve their dreams, goals, and potential. Sixty percent of the students with ID in the program have obtained paid work on or off campus.

Most students receive an annual \$7,000 scholarship, which they can subsequently use for their academic expenses. Students may receive no more than \$14,000 during the duration of the program as long as they maintain satisfactory academic progress. Failure to achieve the required academic progress leads to increased expenses and loss of scholarship. The program is transitional and eligible students can apply for financial aid from the U.S. Department of Education using the FAFSA form (Case 2).

The outcomes of the program are to help students develop 21st century professional and personal skills for sustainable employment. These skills include independent living, confidence, independence, self-sufficiency, and academic development (University of Central Florida, 2020).

Case 3. This case is a four-year transition and PSE program for students with ID at an R1 private research university located in northeastern United States. It is a non-degree program

offered by the School of Continuing Education called University College, but students with ID can earn a noncredit continuing education certificate for completing the course. All majors accept students with ID, allowing them to earn certificates in disability studies, health and wellness, art, religion, gerontology, dance, and sound recording. The University College offers a noncredit certificate to students who audit at least five courses in an area of specialty, students with ID who enroll in the program, and all students at the university.

The PSE program of this case is offered to students of all ages with ID who want to experience college life. The program offers a fully inclusive model and real opportunities for students with ID to participate in every aspect of campus life. It has 84 students, 120 available programs, and 30 internship departments on campus. Students with ID enrolled in the program participate in the program's academic components 75% to 100% of their time on campus. The program allows them to participate in campus life, obtain training, participate in activities, and receive a college certificate according to their interests. The program is billed at \$800 per month for the academic year, in addition to course tuition, which costs approximately \$1,300 for a three-credit audited course. Tuition, room, board, and other fees are closely aligned to matriculated university student rates and vary annually. The support services transition fee is \$800/month (\$8,000 per year), and campus mentor support services average around \$10,000 per year. For students choosing to live on campus, room and board are \$16,000, and a residential mentor costs \$9,000. The campus employment preparation program is available to students in their final year at the university. Self-direction funds can continue to be used. Tuition costs are approximately \$7,500 for 18 credits per semester. Internships and instruction time are nine credits each, per semester. The program duration is two semesters.

In the program, students with ID select courses connected to their interests and career goals. In partnership with the university's School of Continuing Education, students enroll in two to three classes as auditing students per semester. These students have an extensive

Table 3.1*Overview of the Three Case Programs for Students with ID*

	Case 1	Case 2	Case 3
Number of students in the program	13,000 students	Over 66,000 students	84 students
Programs	100 undergraduate programs and 120 graduate programs	University's College of Education and Human Performance	120 programs and 30 internship departments on campus
Study Fees	Resident students pay approximately \$6,603.30 (non-resident students pay \$14,887.80) per semester	No fees. All students automatically receive an annual scholarship of up to \$7,000	\$800 per month for the academic year
Employment after completion of the program	The program helps students obtain competitive jobs	No employment through the program	Campus employment preparation program available to students in their final year
Type of program	Public	Public	Private
Program model	Mixed	Mixed	Fully inclusive
Number of hours	72–80 hours	42 hours	18 hours

internship in the fourth year: 20 hours per week on campus and five hours of workshop instruction with the internship and employment coordinator. The program offers jobs for students with ID who have completed the program and those students with ID who do not want to remain in the program. Fifty percent of students with ID in this program had obtained paid work after exiting the program, while 57% of students with ID had obtained paid work after graduating from the program (Syracuse University, 2020).

The program creates a new context for disability; it defines the term disability and its related culture. The program partners with national and international PSE programs for students with ID. The university also offers various programs for students with disabilities and a dual PSE program for high school students with ID. In addition to having a training program for peer mentors to engage with students with ID and a program for married students to educate them, the university also seeks best practices to enhance equity and innovation, mitigate

competitive disadvantages and environmental barriers, support faculty in and out of the classroom, and professional development for staff members. An overview of the three case programs for students with ID is presented in Table 3.1.

3.2.3 Selection of Participants

Participants were administrative board members, whether directors, assistants, or coordinators of PSE programs, and faculty members who teach students with ID at the selected institutions. Purposeful sampling was used to select six to eight participants from each of the three universities who volunteered to participate in the study. Participant selection was based on two criteria:

1. Participant works in a PSE program for students with ID at the selected institution.
2. Participant has at least one year of experience in a PSE program for students with ID at a university.

The total number of participants was 22, including nine program directors, five program staff, and eight faculty members in three PSE programs for students with ID. Participant characteristics are listed in Table 3.2.

3.3 Data-Collection Instruments

Three data sources for the United States were used in this study: interviews, observations, and documentation. These are the most commonly used instruments for conducting multiple-case study research (Stake, 2006). Since the author could not visit the three universities to collect data in person for logistical reasons related to time and travel, he used a research assistant at each university to conduct the observations.

Table 3.2*Description of Participants*

Case	Participant	Sex	Role	Degree	Study area
1	Carolyn	Female	Executive director	M	Rehabilitation counseling
	Miriam	Female	Director of academic inclusion	M	Special education
	Jimmy	Male	Director of campus inclusion	M	Special education
	Juan	Male	Employment coordinator	B	Special education
	Rebecca	Female	Executive director (previous)	PhD	Special education
	Martin	Male	Faculty member	M	Counseling and educational psychology
	Juanita	Female	Faculty member	M	Counseling and educational psychology
	Stanley	Male	Faculty member	M	Counseling and educational psychology
2	Anthony	Male	Executive director	PhD	Higher education administration
	Thelma	Female	Career liaison	M	Education
	Catherine	Female	Assistant director	M	Counselor education
	Albert	Male	Accessibility consultant	M	Special education
	Ava	Female	Graduate assistant	M	Educational leadership
	John	Male	Faculty member	PhD	Education
	Amelia	Female	Faculty member	PhD	Psychology
Carol	Female	Faculty member	PhD	Hospitality management	
3	Barbara	Female	Executive director	PhD	Special education
	Billy	Male	Director	M	Special education
	Stephen	Male	Student support coordinator	M	History and social studies; adolescent education
	Dolores	Female	Assistant director	M	Education
	Alice	Female	Faculty member	M	Japanese language
	Marion	Male	Faculty member	PhD	Disability studies

Note. PhD = doctoral degree; M = master's degree; B = bachelor's degree

The procedures followed to collect data using these instruments are presented in the following subsections.

3.3.1 Interviews

3.3.1.1 Administrators, Employees, and Faculty Members

Interview Procedures. The author sent the institutional review board (IRB) approvals and a letter describing the study's aims via email to the director of each university selected for the case studies. After one week, the directors forwarded the email, copying the author, to all program teams and faculty members who had taught or still teach students with ID, requesting them to cooperate and participate in this study. Even though the program team and faculty members at each selected university were very cooperative and eager to participate, it was a challenge to interview the faculty members in the three cases because of their busy schedules. Some cooperated by having an interview on the weekend, while others were unavailable.

Each program member sent an email introducing themselves and their role in the program, in addition to the suggested times and days for an interview. After checking the participant selection criteria, the author arranged an interview with each participant via an appropriate online application (either a voice or video call). Most participants chose to have a video call via Skype, Zoom, or Google Hangouts. Informed consent letters were provided to each participant to read and sign before the interview, along with the interview questions.

The author interviewed each participant online for 40–60 minutes. The online interviews enabled data collection through face-to-face interviews, as would have been the case with in-person interviews. This helped increase data collection for qualitative research (Merriam & Tisbell, 2016).

Semi-structured interviews were conducted with the administrators, directors, assistants, and faculty members of the programs of all three universities. This type of interview helps participants provide detailed answers and insightful information about their situation

(Stolar, 2016). The author used open-ended questions to allow him to probe for meaning, clarify respondents' answers, and conduct smooth interviews. This helped create friendly communication during the interviews (Yin, 2018).

During the interview, the author requested that the interview be recorded for transcription later, which was agreed to by all the participants. After a few interviews, the author realized that some questions had not been answered by the participants. Participants apologized for not having enough information to be able to answer these questions. Later, the author eliminated the unanswered questions and focused on the questions with which the participants had extensive experience. The answered and unanswered questions are detailed in a later section.

3.3.1.2 Interview Questions

Moreover, the questions were designed after reviewing previous literature on higher-education programs for students with ID. The interviews helped identify the similarities and differences among the different PSE programs to better understand these programs. Additionally, the interview questions attempted to discover various themes regarding the proposed framework for a PSE program to integrate students with ID into a Saudi university or college. The questions are presented in Table 3.3.

The interview questions aimed to discover various themes regarding the main components, evaluation criteria, and expected outcomes for students with ID in the three selected PSE programs. The interview themes included an exploration of participants' backgrounds and primary roles in the programs, which helped prepare the initial steps in designing the proposed framework of the PSE program (Fewox, 2018; Hines et al., 2016), an investigation of the nature of PSE program delivery, and the team members involved in these programs and how they were selected (Fewox, 2018). Participants described the learning environment, physical environment, inclusiveness, activities, and evaluation of students with

Table 3.3*Semi-Structured Interview Questions for PSE Program Administrators, Staff, and Faculty**Members*

Main Themes	Subthemes	Questions
Program administration	Backgrounds and roles of administrators and faculty members	<ol style="list-style-type: none"> 1. Please describe your background and how your education and previous positions have prepared you for your current role in a transition and PSE program. 2. Please describe your role in the current PSE program. 3. Please describe how a leader can manage their role in the program successfully. 4. Please describe the process through which you were selected for your current position. Include the stage of development the program was at during that time. 5. Please describe the roles of faculty members and administrators or others involved in the program's design phase. 6. Please indicate whether the faculty members completed a training program to teach students with ID enrolled in the PSE program. 7. Please describe the scope and type of training provided to faculty members.
Program delivery	Considerations of program delivery	<ol style="list-style-type: none"> 8. Please describe how the delivery of the program takes place from design to delivery. 9. Please describe the kinds of revisions you have made in developing the program. 10. Please describe the faculty members and other persons who were involved in the development of the program. 11. Please describe how these faculty members and other persons were selected to be part of the development team. 12. Please describe the planning process before implementing the program and how the various team members contributed to the program planning process.
Admission	Admission criteria	<ol style="list-style-type: none"> 13. Please describe the admission requirements for students with ID in the program (IQ, qualifications, skills, or others). 14. Please indicate if there are any exceptional acceptance offers for students with ID in the program.
Support	Support services provided to students with ID	<ol style="list-style-type: none"> 15. Please describe how the disability center's support services at the university help students with ID in your program.

Support	Support services provided to students with ID	<p>16. Please describe the district or local Office of Special Education Programs' role in supporting students with ID in and out of the classroom in your program.</p> <p>17. Please describe the support providers in the program and their roles.</p>
Environment	Physical environment	<p>18. Please describe the learning environment for students with ID at your university.</p> <p>19. Please describe the essential environmental adjustments made to accommodate the needs of students with ID in your program.</p>
	Inclusion	<p>20. Please describe what courses students with ID can take with students without disabilities.</p> <p>21. Please describe the types of activities students with ID and without disabilities can do together.</p> <p>22. Please describe the skills students with ID expect to acquire through the program.</p>
Evaluation of students	Methods used to evaluate students with ID in a class by faculty members	<p>23. Please describe the methods used to evaluate students with ID in a class by faculty members.</p> <p>24. Please describe how faculty members evaluate the progress level of students with ID in the classroom and your program in general.</p> <p>25. Please describe the specific level required to achieve the course requirements for students with ID.</p> <p>26. Please describe the alternatives if students with ID fail to meet these course requirements.</p>
Evaluation process of the program	Program evaluation standards	<p>27. Please describe the individuals and teams involved in the evaluation process and their roles.</p> <p>28. Please describe the standards used to evaluate the effectiveness of the PSE program.</p> <p>29. Please describe if the university follows certain criteria, such as the criteria of Think College or others.</p>
Experience of the program	Successes and challenges of the program	<p>30. Please describe the successes you experienced during the program's development phase and what you feel contributed to those successes.</p> <p>31. Please describe the barriers or challenges in creating the program and how these were systematically solved during the development phase.</p> <p>32. If you were to work on the same program again, what important things might you do to make the program better?</p> <p>33. Please describe what recommendations you would provide to an institution that may be considering a transition and PSE program for students with ID on their campus.</p>

ID (Grigal & Hart, 2010; Neubert et al., 2004; Papay & Bambara, 2011), which helped determine the process for evaluating the programs (Grigal et al., 2011, 2019; Neubert et al., 2001) and discover participants' experiences in PSE programs, such as their challenges and successes in the program's development phase, how the challenges were addressed, and their recommendations (Fewox, 2018; Hines et al., 2016; Plotner & Marshall, 2015; Stolar, 2016). They also examined the admission criteria for the students in these programs and identified the types of support services offered to students both in and out of the classroom, as well as the support providers and their roles in the programs (Hines et al., 2016; Papay & Griffin, 2013; Plotner & Marshall, 2015).

Questions 1–7 identified participants' backgrounds and their primary roles in creating a program team to design a proposed framework for the PSE program. Therefore, the author interviewed the PSE program administrators, directors, and assistants to determine their backgrounds and primary roles in the PSE programs. The information gathered included qualifications, characteristics, responsibilities, and program administration. Faculty members were also interviewed about their roles in program planning and the scope and type of training provided to general education lecturers. In addition, the program delivery questions (8–12) explored specific areas in these programs by identifying the people involved in the program delivery from design to actual delivery. These questions (1–12) were later excluded for several reasons, including participants' lack of information, as some participants did not possess enough information to answer these questions. The program directors seemed responsible for designing and implementing these programs because they were the only participants who answered such questions. Although the author interviewed the directors of these programs, they provided insufficient, brief, and general answers.

Moreover, faculty members in the three selected cases play no role in these programs. The only contact between them and the program staff concerns students with ID, such as

providing suitable accommodations and modified tests. The program staff and faculty members of the programs indicated no training program or workshops for faculty members teaching students with ID. Some faculty members did indicate that they had attended a one-time meeting to understand the needs of these students. In addition, there are no criteria for selecting team programs, as responses to questions (4–7) indicated that they had been invited by the program directors to work with them because of their extensive experience in special education, while others indicated that they were chosen in a formal way, where they were interviewed and then selected.

Regarding the components of PSE programs, questions 13 and 14 focused mainly on the admission requirements. Therefore, the author determined the admission requirements, such as IQ, qualifications, specific skills, and exceptional admission offered to students with ID during the interview phase. The role of support providers and the types of support services provided to students with ID in and out of the classroom were identified through questions 15–17. In addition, questions 18–26 explored the main components of PSE programs by soliciting descriptions of the students' learning environment, the environmental adjustments made to accommodate their needs, how these students are included with other students without disabilities, and the methods faculty members use to evaluate students with ID in their classes.

Questions 13–28 were answered with additional information by program teams, who shared their broad knowledge of the practices used in the programs; they otherwise had no information about the administrative procedures followed in the program, such as its design and implementation. The author continued to interview participants, such as team members involved in the evaluation process, about program evaluation (27–29), their roles, the criteria used to evaluate the program's effectiveness, and the Think College standards.

The interviews concluded with questions 30–33, which were designed to explore participants' experiences regarding the successes and challenges of PSE programs and their

recommendations for institutions interested in establishing similar programs. The author used effective listening and neutral questions to deepen her understanding of the multiple interview themes. The interviews were recorded with participants' permission (Fewox, 2018). All interview data were transcribed in confidence by a transcriber.

3.3.2 Observations

Observation procedures. A qualitative structured observation method was designed for this study to collect data regarding the building of a framework for a PSE program for students with ID at a Saudi university or college. The structured observation strategy was prepared by reviewing literature on PSE programs for students with ID (Yin, 2018). A research assistant at each case university conducted the observations. However, finding a research assistant in the three selected programs was challenging, although each PSE program cooperated with the author to find a research assistant by posting an advertisement at the university, which took time and affected the collection and analysis of data.

The author had planned to have more than one research assistant at each university to increase the credibility of the current study. However, two universities were unable to provide more than one research assistant because of the lack of available research assistants during the data-collection phase. Therefore, the total number of research assistants was four across the three universities: one at Case 1, two at Case 2, and one at Case 3.

The research assistants were doctoral students in the Special Education Department at the three universities selected. The program directors chose them according to their availability; each worked a paid part-time job with the PSE programs at their universities to help other researchers. One research assistant worked as a peer mentor for students with ID in the program, where he attended classes, joined university organizations with students with ID, and helped students in all academic areas. Others worked in the programs as research assistants and performed program-related duties. All research assistants had a background related to this

study due to the nature of their chosen field of special education. The program directors sent an email to connect the author with the available research assistant(s). A day and time were scheduled with each research assistant via the Zoom and Messenger applications to discuss the aims of the current study, in addition to their roles as research assistants. All the research assistants preferred to communicate via Messenger, which facilitated immediate communication if they had queries about the observations. The formal documents, however, were sent via email. The research assistants asked a few questions about some of the observation questions, which were clarified via email or a meeting via Zoom or Messenger. Later, the author sent a descriptive letter detailing the case study's aims and the observation questions. In addition, informed consent letters were sent to each research assistant to offer to faculty members to read and sign before observation protocols.

After being interviewed by the author, faculty members were asked whether a research assistant could observe classes for students with ID. Most faculty members agreed immediately and expressed their willingness to help. However, some faculty members were worried that allowing observation of their classes might be illegal without obtaining permission from students with ID. This was solved by contacting the respective program directors to talk to these faculty members. Later, the author sent an email to thank the faculty members for their cooperation and connect them with the research assistants to schedule an observation date. The observations were conducted for different courses that were held in regular classrooms at the three universities. No changes were made to the classrooms for students with ID, including the curriculum, teaching method, and teaching resources such as a projector.

The research assistants took notes during the observations, which later helped the author during the data-analysis phase. In addition to answering the observation questions, some research assistants, after completing the observations, asked the faculty members questions that they were unable to answer during the observation time to obtain a clearer and deeper

Table 3.4*Structured Observation Questions for PSE Classes for Students with ID*

Main Theme	Subthemes	Questions
Classroom Components	Classroom	1. What are the components of the classroom?
		2. How is the classroom organized?
		3. Is the classroom inclusive (students without disabilities and students with ID are in the same class) or a special classroom (only for students with ID)?
	Behavior	4. What are the adjustments made to the classroom to accommodate students?
		5. How does the faculty manage student behavior?
	Communication	6. What types of behavioral issues occurred among students with ID in and out of the sessions?
		7. How would the interaction among individuals with ID in the setting be described?
		8. How does the faculty interact with students in the session?
		9. How do students with ID interact with students without disabilities in the classroom?
		10. What are the forms of interaction among the faculty members in the course?
	Support	11. What roles do students without disabilities play in supporting students with ID in and out of the classroom?
		12. What procedures and means are used to support the learning of students with ID in the program?
	Curricula	13. Are the curricula for students with ID the same as those for students without disabilities? Describe them.
		14. What curriculum modifications are offered to students?
		15. What types of activities are offered? Are they commensurate with the time limits?
	Instruction	16. Who is responsible for teaching the students?
		17. How do faculty members teach the students in the program?
		18. Is there an assistant with each faculty member in the sessions? What are their roles?
		19. How do faculty members reward students for their work, and how do they provide feedback?
		20. What teaching means do faculty members use?

understanding of the academic components of the PSE programs for students with ID, such as the accommodations made for students and evaluation of the students. Seven observations were

conducted, including three observations for Case 1, two for Case 2, and two for Case 3. Later, all completed observations were sent via email to the author. The author did not need to ask the research assistants for any clarifications concerning the observation answers or their notes, as they were clear and understandable.

The observation questions (listed in Table 3.4) were designed to identify the academic components of PSE programs for students with ID.

The observation sheet provided descriptions of the current classroom environment for students with ID in the PSE program. The research assistants focused on particular aspects of the classroom, including physical aspects, such as the classroom components, its organization, and the adjustments made to accommodate students with ID. The research assistants also focused on the behaviors of students with ID in the classroom, methods employed by faculty members to manage students' behaviors, and the types of behavioral issues occurring among students with ID both in and out of the classroom. Communication was also another important factor that was observed.

Furthermore, the support provided to students with ID in the classroom was also considered in the observation process, including the roles of students without disabilities in supporting students with ID in and out of class, support providers in the program and their roles, and the procedures and means used to support the learning of students with ID in the program. Curricula for students with ID were also observed. These included the types of curricula offered to students with ID, the modifications made to the curricula, the types of activities offered to students, their suitability with respect to time limits, and the skills students with ID were expected to acquire through the courses.

Finally, close attention was paid to the instruction process in the classrooms, with respect to faculty members responsible for teaching students with ID. The focus was on their

teaching methods, their assistants in sessions and their roles, methods of rewarding and providing feedback to students, and methods of evaluating student progress in courses.

3.3.3 Documentation

The author reviewed documents related to the PSE programs for students with ID at the three selected universities provided by the program directors, the public data available on the universities' official websites, and other publications on the Internet related to PSE programs for students with ID. The information focuses on the structure and framework of the PSE programs for students with ID at these universities and their academic and vocational components and outcomes. The main theme and subthemes are set out in Table 3.5.

Questions were designed to explore the PSE program structure for students with ID that would significantly contribute to the proposed program's framework (Francis et al., 2018; Stolar, 2016).

Information regarding the PSE program's structure and framework for students with ID was obtained through questions 1–16. By starting with the program content, the information required included a brief overview of the program, its mission, vision, objectives, and philosophy. This included the program duration, the basic skills on which the program focuses for students with ID, the desired outcomes of such a program, orientation courses and events, and the methods of program segmentation for students with ID. This was in addition to identifying the admission requirements (IQ, qualifications, and skills) and exceptional acceptance offers for students with ID.

Moreover, review of the documentation revealed an important part of the PSE program for students with ID: the nature of the majors offered in college and university settings relating to the program type (whether academic or vocational) and the program majors in which students with ID could specialize.

Table 3.5*Review of Articles and Documents on the Selected PSE Programs for Students with ID*

Main Theme	Subthemes	Questions	
Program Structure	Content	1. What is the program (a brief overview of the program)?	
		2. What are the aims of this program?	
		3. What is the duration of the program required to grant students a degree/diploma/certificate?	
		4. What core skills do these programs focus on?	
		5. What are the desired outcomes of the programs?	
		6. Are students with ID offered orientation courses or events?	
		7. How would the program be segmented?	
	Admission	8. What are the admission requirements (IQ, qualifications, and skills)?	
		9. Is there any exceptional acceptance offer for students with ID? Describe it.	
		10. What are the majors offered to students with ID in the program?	
	Majors	11. Is the program academic or vocational?	
		12. What majors are students with ID allowed to specialize in?	
		13. Does the program award a diploma/certificate for students with ID? What are the requirements for obtaining a diploma/certificate?	
		Instruction	14. Is the individualized education program (IEP) considered part of the special education services provided in the program for students with ID? How is it offered?
			15. What other services or plans are offered to students with ID in the program?
			16. Who are the instruction team, and what are their roles?

Finally, the instruction process was also considered during the review of documents in relation to IEPs as part of the special-education services provided to students in the program. The methods of providing an IEP and other services or plans, the instructional team, and their roles in the program were also considered.

3.4 Data Analysis Procedures

The author analyzed all the data obtained within cases and across the cases using Stake's (2006) data analysis worksheets to investigate the components, organization, and evaluation processes of the PSE programs for two- and four-year programs for students with ID at the three selected universities in the United States. Two data analysis strategies were used in this study: direct interpretation and categorical aggregation. Direct interpretation helped provide meaningful interpretation about the cases that ultimately aided the design of the proposed framework for a PSE program, while categorical aggregation facilitated the grouping of data into categories through specific themes to develop a descriptive understanding of the components of the proposed framework (Stake, 2006).

The current study used analytical generalization, which does not focus on statistical inferences, but is rather based on comparing the results of the current study with the theories that are relied upon in the study, which will be clarified later in the next section. In this study, the program theory, theory of student involvement, and International Classification of Functioning, Disability, and Health (ICF) were used to understand the nature of the PSE programs for students with ID, leading to the design of the proposed theoretical framework for PSE programs for students with ID in a university in Saudi Arabia (Mills et al., 2010; Yin, 2013, 2018).

3.4.1 Data Analysis of Individual Cases

MAXQDA (2020) software was used to analyze each set of qualitative case study data separately and then across cases to obtain an in-depth description of each case concerning PSE program components for students with ID at the selected universities (Creswell, 2013; Yin, 2018). For each case, data were collected using instruments that included interviews, observations, and document reviews. The data were subsequently transcribed and analyzed

separately to gain a deep understanding of each case's specific aspects. The data obtained from the instruments were then coded and grouped through identified themes. The author obtained various information from different sources in each case that contributed effectively to building the PSE program's proposed framework. In the data analysis phase, the theoretical lens of program theory and the theory of student involvement were executed, which helped the author maintain a focus on collecting information related to the design of the PSE programs, including its framework, components, organization, and an evaluation of these programs for students with ID. These data were coded and grouped into themes (Fewox, 2018). For example, an institution's overall mission to design a PSE program for students with ID was coded under the "PSE program framework" theme. Campus and academic inclusion for students with ID were coded under the "program components" theme. The first example was highlighted by using the program theory lens, which emphasizes the importance of the input component in designing a PSE program, such as considering the university's mission when designing the program. The second example appeared through the lens of the student involvement theory, highlighting the importance of engaging college students in all curricular and extracurricular activities.

The author initially analyzed the data by writing the research questions, called themes in Worksheet 2 (see Appendix A). This worksheet helped the author focus on primary information about the proposed framework components of a PSE program during the case data analysis phase. The author then reviewed literature related to PSE for students with ID simultaneously to collect the individual case study data. Next, the author wrote a draft report on each case.

Each case report was analyzed separately by coding the data and grouping them into categories of specific themes to summarize valuable information from cases to be ready for copying in Worksheet 3 (see Appendix B). Each case summary in Worksheet 3 includes site, activity, primary information, situational information, and significant findings. Worksheet 3

contains two other important sections. The first section represents each theme mentioned in Worksheet 2 and its relevance to the individual case. The second section displays the expected importance of the individual case for developing each theme. The last two steps facilitated the cross-case analysis of the data presented in Worksheet 4.

3.4.2 Data Analysis Across Cases

After completion of the analysis within the cases through Worksheets 2 and 3, the author used Worksheets 4 to 6 to conduct the cross-case analysis, starting with Worksheet 4 (see Appendix C), which presents ratings of the expected importance of each theme listed in the last section of Worksheet 3 for each case. The ratings of the importance of the cases includes high importance (H), middling importance (M), and low importance (L). High importance means that the subtheme appears to be one of the most important themes for developing themes in a case.

After rating all the themes related to each case, assertions were made. To generate assertions, the author reread and reviewed all case reports as a whole and then linked case findings to the research questions (themes in Worksheet 2) to develop cross-case assertions. At the beginning of the assertion generation process, temporary assertions were recorded. Later, the confirmed assertions were retained and written in Worksheet 5 (see Appendix D). All case findings and themes are included in Worksheet 5. The author rated each finding per case related to a single theme. The rating method in Worksheet 5 was similar to that in Worksheet 3: H, M, and L. A high rating meant that this case finding was very important to this theme. In general, this worksheet helped confirm the case findings that supported the proposed PSE program framework through a deep and specific method and to synthesize findings to develop cross-case assertions.

After rating the results of the cases related to specific themes, the author synthesized all the results to make assertions across cases and recorded them on Worksheet 6 (see Appendix

E). Evidence was taken from the cases through assertions to illustrate consistencies and contrasts in the descriptions of the components of the proposed PSE program framework.

Finally, the number of each subtheme frequency was exported from the data analysis software MAXQDA (2020) to use descriptive statistics, including frequencies, means, and standard deviations, to identify each case's mean, which helped determine the level of importance of each subtheme in a case. Then, the angular square root transformation was used to help graphically interpret the results.

Despite the limitation of the data analysis of each case being performed separately, then across cases, which took a great deal of time and effort to complete, extensive information was obtained from all the research instruments in the three cases.

Natural generalizations were clarified in this study by analyzing the study of multiple cases using worksheets and arriving at an extensive and deep description of the nature of the development and implementation of PSE programs for students with ID in the United States from the viewpoint of the American participants in the interviews, observations, and document reviews (Mills et al., 2010; Stake, 2006; Yin, 2018). In addition, survey and interviews were conducted with Saudi participants to help propose the framework, verify its applicability, and identify the challenges of implementing the framework and its suggested solutions. The descriptions are provided in the worksheets based on the assertions of the three cases in the United States and the results of the two cases in Saudi Arabia. Other researchers can benefit from these study findings and apply them to similar future cases related to PSE programs (Foxyer, 2018; Stake, 2006).

3.5 Saudi Arabia Section

3.5.1 Interviews

Administrators, Employees, and Faculty Members. In the current study, administrators, employees, and faculty members at KSU were interviewed. KSU is the most

Table 3.6*Description of Participants at KSU*

Participant name	Sex	Role	Degree
Munira	Female	Faculty member	
Ashraf	Male	Faculty member	Ph.D.
Hayat	Female	Director	Ph.D.
Nada	Female	Director	Ph.D.
Ali	Male	Director	Ph.D.
Amal	Female	Faculty member	Ph.D.
Ashjan	Female	Employee	M
Haifa	Female	Faculty member	Ph.D.
Gader	Female	Faculty member	Ph.D.
Maha	Female	Faculty member	Ph.D.
Gadah	Female	Faculty member	Ph.D.
Haitham	Male	Director	Ph.D.
Fares	Male	Employee	M

Note. Ph.D. = doctoral degree; M. = master's degree

prominent public university in Riyadh and the first in the country, founded by King Saud bin Abdulaziz in 1957 as the University of Riyadh. It contains 21 colleges, complemented by academic research centers and other supporting deanships. The university has a teaching staff of 7,614 and 8,973 administrative and technical staff (Al-Hazem, 2016).

Participants were interviewed by phone for 25–45 minutes. Semi-structured interviews were conducted with 13 participants—four administrators, two employees, and seven faculty members in various administrations and colleges at KSU—to explore the applicability of the proposed framework for a PSE program for students with ID at a university in Saudi Arabia. The descriptions of these participants at KSU are presented in Table 3.6.

Purposeful sampling was used to select 13 participants from departments and centers in the university based on their volunteering to participate in this study. Two criteria were used to select them:

- Participant works full time in the university department or center for people with disabilities.

- Participant has at least five years of work experience at the university.

After reviewing the results of the three cases in the current study and previous literature on higher-education programs for students with ID, the interview questions were designed. The interview questions aimed to identify the applicability of the proposed framework for the PSE program at KSU from the perspective of administrators, employees, and faculty members at the university.

Therefore, the interview questions attempted to discover the various themes regarding the applicability of the proposed framework for the PSE program at KSU. The emerging themes included the type of support provided to students with ID (Folk, 2012; *Grigal et al., 2006*; Stolar, 2016; Thoma, 2013), alternatives offered to these students for learning in a university environment (*Grigal et al., 2006*; Grigal & Hart, 2010; Hart et al., 2006, 2010), and the available material and human resources provided to the program (Foxyer, 2018; *Grigal et al., 2006*; Hines et al., 2016; Parent-Johnson et al., 2014; Thompson et al., 2011), program values (Foxyer, 2018; Hines et al., 2016; Jones et al., 2015; Rusch & Wolfe, 2008), program partnerships inside and outside the university (*Cook et al., 2015*; Foxyer, 2018; *Grigal et al., 2006*; Kelley & Westling, 2019; Winsor & Landa, 2015), administrative university procedures to implement such programs (Folk, 2012; Foxyer, 2018; *Grigal et al., 2006*; Hafner et al., 2011; Hines et al., 2016), and the challenges such a program might face, with suggested solutions (Foxyer, 2018; Hines et al., 2016; Plotner & Marshall, 2015; Thoma et al., 2011). All these themes regarding the applicability of the proposed framework for the PSE program for students with ID at KSU are presented in Table 3.7.

Students with ID and Their Parents. Students with ID and their parents were interviewed on the phone for 30–40 minutes to identify their hopes and views regarding a PSE program for students with ID at a university in Saudi Arabia and to explore the applicability of the proposed framework for this potential PSE program. Purposeful sampling was used to

Table 3.7*Semi-Structured Interview Questions for PSE Program Administrators, Employees, and**Faculty Members*

Main Theme	Subthemes	Questions
Applicability of the proposed framework at KSU	Support	1. If students with ID are accepted at KSU, what kind of support can you provide to implement the new program designed for them?
	Other program options	2. What other options can be offered to students with ID to learn in the university environment?
	Program values	3. How would the program/option be important for these students in the university?
	Available resources	4. What are the material and human resources that can be provided to the program/option?
	Partnerships	5. What kinds of cooperation inside and outside the university should be considered for these student programs/options?
	Administrative procedures	6. What type of procedures should be observed in such a program/option for these students?
	Challenges and solutions	7. What challenges might the program/option for students with ID face, and how should they be solved?

select 12 participants based on their volunteering to be interviewed for this study. Three criteria were used to select them:

- The participating student has mild to moderate ID;
- The participating student is in their last year of high school or has graduated; and
- The participating parents should have a child with mild or moderate ID.

There were six participants with ID; three had finished high school, and three were in their last high school year. Two of these students had mild ID, and four had moderate ID. In addition, six parents of these students were interviewed. Participants were selected from inclusive high schools in Riyadh City after the author called or met the high school principals or others who could provide the phone numbers of parents of children with ID meeting the selection criteria. The author contacted the parents to explain the purpose of the study and the

importance of their participation to their children's future. If they agreed to participate, an interview date was scheduled. Informed consent forms were sent to the parents to sign for their and their children's participation in the study prior to the interviews.

Semi-structured Interviews were Conducted. After reviewing the results of the three cases in the current study and previous literature on higher-education programs for students with ID, the interview questions were designed. The interview questions aimed to identify the children and parents' hopes and views regarding a PSE program for students with ID at a university in Saudi Arabia.

Therefore, the interview questions attempted to discover a variety of themes. The parents' themes included parents' expectations of PSE (Alrusaiyes, 2014; Blustein et al., 2016; Griffin et al., 2010; Grigal & Hart, 2010; Hart et al., 2010; Hartz, 2014; Kim et al., 2007; Martinez et al., 2012; Stolar, 2016; Yamamoto & Black, 2013; Yarbrough et al., 2014), program design and implementation (Alrusaiyes, 2014; Blustein et al., 2016; Griffin et al., 2010; *Grigal et al., 2006*; Hart et al., 2010; Hartz, 2014; Hines et al., 2016; Kim et al., 2007; Martinez et al., 2012; Mock & Love, 2012; Papay & Bamara, 2011; Papay & Griffin, 2013; Stola, 2016; Yarbrough et al., 2014), parents' experiences (Martinez et al., 2012; Yamamoto & Black, 2013), parents' involvement (Folk et al., 2012; Griffin et al., 2010; Kim et al., 2007; Martinez et al., 2012; Stolar, 2016;), program barriers (Alrusaiyes, 2014; Blustein et al., 2016; Griffin et al., 2010; Hines et al., 2016; Kim et al., 2007; Martinez et al., 2012), and parents' concerns (Alrusaiyes, 2014; Blustein et al., 2016; Griffin et al., 2010, Papay & Griffin, 2013; Hartz, 2014; Hines et al., 2016; Kim et al., 2007; Martinez et al., 2012; Papay & Bambara, 2011; Yarbrough et al., 2014; Yamamoto & Black, 2013).

The themes for students with ID included their desires after high school (Alrusaiyes, 2014; Folk et al., 2012; *Grigal et al., 2006*; Hartz, 2014; Kleinert et al., 2012; Mock & Love, 2012; Papay & Bambara, 2011; Papay & Griffin, 2013; Stolar, 2016; Yamamoto & Black,

Table 3.8*Semi-Structured Interview Questions for Parents of Children with ID*

Main theme	Subthemes	Questions	
Parents' perceptions of a PSE program for students with ID at a university in Saudi Arabia	Parents' expectations of their child's future	1. How did/would you feel after your child graduated/will graduate from high school?	
		2. What aspirations do you have for your child in the future?	
		3. What are your child's strengths and weaknesses? What do you think your child is capable of doing in the future?	
		4. What do you know about PSE for students with ID?	
		5. What do you hope to see in such PSE programs for your child?	
	Program design and implementation	Parents' expectations of their child's future	6. If there will be a PSE program designed for students with ID at the university level, what are your expectations of this program?
			7. Why do you think the university experience is important and beneficial for your child with ID? Please explain.
		Program design and implementation	8. How would you describe the program you think will meet your child's needs and prepare him/her for the future?
			9. What important curriculum do you think should be included in the program? Or what should the skills or outcomes of the program be?
			10. What important extra-curricular activities should be included in the program?
			11. Do you think the PSE program should prioritize work preparation as a primary outcome for students with ID? Explain, please.
			12. What support do you think your child needs at university to help him/her in the PSE program?
			13. Do you think the PSE program would be worthwhile at the university level? If so, why? If not, what other options should there be for the PSE program for students with ID?
	Parents' experience	Parents' experience	14. How satisfied are you with the accommodation your child received in high school?

	15. Do you want the same accommodations to be used at university?
	16. What other accommodations are needed for your child?
Parents' involvement	17. How can you explain your involvement/role in this program if such a program existed?
	18. How else would you like to be involved to contribute to developing your child's skills in the program?
Program barriers	19. In your view, what are the barriers hindering the offering of a PSE program for your child at the university? Explain, please.
Parents' concerns	20. What are your concerns about your child when he/she moves to the university?

Table 3.9

Semi-Structured Interview Questions for Persons with ID

Main theme	Subthemes	Questions
View of students with ID about a PSE program at a university in Saudi Arabia	Student preferences / aspirations	1. What would you like to do after graduating from high school?
		2. What do you think about going to university or another school after graduation?
		3. What do you want to learn at university?
		4. What do you want to be in the future?
		5. Do you want to get a paid job when you finish university? Why?
	University importance	6. Do you think the university is important for you? Why?
		7. What other options would you like to have if not accepted into a university?
		8. What do you think the university can offer you?
		9. How would you feel if you became a university student?
	Student needs	10. What things might you need to support you at the university?
	Student concerns	11. What are your concerns about going to university?

2013), the importance of university (Chambers et al., 2004; Folk et al., 2012; Hartz, 2014; Martinez et al., 2012; Mock & Love, 2012; Papay & Bambara, 2011; Stolar, 2016; Yamamoto & Black, 2013), students' needs (Grigal et al., 2006; Hartz, 2014; Yamamoto & Black, 2013), program challenges (Papay & Bambara, 2011; Yamamoto & Black, 2013), and students' concerns (Hartz, 2014; Yamamoto & Black, 2013).

All these themes about the hopes and views of the parents of students with ID and the students themselves regarding a PSE program for students with ID at a university in Saudi Arabia are presented in Tables 3.8 and 3.9, respectively.

3.5.2 Survey

3.5.2.1 Instrument

The applicability of the proposed framework for a PSE program for students with ID at KSU was explored through the views of administrators, employees at the Disability Services Center, and faculty members. The views of these participants were investigated using surveys and interviews. A published questionnaire was adopted in the current study to survey participants' views and conduct interviews with these participants for the same purpose.

Questionnaires are the most frequently used data-collection method to determine the nature of services provided to students with ID in PSE institutions (Christ & Stodden, 2005). The mixed quantitative and qualitative questionnaire titled "A Survey of Postsecondary Education Programs for Students with Intellectual Disabilities in Florida" by Jester (2016) was used in this current study (Appendix O). The purpose of Jester's (2016) questionnaire was to explore PSE options for students with ID at university and college system institutions in Florida. The questionnaire was designed based on a previous national study published in the 2009 survey of PSE programs for students with ID by researchers at the University of Massachusetts, Boston (Grigal et al., 2012a). In addition, the questionnaire used Think College Standards, Quality Indicators, and Benchmarks for Inclusive Higher Education, a framework

for inclusive PSE for students with ID developed by Think College to guide institutions and researchers in designing or evaluating PSE programs for these students (Grigal et al., 2012a). Her questionnaire comprises five constructs pertaining to the infrastructure of program design: program characteristics, academic access, self-determination, campus membership, and career development (Jester, 2016).

Jester's (2016) questionnaire includes 27 statements: 26 quantitative and one qualitative item. Her questionnaire was appropriate for the current study's aim regarding the applicability of the proposed framework for the proposed PSE program at KSU. The proposed framework for the PSE program was also designed in alignment with Think College Standards, Quality Indicators, and Benchmarks for Inclusive Higher Education, specifically on the four above-mentioned cornerstone standards, in addition to the synthesis of the case results obtained from the three case studies of PSE programs for students with ID at US universities, which will be discussed later. The author added 25 additional statements mentioned in the questionnaire of the current study and necessary to be examined by the participants: for example, the type of university courses that would be appropriate for the needs and abilities of students with ID in KSU, the ages of the students to be accepted in the program, and the length of the PSE program. On the other hand, six statements were excluded from the original questionnaire because they were not relevant to Saudi culture. For example, the PSE program uses state funds, IDEA funds, or TPSIDs grants, and students receive funding through the WIOA. The questionnaire used in the current study contains 46 items: 45 quantitative and one qualitative item(s). Content validity of the survey was checked by special-education experts to validate its content. In addition, the survey covers all areas of the proposed framework design, including program characteristics, academic access, self-determination, campus membership, career development, student evaluation, program evaluation, housing options in the program, and program outcomes.

To ascertain the survey's external validity, the study clarified the extent to which the survey results could be generalized or applied to other settings or universities. The surveys were collected using a Google Forms survey online and sent to participants via email. The survey themes included program characteristics, academic access, self-determination, campus membership, and career development as per Jester's (2016) study. In addition, student evaluations of the program, program evaluation, housing options in the program, and program outcomes were added to the author's questionnaire because these four themes were presented in the synthesis of the case results.

3.5.2.2 Program Characteristics

The characteristic aspect of the proposed framework design for a PSE program includes 19 items, including the number of students with ID who should be enrolled in the program, the ages of students with ID, the number of program units, the program duration, the levels of ID, students eligible for financial aid provided by KSU, program funding, the time KSU would need to start the program, the type of PSE program, the type of university courses, the majors available to students with ID, the type of program credentials awarded to these students, the KSU administration responsible for funding the program, and host college of the proposed framework for a PSE program.

It also clarified that professors and instructors would not be required to change their teaching methods once students with ID enrolled in their courses, these students would not receive a course grade, the program was designed to meet the needs of Saudi students with ID, the applicability of the program at KSU was based on its capabilities and experience in serving students with disabilities, and the program would have an academic and professional focus.

3.5.2.3 Academic Access

Six items relate to academic access: the support that would be provided by KSU to students with ID once enrolled in regular university classes, the accommodation available to

students with ID, access to technology and educational coaches, enrollment in inclusive college courses, access to courses related to their personal, academic, or career goals, and the requirement that they spend at least 50% of their time on academic inclusion.

3.5.2.4 Self-Determination

Three items were related to improved self-determination for these students— interaction with peers, direct interaction with faculty and employers to convey their needs about accommodation, and student direction of their choice of courses, activities, and employment experiences.

3.5.2.5 Campus Membership

Three items were related to access to campus membership: volunteer peer support, such as peer mentors, peer tutors, campus ambassadors, attendance of at least 50% of their time in on-campus inclusion, and access to all campus social activities.

3.5.2.6 Career Development

This section of the survey is related to three career development items: access to job coaches, access to paid work experiences in settings with people without disabilities, access to participation in non-paid internships, service learning, and other work-related experiences with people without disabilities.

3.5.2.7 Student Evaluation

Student evaluation included four items: evaluation of students with ID based on completion of course requirements, vocational experiences, establishing goals with program staff and completing surveys or assessments, the completion of a minimum of 70% of the attempted courses to pass them, and attendance of at least 75% of the class on time, and determination of the student evaluation process by the collaboration of peer mentors, the program team, and peer residential mentors.

Table 3.10*Respondent Scale*

Level	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
Scale	1	2	3	4	5
Mean Range	1.0–1.8	1.8–2.6	2.6–3.4	3.4–4.2	4.2–5.0
Weight Mean	20%–36%	36–52%	52–68%	68%–84%	84%–100%

3.5.2.8 Program Evaluation

The program evaluation had only one item that the program should be subject to external and internal evaluations to improve it.

3.5.2.9 Housing Option

One item for housing was included that these students would be allowed to access on-campus inclusive housing.

3.5.2.10 Program Outcomes

One item for program outcomes was included that students with ID would be expected to acquire skills during the completion of the program's proposed framework.

The questionnaire items from Q22–Q46 follow the Likert scale approach. The respondent can choose a number from 1 to 5, where (5) represents the highest acceptance degree for an item and (1) represents the lowest acceptance degree for an item, as illustrated in Table 3.10.

3.5.2.11 Pilot Study

A pilot study for the questionnaire was conducted before collecting the results of the sample. It provided a trial run for the questionnaire, which involved testing the wording of the questions, identifying ambiguous questions, and testing the techniques used to collect data.

3.5.2.12 Validity of the Research

The validity of an instrument is defined as the determination of the extent to which the instrument reflects the abstract construct being examined. High validity is the absence of

systematic errors in the measuring instrument. When an instrument is valid, it truly reflects the concept it is supposed to measure. It is necessary to focus on the research design and sample selection. The questionnaire was amended by a supervisor and three experts in the field of special education who evaluate the procedure of questions and the method of analyzing the results. The experts agreed that the questionnaire was valid and suitable enough to measure the purpose of the questionnaire.

3.5.2.13 Statistical Validity of the Questionnaire

To ensure the validity of the questionnaire, two statistical tests were applied. The first test was the criterion-related validity test (Pearson test), which measures the correlation coefficient between each item in the field and the whole field. The second test was the structure validity test (Pearson test), used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level of similar scale.

3.5.2.14 Criterion Related Validity

Internal Consistency. The internal consistency of the questionnaire was measured by a scouting sample, which consisted of 30 questionnaires, by measuring the correlation coefficients between each question in one field and the whole field to check the questionnaire's internal consistency. Table 3.11 below shows the correlation coefficient and p-value for each field item.

As shown in the table, when the p-values are less than 0.05 or 0.01, the correlation coefficients of this field are significant at $\alpha = 0.01$ or $\alpha = 0.05$ level, respectively, so it can be said that the paragraphs of this field are consistent and valid for measuring what they were set for.

Table 3.11*The correlation coefficient between each question in the field and the whole field*

No.	Pearson correlation coefficient	p-value	No.	Pearson correlation coefficient	p-value
Q22	.498**	0.005	Q35	.427*	0.019
Q23	.818**	0.000	Q36	.818**	0.000
Q24	.551**	0.002	Q37	.818**	0.000
Q25	.606**	0.000	Q38	.766**	0.000
Q26	.367*	0.046	Q39	.854**	0.000
Q27	.402*	0.027	Q40	.844**	0.000
Q28	.819**	0.000	Q41	.812**	0.000
Q29	.869**	0.000	Q42	.492**	0.006
Q30	.853**	0.000	Q43	.798**	0.000
Q31	.915**	0.000	Q44	.735**	0.000
Q32	.481**	0.007	Q45	.765**	0.000
Q33	.803**	0.000	Q46	.747**	0.000
Q34	.752**	0.000			

3.5.2.15 Structure Validity of the Questionnaire

Structure validity was the second statistical test that was used to test the validity of the questionnaire structure by testing the validity of each field and the validity of the whole questionnaire. It measures the correlation coefficient between one field and all the fields of the questionnaire that have the same level as that of a Likert scale. As shown in Table 3.12, the significance values are less than 0.01, therefore the correlation coefficients of all the fields are significant at $\alpha = 0.01$. It can, therefore, be said that the fields are valid for measuring what they were set for to achieve the main aim of the study.

3.5.2.16 Reliability of the Research

The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to measure. For most purposes, reliability coefficients above 0.70 were considered satisfactory. To measure the reliability of this study, Cronbach's alpha and Half Split Method were used through the Statistical Package for Social Science V26 (SPSS) software (SPSS Statistics, 2019).

Table 3.12*Structure Validity of the Questionnaire*

No.	Section	Pearson correlation coefficient	p-value
1	Students with ID should have...	.972**	0.000
2	The PSE program for students with ID at KSU should...	.889**	0.000

3.5.2.17 The Half Split Method

This method depends on finding the Pearson correlation coefficient between the means of odd and even rank questions of each field of the questionnaire. Then, the Pearson correlation coefficients can be corrected using the Spearman-Brown correlation coefficient of correction. The corrected correlation coefficient (consistency coefficient) is computed using the following equation (Eisinga et al., 2012):

Consistency coefficient = $2r/(r+1)$, where r is the Pearson correlation coefficient. The normal range of the corrected correlation coefficient $2r/(r+1)$ is between 0.0 and + 1.0, as shown in Table 3.13, and the general reliability for all items equals 0.904. It can be said that according to the Half Split method, the level of reliability is considered high; the result ensures the reliability of the questionnaire.

3.5.2.18 Cronbach's Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole field of the questionnaire. The normal range of Cronbach's alpha is between 0.0 and + 1.0, and the higher values reflect a higher degree of internal consistency (Ritter, 2010). As shown in Table 3.14, Cronbach's alphas were calculated. The general reliability for all items equals 0.938. This value is considered high, and the result ensures the reliability of the questionnaire.

Table 3.13*Split-Half Coefficient Method*

No.	Section	Pearson correlation coefficient	Spearman-Brown Coefficient
1	Students with ID should have...	0.797	0.887
2	The PSE program for students with ID at KSU should...	0.612	0.759
	All items	0.824	0.904

Table 3.14*Reliability Cronbach's Alpha*

No.	Section	Cronbach's Alpha
1	Students with ID should have...	0.913
2	The PSE program for students with ID at KSU should...	0.872
	All items	0.938

3.5.2.19 Participants

Participants were administrators, employees at the Disability Services Center, and faculty members at KSU. Random sampling was used to collect a total of 128 questionnaires from different faculties and administrations across the university.

The questionnaire was emailed to the heads of various departments at KSU to be distributed among the participants. The authors collected department head names from the university website, and then identified each name with a number as part of the coding process. Using a random number table, the questionnaire was sent to random department heads with an explanation. The department heads cooperated in distributing questionnaires among the department participants. A total of 200 questionnaires were randomly distributed to administrators, employees, and faculty members. Of these, 130 were returned. Two were excluded because they were received while starting the data analysis process.

3.5.2.20 Data Analysis

Data Analysis of the Survey. To meet the survey goal of exploring the applicability of the proposed framework for the PSE program for students with ID at KSU from the perspective of administrators, employees, and faculty members at KSU, SPSS was used to manipulate and analyze the data. The statistical methods used were as follows:

- Frequencies and percentile;
- Alpha-Cronbach Test for measuring the reliability of the items of the questionnaires;
- Pearson's correlation coefficients for measuring the validity of the items of the questionnaires;
- Spearman –Brown Coefficient;
- A one-sample *t*-test, which determines whether the sample mean differs statistically from a known or hypothesized population mean (Bland, 2000; Corder & Foreman, 2014);
- An independent sample *t*-test for differences between two independent samples (i.e., unrelated groups; Good, 2000);
- A one-way *ANOVA* test for differences among the means of three or more independent samples (Gelman, 2008); and
- The Scheffe Test for Multiple Comparisons.

Data from the Interviews. The interviews with Saudi participants, including administrators, employees, faculty members, students with ID, and their parents to explore the proposed framework's applicability, were analyzed thematically through data coding and grouping the studies into themes. Drawing from the study by Braun and Clarke (2006), data analysis was executed through the following phases:

- Phase 1: familiarizing oneself with the data

- Phase 2: generating initial codes
- Phase 3: searching for themes
- Phase 4: reviewing themes
- Phase 5: defining and naming themes
- Phase 6: producing the report

The major objective of the interviews in the current study was to explore the applicability of the PSE program's proposed framework for students with ID to access university in Saudi Arabia. To achieve this objective, 13 semi-structured interviews were conducted with Saudi professors, Ph.D., and M.Sc. holders who work at KSU. In addition, 12 interviews were conducted with six Saudi students with ID and six of their parents, from which further details and information were collected.

Piloting. For the qualitative stage, two pilot interviews based on interviews with academics and one student and their parents were analyzed to ensure the interviews' suitability for analysis. The feedback from the analysis and observation was intended to help improve the qualitative-analysis process. Following the piloting analysis, the interviews of academics were found to be suitable for analysis using NVivo software version 1.3 (2020), while the interviews of the students and their parents were found unsuitable for NVivo analysis because of the short statements provided and the slang language used. Instead, they were analyzed using the thematic approach.

The interview samples were piloted using NVivo software to ensure their feasibility for data collection, improve the author's skills, assess the data-collection method's appropriateness, refine the questions, and evaluate the themes related to PSE programs for students with ID.

The major outcomes of piloting were:

- 1) The interview transcripts need to be translated into English.

- 2) The researcher should be confident about and aware of the themes to ensure the successful collection of data. The researcher's knowledge contributes to the success of data collection.
- 3) Some themes need to be modified and developed to provide for better outcomes during analysis.

3.5.2.21 Process of Data Analysis

The following are the six major steps followed to analyze the qualitative data:

- Step (1): Exploring the data source (transcripts)
- Step (2): Exploring and identifying broad themes
- Step (3): Reviewing and identifying the theme nodes
- Step (4): Coding in accordance with the nodes
- Step (5): Extracting repeated statements
- Step (6): Identifying the connections among the identified themes with reference to the PSE programs for students with ID.

3.5.2.22 Exploring the Data Source (Transcripts)

Data analysis began at the time the author started transcribing the interviews with academics and students with ID and their parents. Before using NVivo software, the author read the transcripts to develop an initial impression of the interviewees' perceptions of PSE programs for students with ID. Next, the transcripts were read a second time to highlight the keywords and phrases used in NVivo to detect trends. The initial impressions were that the academics focused on eight major themes that were supported: other program options, program values, available resources, support, partnerships, administrative procedures, challenges, solutions, and applicability of the proposed program.

NVivo software uses two coding approaches: broad-brush coding using queries and manual coding of transcripts or sources. The broad-brush coding feature allows researchers to

code sources automatically based on the words or phrases they include. This feature can be applied using text search queries or word-frequency searches. This feature is very helpful when starting a data review (QSR International, 2014). However, the manual coding feature allows the author to select content from sources such as transcripts and code them according to the nodes generated.

In this study, manual coding was applied, where an in-depth reading was undertaken to code all related statements provided by academics. In addition, thematic analysis was applied to the interviews with the students and their parents to ensure that all the issues raised were covered.

3.5.2.23 Exploring and Identifying Broad Themes

In this step, the author used the coding technique, setting the major themes as codes to steer the analysis process.

Reviewing and Identifying the Theme Nodes. The retrieved references were narrowed down to a few different nodes. According to NVivo's website, "a node is a collection of references about a specific theme, case, or relationship" (QSR International, 2014, para, 2). Nodes are indispensable when working with NVivo because they allow researchers to gather similar data in one place so that emerging patterns and ideas can be easily identified and looked up to. According to NVivo, "You can create and organize theme nodes and case nodes" (QSR International, para 1).

Coding in Accordance with the Nodes. In the next step, coding was performed manually to ensure accurate results. According to NVivo's website, "when you open a node, you can explore the references gathered there. As you make discoveries, you may want to [manually] code the content at other nodes—this is called 'coding on'" (QSR International, 2014, para, 9). For example, during the work on the transcripts, it was possible to refine the themes in accordance with the previously highlighted themes and domains. Furthermore, the

coding process entailed generating additional nodes, that is, the proposed program's applicability.

Extraction of Repeated Statements. The nodes were used to identify the themes through several factors, such as statement, quantity, repetition, and connections among the ideas.

3.5.3 Role of the Researcher

A qualitative researcher is considered a human data collection instrument (Creswell, 2013). Therefore, in this section, the author describes the self-aspect of her past experiences, values, expectations, assumptions, and research qualifications that may have affected the interpretation of data and the conclusion of the study (Greenbank, 2003; Maxwell, 2013).

As a faculty member of the Department of Special Education and provider of special education services at the Center of Special Educational Services at KSU, the author has a background in transition services and PSE programs for students with special needs in higher education. She has also worked closely with some of these students and provided them with services. She found that these students require the design of specific programs to meet their needs at KSU. Although students with ID are still not included at KSU, her experience working with other special needs students gave her some insight into the services required for these persons at the university level. She has also gained insight into the essential need to develop important factors in the university environment, such as teamwork, qualifications of special education providers, quality of services, and the involvement of families of special education students in their educational plans.

Moreover, this multiple case study was based on an epistemological assumption that the proposed framework for a PSE program for students with ID would be built at KSU through interviewing administrators, employees, and faculty members working with students with ID at the three PSE programs and observing some classes for such persons in higher education

institutions in the United States. This in addition to reviewing documents from the selected universities and published literature on PSE programs for students with ID, surveying and interviewing administrators, employees, and faculty members at KSU, and interviewing students with ID and their parents to explore the applicability of the proposed framework for a PSE program for students with ID at KSU. The author adopted a constructivist/interpretivist paradigm in conducting the study, and this also affected the interpretation of the data (Creswell, 2013).

Although the author attempted to be fully immersed in the data obtained and categorized to avoid any bias, biases might have occurred during the data collection and analysis stages (Creswell, 2013; Stake, 2006). To decrease any potential bias, each step taken throughout this case study was recorded in a research journal that contains memoranda describing the data collection and analysis methods and the personal decisions taken during the interpretation of the data. The author also adhered strictly to data collection protocols, triangulation, data interpretation, and thick descriptions to minimize bias (Merriam, 2009).

3.5.4 Trustworthiness

The following subsections address issues related to credibility, dependability, confirmability, and transferability.

3.5.4.1 Credibility

Credibility was assured in this study through its participants. Since they are considered an essential source in qualitative research, identifying the views, experiences, and interpretations of administrators, employees, and faculty members of PSE programs for students with ID at the universities selected in the United States and at KSU in Saudi Arabia, in addition to the Saudi students with ID and their parents, helped increase the credibility of the study. It is imperative to understand participants' perceptions of PSE programs for students with ID and interpret their viewpoints in a holistic manner (Merriam & Tisdell, 2016).

The triangulation of multiple data collection methods, multiple sources of data, and multiple research assistants also contributed to increasing the credibility of the study results. Conducting multiple data collection methods, including interviews, observations, and reviews of documents related to different cases, places, and participants, led to the triangulation of data in the study. Similarly, using several research assistants from varied universities to collect data also helped triangulate the data (Fewox, 2018; Merriam & Tisdell, 2016; Yin, 2018).

Another way to ensure the study's credibility was through "member checks," also called "respondent validation." Here, the author sought to obtain feedback from some participants on the analysis of the initial or emerging data of the study to determine whether the interpretations were correct based on the experiences and interpretations of the participants to avoid misinterpretation and biased data (Merriam & Tisdell, 2016, p. 246).

Moreover, access to saturated data increased credibility. This usually occurs when a researcher collects data from participants, where the same results are observed continuously, and no new information is received (Merriam & Tisdell, 2016; Yin, 2018). The author took this point into account in the data collection stage of this study.

3.5.4.2 Dependability

Triangulation, an audit trail, and peer examination methods were used to ensure dependability for replication of this study. The study used different data collection methods to achieve data triangulation in the first strategy, resulting in data consistent with reality as understood and interpreted by the participants. This type of data was considered reliable and dependable. The second strategy was the audit trail, where the author described in detail each step taken during the study, including the formulation of the study questions, objectives, problem statement, study design, procedures of data collection and analysis, and decision making related to the categorization of data, recording themes, and study trustworthiness (Creswell, 2013; Yin, 2018).

Finally, the most significant strategy was peer examination. In this strategy, the author asked two colleagues to review the final study results and assess them against the raw data to ensure that the results were plausible (Merriam & Tisdell, 2016).

3.5.4.3 Confirmability

Audit trail, reflexive journal, and triangulation strategies were used to confirm the findings of the study. As described above, an audit trail means that each step was taken while conducting the study (Bowen, 2009). A reflexive journal or a research journal of memoranda involved documenting the process of conducting the case study, including the formulation of the research questions, objectives, problem statement, design, collection and analysis of data, selection and interaction with participants, making interpretations, reflecting on the findings, and other study procedures (Creswell, 2013).

3.5.4.4 Transferability

To promote this study's transferability, a rich and thick description was provided for each step taken to conduct the study. An extensive description of this study was made to provide a deep and descriptive presentation of the proposed framework for the PSE program at a university in Saudi Arabia, in addition to the three PSE programs for students with ID at universities in the United States. This included describing settings, cases, participants, interviews, observations, documents, surveys, and procedures to collect and analyze data (Creswell, 2013; Yin, 2018). Evidence of the study findings was also provided by quoting some of the participants interviewed, and the observations were noted in the cases of United States and Saudi Arabia to provide sufficient evidence of the study results (Merriam & Tisdell, 2016). The author also used varied cases characterized with different demographical features, geographical locations, and participants to further enhance transferability of this study (Patton, 2015). Analytical generalizations were drawn by applying program theory, theory of student involvement, and ICF in this study (Yin, 2013, 2018).

3.5.5 Ethical Considerations

Ethical standards were observed during the study, and approval was obtained from the IRBs at Hiroshima University and KSU (see Appendixes H, I, J). In addition to obtaining consent to use the worksheets (see Appendix G) and the questionnaire in the current study (see Appendix K), the author forwarded the IRB approvals and a letter describing the study's aims to the universities selected for the case studies. In addition, informed consent letters were provided to each participant to read and sign before the interviews, and observation protocols took place, either personally by a research assistant or via email in the case of online interviews. Moreover, personal or professional identities were not required during data collection and analysis. More importantly, pseudonyms were given to all participants in this study.

In the process of data analysis, the author was impartial and neutral in reporting the study findings and avoided bias, plagiarism, and falsifications (Creswell, 2013). Further, all the data obtained were stored in a secure file in the author's computer locked with a confidential password, and no one except the author could access it.

3.6 Summary

The purpose of the current study was to propose a framework for a PSE program for students with ID in a university in Saudi Arabia. To achieve this purpose, multiple data collection instruments were used to analyze data within and among three cases at two- and four-year postsecondary institutions for students with ID in the United States and two cases in Saudi Arabia. Case 1 was of administrators, employees, and faculty members in KSU. Case 2 was of Saudi students with ID and their parents. These two cases used other data collection instruments and data analyses to check the applicability of the proposed framework for a PSE program for students with ID in a university in Saudi Arabia. Through the theoretical lens of theory of student involvement, program theory, and ICF, the current study designs the proposed framework for a PSE program for students with ID in a university in Saudi Arabia, which helps

to address the gap in Saudi Arab literature regarding PSE programs for students with ID in IHEIs, in addition to enriching the literature in the field of designing and developing PSE programs for students with ID.

Chapter 4: Results and Discussion

The purpose of this multiple case study was to “propose a framework for a postsecondary education (PSE) program to integrate students with intellectual disability (ID) into a college or university in Saudi Arabia by drawing on the experiences of program directors, faculty members, and staff members of transition programs and PSE programs for students with ID at institutions in the US offering 2- and 4-year postsecondary programs. Additionally, this study aimed to explore the applicability of the proposed framework in a university in Saudi Arabia based on the views of the administrators, employees, and faculty members, as well as that of students with ID and their parents. Therefore, each case in the US was analyzed individually, and Stake’s (2006) Worksheets (2–6) were used to identify themes from each case and across cases. The coding and analysis of the data generated the answers to the study questions. Finally, the survey and interview responses were analyzed.

4.1 PSE Programs’ Design for Students with ID

The designs of PSE programs for students with ID in the US were explained by the concerned American university directors, administrative staff members, and faculty members. The program designs of the three PSE programs selected for this study rely on multiple themes. The first theme is the programs’ framework including the following components: the programs’ missions, visions, objectives, and philosophies. The second theme is the programs’ main components: academic, professional, and residential. The third theme is the expected outcomes for students with ID enrolled in these PSE programs with respect to the areas of personal development, academic development, career development, and gainful employment. The last theme is the internal and external evaluation criteria for these PSE programs.

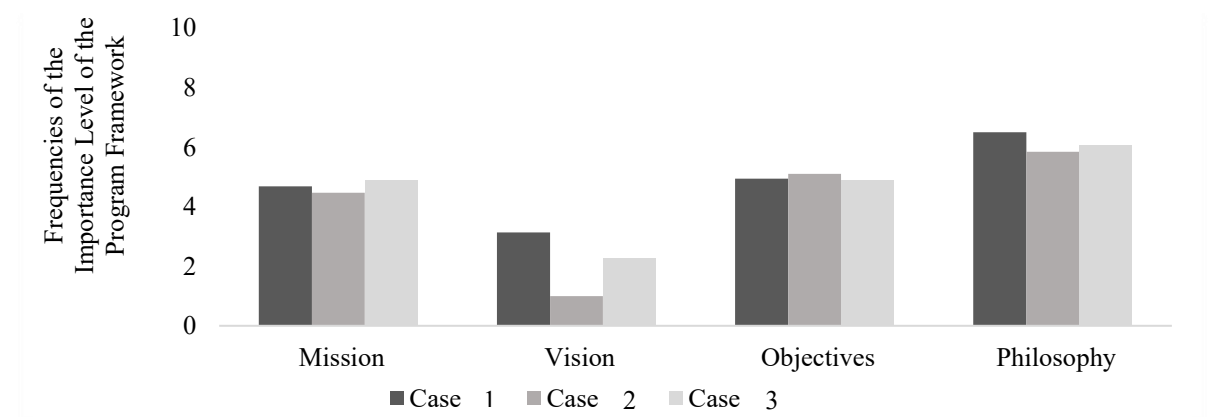
Table 4.1

The Descriptive Analysis of the Program Framework in the Three Cases

Program Framework	N	Mean	Standard deviation
Case 1	19.27	4.82	1.37
Case 2	16.42	4.10	2.14
Case 3	18.16	4.54	1.60
All cases	53.85	13.46	5.11

Figure 4.1

The Program Framework in the Three Cases



4.1.1 Program Framework

Table 4.1 shows the number of frequencies of the subthemes (program mission, vision, objectives, and philosophy) of the program framework in each of the cases.

Figure 4.1 illustrates the importance levels of these subthemes high (H), middling (M), or low (L) based on comparing each subtheme among the cases and in the case itself. For example, a subtheme is compared to other subthemes related to the same main theme in a case. Figure 4.1 shows that in Case 1, the program philosophy had the highest importance level of 6.50 as compared to the other subthemes (program mission, vision, and objectives) in the program framework, since a middling importance level of 4.94 was observed with regard to program objectives, the mission had an approximate middling importance level of 4.69, and the program vision had a low importance level of 3.14.

In contrast, comparing the cases based on the level of importance of each subtheme in the program framework, can be observed in Figure 4.1. The program philosophy in Case 1 still has the highest importance level (6.50) as compared to that in Case 2 (5.85) and Case 3 (6.08). Thus, the program philosophy in Case 1 had the highest importance level as compared to that in Case 3, which had a middling importance level, and Case 2, which had a low importance level (Table 4.1).

4.1.2 Program Mission

In all the three cases, the participants stressed the importance of defining the program's mission as a starting point in the PSE program design process, as this step guided the development of their programs. Juan (Case 1) noted that "before establishing a program, the mission and the objectives of the program must be defined." Dolores (Case 3) stated, "The design of the PSE program depends on the mission that the program follows. For us, we focus on students with ID and the student experience, so each university differs based on its mission."

The main mission of the PSE programs in the three cases is to provide an opportunity for people with ID to attend a college or university by offering a program with an academic or professional focus. The students enrolled in these programs fully participate in campus activities and develop their skills based on their interests and strengths to prepare for independent living and integrated employment. Furthermore, each program's mission includes determining the program duration, the type of students the program would serve, the program focus (which is either academic or professional), the skills that students are expected to develop through the program, academic and campus inclusion methods, and the services provided by the program. For example, some PSE programs offer inclusive on- or off-campus housing, while others do not, and the participants in all the three cases mentioned providing

work-based training to the students with ID. Carolyn (Case 1) confirmed Sarah's statement regarding the differences among the PSE programs based on their missions:

You should figure out what you want your program to do. Do you want it to be a 2-year or 4-year [program], or do you want to focus on students leaving your program to become ready for a job? Do you want your students to be able to build their independence by living on campus? What things are going to be important to you as a program? I think these are important things to think about.

Similarly, Anthony (Case 2) indicated the following:

There are many differences between [various PSE programs]... like our university is a 4-year private university, and there might be a big difference between that and a 2-year community college or something else. It is important to keep thinking about how a university serves students, so our advice is always to start with how your university sort of what is already in a university's culture? Furthermore, how can you deliver a good student product within that culture?

4.1.3 Program Vision

The participants in all the three cases also emphasized the importance of the vision of the PSE program. Barbara (Case 3) said:

We have got these students with ID who may be coming from out of the area or out of the state and who are interested in being a part of our program. Thus, we needed to figure out a way through which this was a program that not only served to the students living in the state and the surrounding areas, but also to all the students across the country as well as international students.

Interviews with the participants from all the three cases revealed their competitive desire to provide the best, pioneering PSE program for students with ID. The following is a shared vision of the administrators of the PSE programs:

Our vision is to be a premier postsecondary opportunity for students with intellectual and/or developmental disabilities. This program will provide comprehensive support and services to

students in academic, social, residential, and vocational domains in order to best prepare students to build independence while working in their chosen career.

According to Stephen (Case 3), “the program vision endeavors to become a leader in creating a cultural shift in higher education, promoting disability as diversity and aiming for inclusive excellence. The university values diversity and seeks to promote access to educational opportunities for all students.” The vision of the PSE program in Case 2 is to deliver an innovative and distinctive postsecondary educational experience by offering immersive campus and vocational opportunities to individuals with ID to help them achieve excellence at university and beyond.”

Therefore, constantly modifying the PSE program to improve it is also a shared process that has occurred in all the three cases. Dolores (Case 3) stated the following regarding these modifications:

We changed a lot. Over the years, we learned a lot of lessons, and so every semester, we are making changes to the program. There have been many revisions, and some of them are just for program growth. We went from 14 students in 2015 to 84 students in 2019. Therefore, there is some big growth.

Moreover, Ava (Case 2) noted, “We are constantly tweaking and changing what we do to make it better. This is an ongoing process for us. We are always learning from what does and does not work.” Similarly, Barbara (Case 3) stated, “We learned what did not work, and then we learned what did work. It is kind of learning and fixing what did not work and more importantly, using what does work.” Jimmy (Case 1) stated, “We gradually realized what was working really well and what was not working, but we are now at a point where we are one of the top programs in the country due to our effectively functioning PSE program.”

4.1.4 Program Objectives

Another important aspect mentioned by the participants in all the three cases is clearly defining the PSE program’s goals while designing the program to meet the needs of students

with ID. Regarding program design, Ava (Case 2) highlighted: “thinking what goals [the students with ID] want to accomplish. Including transformational ideas in the program design.” Additionally, each PSE program sets different goals for students with ID. “I think it depends on what the program goals are and what students with ID are trying to get out of [a] college program,” said Stephen (Case 3). The participants strongly recommended contacting students while designing the program so that the program staff becomes aware of the students’ desires and needs. Dolores (Case 3) pointed out that “the most important thing is to think about what students want,” and John (Case 2) noted that “any program has to be student-centered.” Nevertheless, in all the three cases, the PSE programs had the same four main goals for students with ID: achieving equality, promoting diversity, developing students’ skills, and enabling students to obtain paid employment.

4.1.5 Equality

Ensuring equality in the PSE environment between all students—students with ID and those without disabilities—through equal access to campus, services, and campus clubs and activities—was the main priority of the PSE programs in all the three cases. Ava (Case 2) pointed out that “[they] really want [their] students to be able to feel like they got the university experience just like any other university student.” She further noted the following:

The biggest focus for you and me when we went to college was to get a job and get employed in an area of interest. It is the same for these students with ID. They are held to the same standard as you and I are.

On her part, Barbara (Case 3) argued:

The students with ID want the same things out of life as any other student wants. They want to have friends and continue to study topics that they are interested in, getting jobs, and living independently.

Dolores (Case 3) also observed that “it is really good to allow an opportunity to students with ID to learn the kinds of things that other college students learn.”

4.1.6 Diversity

Creating diversity on campus by welcoming students with disabilities and including them in campus activities plays a vital role in the university environment. Dolores (Case 3) noted that “individuals with ID play a critical role in that process. We need them essentially. I mean, I look at colleges, and say that you need individuals with disabilities to promote diversity in the campus.” Additionally, Carolyn (Case 1) stated, “Having a diverse student population is very important, and having students with disabilities on campus is good for everybody.” Expressing similar sentiments, Anthony (Case 2) mentioned, “One of our goals is to accept some of the high-achieving students, and we also want to accept students who may not have been as successful. Thus, we want diversity academically, racially, across gender, and age.”

According to the information presented on the website related to the PSE program in Case 3, it is observed that the PSE program highlights creating a campus culture that embraces disability as diversity and seeks to welcome students with all abilities.

4.1.7 Skills Development

In all three cases, the PSE programs aimed to provide a university experience for students with ID similar to that of their peers without disabilities. Therefore, these programs focused on developing the academic, social, personal, and professional skills of students with ID. These skills include self-determination, independent living, confidence, self-sufficiency, self-advocacy, and vocational skills. Thelma (Case 2) stated, “We value the on-campus experiences, and the social opportunities students will have while at the university.” Anthony (Case 2) further stated, “Our primary objective is to give students the skills and confidence to obtain a job after graduation that they are passionate about doing.” Catherine (Case 3) said, “We aim for full participation at the university and to prepare these students for independent living.” Additionally, Stephen (Case 3) stated the following:

We hope that they learn something in their content area. We want them to understand as much of that content material as possible, be proficient in the area of study of their choice, and learn what it means to contribute to a campus community.

Jimmy (Case 1) noted, “We support students with ID to obtain maximum independence through the development of academic, social, and self-determination skills.”

4.1.8 Paid Employment

The PSE programs’ primary goal in the three cases was to help students with ID to build a secure future by assisting them in obtaining paid employment as part of their independence building process. According to Andrea, “employment is one of the biggest focuses of the program in Case 2.” Anthony (Case 2) mentioned that the program’s ultimate goal is “to increase the number of meaningful employment opportunities and outcomes for students.” Barbara (Case 3) also highlighted the importance of “competitive and inclusive employment,” and Miriam (Case 1) said that “[they] support students with ID to become prepared for paid jobs.”

4.1.9 Program Philosophy

In all the three cases, the philosophy of the PSE programs formed the program framework, including the program mission, vision, and objectives. The participants in all three cases explained the philosophy followed by the respective PSE programs for students with ID. Allowing students with ID to obtain a university experience, participate fully in on-campus activities, live in inclusive housing on or off campus, achieve self-determination, be capable of self-advocacy, be independent, and receive remuneration as members of an inclusive workforce are the main philosophies of the PSE programs in the three cases.

The philosophy of the Case 2 PSE program, according to Adam, is “to facilitate an opportunity for a student with ID to have an independent college experience.” Ava confirmed this statement: “We really want our students to be able to feel that they got the university

experience. They want to be independent, to be here, and to work towards that goal of living on their own, and having a job.” Similarly, Dolores (Case 3) stated, “The students with ID want exactly the same things out of life as any other student wants in their life. They want to have friends, get jobs, and live independently.” Jimmy (Case 1) expounded a similar philosophy: “We determine the components of a college life that are necessary for the students with ID and then figure out the ways through which we can facilitate a college life experience for these.” This echoes a sentiment stated on the website of one of the universities (Case 1) considered for this study (the website was accessed in 2020): “We believe that all students should aim for their highest capabilities in academics, vocational experiences, and residential/student life.”

Moreover, the PSE programs’ philosophies in the three cases stressed the importance of helping students with ID to learn in their areas of interest and strengths. Dolores (Case 3) noted that “Students with ID wanted to study topics that they were interested in at the university.” Similarly, the PSE program in Case 1 is “individualized to [the students’] interests and strengths” (2020). Stephen (Case 3) noted that “Obviously, we strongly hope that the students get to learn the subject of their choice, and to learn as much of that content material as possible and be proficient to enhance the readability of the text.”

The PSE programs in two of the cases were four-year programs, based on the philosophy that students with ID need more than two years to learn, as pointed out by Rebecca (Case 1):

Our philosophy is that these students are just beginning their learning at the end of the first two years. We know that these students take longer to learn, so why are we not giving them the four years [they need]? That is just a belief we have; other people think that two years is enough, and that these students are going to learn all they need to know in two years. However, we believe that a two-year course is not enough for students with ID to learn everything.

In the same case, Juan explained, “We have a four-year program to prepare students for the next 30 years of their lives.”

Another significant philosophy followed by the PSE programs in the three cases was that the students with ID enrolled in the programs were responsible for their university success. Catherine (Case 2) noted:

Students with ID cannot simply attend the college without doing any schoolwork. We have strict rules and expectations about students being on time for classes. We stress punctuality because it is key to being successful in a job. Therefore, the students need to be punctual, and they have to dress professionally. When they attend certain classes, they should be able to communicate appropriately with their teachers and classmates. I would say that these are our main rules. The students with ID also should be making adequate academic progress.

Case 2 shared this view:

Each student is ultimately responsible for their success at the university. Therefore, it is critical for all the students with ID to have the desire, motivation, and persistence to pursue a successful postsecondary experience and adhere to all the program requirements and expectations.

A respondent (Case 3) noted, “being responsible for your own success is part of being a college student.” Another respondent (Case 1) felt the same: “You are expected to take personal responsibility for your success at the university. This includes working collaboratively with the program staff. Your success is highly dependent on your ability to recognize when you need help and to seek support.”

4.1.10 Main Components of the Programs

The main components of the transition programs and PSE programs for students with ID at institutions in the US that offered 2- and 4-year postsecondary programs were the academic, professional, and residential components.

Table 4.2*The Descriptive Analysis of the Program Components in the Three Cases*

Program Components	N	Mean	Standard deviation
Case 1	15.04	5.01	1.98
Case 2	10.93	3.64	3.06
Case 3	12.49	4.16	2.57
All cases	38.46	12.81	7.61

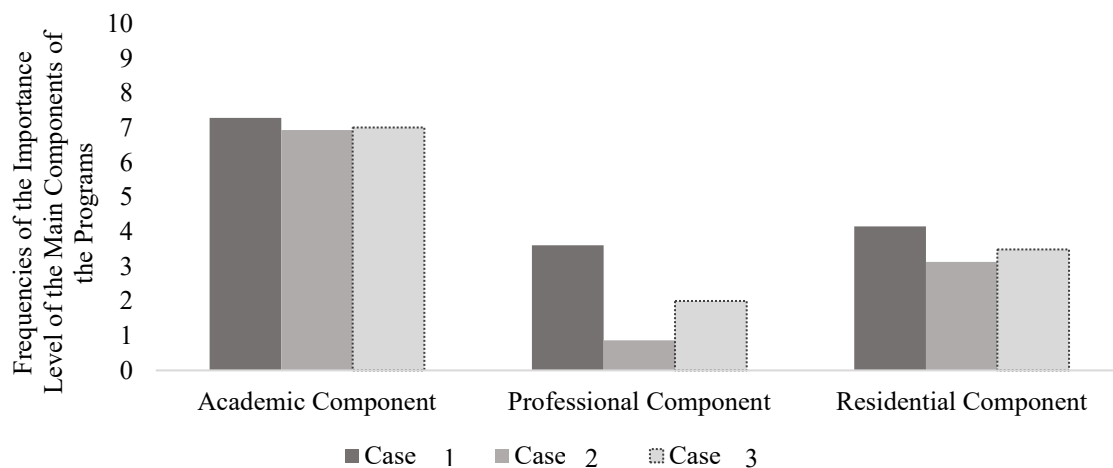
Figure 4.2*The Main Components of the PSE Programs in the Three Cases*

Figure 4.2 represents the levels of importance of the main components (academic, professional, and residential), among the cases and in the case itself. For example, in Case 2, the academic component had the highest level of importance (6.93), the professional component had a low importance level (0.87), and the residential component had a middling importance level (3.13). Among the cases, the academic component in Case 2 had a low importance level of 6.93 as compared to in Case 1, which had the highest importance level of 7.28, while that in Case 3 had a middling importance level of 7.00 (Table 4.2).

4.1.11 Description of the PSE programs in the three cases

Before highlighting the PSE programs' main components in the three cases, it is important to provide a brief description of these programs. In Case 1 and 3, the duration of the PSE programs for students with ID is four years, while the PSE program in Case 2 is a two-year program. In Case 1 and 2, there are similar specific basic admission criteria. These PSE programs are open to people aged 18 and older who have:

- completed high school;
- documented intellectual or developmental disabilities;
- strong motivation to attend university to grow professionally and secure employment after graduation;
- expressed an interest in living and working independently;
- communication skills that are adequate to interact with others on campus.

The PSE program in Case 2 has the following additional admission criterion: applicants cannot be under full guardianship or any social guardianship that does not allow them to make their own decisions in social settings without guardianship oversight or input.

Similarly, the PSE program in Case 1 has the following additional admission criteria: applicants must be able to read and complete math at a functional level (third or fourth grade), they must demonstrate socially acceptable behavior (no challenging behaviors), and they must be independent in handling or managing their dietary and/or medical needs, including medication.

The admission criteria of the PSE program in Case 3 differed from the abovementioned criteria. The program had no requirements regarding age, type of disability, or level of functioning. The only admission criteria for this program were that applicants should have documented ID and the motivation and desire to learn. Billy (Case 3) noted, "Admissions is really just filling out the application. We require that the student be diagnosed with ID and be

eligible for Medicaid. Beyond that, there are not really any other qualifications or requirements.” The actual admission process occurs by interviewing the applicants. The program team asks the applicants a variety of questions during the interview to explore their personalities to determine whether they are eligible to take part in the program. Regarding this process, Dolores (Case 3) stated the following:

We are looking for students with unique characteristics more than anything else. We do not care if they got low grades in high school. We do not care whether they even graduated from high school. We want to understand these students’ reasons for applying for the program. Therefore, we ask pointed questions to applicants that are supposed to uncover their reason for applying to the program.

The program team in Case 2 was working on scrapping the admission criterion regarding age, as they felt that accepting students with a wide variety of ages would promote diversity at the university. Anthony (Case 2) stated the following regarding this attempt:

One of our goals is to accept some of the high-achieving students, and we also want to accept students who may not have been as successful. We get a variety of applicants. Some are 19 to 20 years old, and others are 28, 29, or 30 years old, so we want some diversity across age.

Upon completion of these non-degree programs, the students with ID earn a certificate. Students who complete a four-year PSE program in Case 1 can receive a Comprehensive Higher Education Certificate in an individualized study area. The institution in Case 2 initially offered a four-year program, but it shortened the program duration to two years: “Our initial program duration was four years. We are limiting it to two years because we want to be able to serve as many people as we can” (Ava, Case 2). Therefore, after completing the two-year PSE program in Case 2, students can obtain a Professional Services Certificate in a specialty area. Regarding Case 3, students can earn a noncredit certificate after completing five courses in a specialized field. However, the PSE program duration in Case 3 is four years. Students who cannot complete the PSE programs in Cases 2 and 3

within the stipulated duration can gain an extension to continue their studies in these programs.

The following sections explore the academic, professional, and residential components of the PSE programs in the three cases.

4.1.12 Academic Component

The factors identified in the PSE programs' academic component in the three cases include the type of courses, curricula, cocurricular activities, majors, services and support, percentage of academic inclusion, percentage of social inclusion, and students' evaluation.

Types of University Courses.

The PSE programs considered in this study offer inclusive credit, audit courses, and specialized courses. In the inclusive courses, students without disabilities as well as students with ID learn together in the same classes, while specialized courses are only offered to students with ID. In inclusive courses, the students with ID learn with their peers without disabilities to improve their professional, personal, and academic skills that can be later employed while pursuing the specialized courses.

Even though the PSE programs in the three cases offer both credit and audit courses for students with ID, most of these students enroll in audit courses. Regardless of the type of course they choose, they are required to attend a specific number of classes to earn certificates. For example, in Case 1, the students with ID have to take three courses each semester, including two inclusive classes (a maximum of 7 credits). All these courses are conducted with accommodations to facilitate learning for the students with ID. This is in addition to completing one specialized course (4 credits) and 8 to 11 credential units each semester that focus on the following three areas: career interest, core curriculum, and specialized instruction regarding the college experience. The students must complete 16 to 20 courses (72–80 credits) to earn certificates.

Regarding Case 2, the students with ID must ensure to earn 10 credential units, that is, four or five classes per semester consisting of two to three inclusive courses (3–6 credits) and three specialized courses (4–7 credits). Overall, the students are required to complete four or five specialized courses, nine core courses in their area of interest (27 academic credit and/or credential units), and two on-campus work experiences. They also need to complete 3 credential units of cocurricular activities and a capstone community work internship. This amounts to 42 credential units, which need to be completed within at least two years and no more than 3 years to earn a professional certificate. Students earn academic credits only if they are enrolled in academic credit courses. Students who are enrolled in audit courses do not earn academic credits for completing the courses but earn credits for achieving the PSE program requirements.

Regarding Case 3, the students with ID have to enroll in two to three audit university classes (6–9 credits) per semester alongside students without disabilities. The total time for instructing these students at universities varies, ranging from 9 to 12 hours per week. In addition to 9 to 12 hours of course study time, they spend time with their peer mentors, who help them with academic aspects such as completing assignments and reviewing the classroom lecture notes. Therefore, the students with ID spend between 75% and 100% of their time on campus on the program's academic components. In this PSE program, they are required to complete 20 courses (60 credits), with a minimum of five courses within their specialty areas, to earn certificates.

All the courses offered at the institution in Case 3 are fully inclusive. This institution offers optional seminars for the students with ID instead of specialized classes. The seminars focus on important topics in adult life, such as self-advocacy skills, money management, and sexual health. All university students can attend these seminars.

To enroll students with ID in inclusive classes of their interest, the program team contacts the concerned faculty member to seek their permission to include a student with ID in their class. Dolores (Case 3) and Catherine (Case 2) confirmed this procedure. According to Dee, “this is all done with the professor’s permission. The professor needs to sign a form indicating that they are willing to take an auditing student.” Similarly, Catherine explained that “[they] reach out to those professors and ask for permission for the student to audit their class.” If the faculty member agrees, the program team asks the faculty member to modify the course syllabus according to the abilities of the student with ID. Modifications may include decreasing the number of exam questions or changing the exam’s nature to multiple-choice questions. Additionally, instead of doing 20 pages of research, the students with ID can do 10 pages of research or make a PowerPoint presentation, but “the products of their work must reasonably resemble those produced by degree-seeking students” (Anthony, Case 2).

Thus, students with ID attend inclusive courses with accommodations made by the program team in cooperation with the faculty members who teach these courses. All the inclusive courses are audited by these students. Although they do not receive grades in these courses, the students with ID must complete all the course requirements, and faculty members are responsible for teaching these students, engaging them in class activities, and giving them feedback.

Inclusive Courses. In the Case 1 PSE program, the students with ID are required to take four main inclusive courses in different content areas that aim to prepare them for a successful university experience and provide them with lifelong skills. The courses are designed to educate students in various skills that are required after graduating from universities and in their future careers. These skills encompass communication skills, health and wellness knowledge, social skills, and preparation for life at university. University 101 is a course that aims to help all university students, including students with ID, to develop the

academic skills they need to succeed at university, improve their social skills, and understand the challenges they may face as university students. The program team believes that focusing on improving students' communication skills, health, social skills, and academic skills through these courses is the best way for them to achieve their university goals by becoming socially active, healthy, and educated people. Juanita (Case 1) taught three students with ID in the University 101 course, and stated her following opinion regarding the course.

In this course, the students with ID discover how to learn, meet expectations and deadlines, improve their writing abilities, and get involved in university activities. A big part of this course is doing a major in the career department, so it helps them think about what their future might be in the world of work.

The students with ID enrolled in the Case 1 PSE program also take other inclusive classes within their specialty area after completing the mandatory four core courses.

In the Case 2 PSE program, all students must take preparatory courses, which are called "general courses," that function as introductory courses or preparation courses to prepare them for the university experience. These include the following courses: Strategies for Student Success (3 credits) in the first semester and Introduction to Communication (3 credits) in the second semester. These general courses are inclusive and audited by students with ID, and accommodations considering the needs of students with ID are allowed.

Other inclusive courses, called "concentrations," offered at the institution in Case 2, are determined based on the vocational tracks chosen by the students with ID. The students with ID can choose from three specialization areas: hospitality, social services, and education. Each concentration includes five courses (15 credits). For example, in the hospitality concentration, students with ID are required to take the following courses in the hospitality department: Introduction to the Hospitality and Tourism Industry (3 credits) in the second semester, Event Industry (3 credits) and Guest Service Management (3 credits) in the third semester, and Hospitality Management and Leadership (3 credits) and Industry Specific

Hospitality Elective (3 credits) in the fourth semester. The last semester includes only an internship (3 credits), which functions as a capstone course in the concentration chosen by the student. The internship occurs in an integrated environment with students without disabilities.

The Case 3 PSE program offers fully inclusive classes with accommodations for students with ID, and they are allowed to audit any course at the university. The students with ID study disability studies, health and wellness, art, religion, gerontology, dance, and sound recording. Marion (Case 3), a disability study professor taught Representations of Disability course to three students with ID in the academic year 2020–2021. Marion noted that “[his] students with ID will learn how disability is socially constructed, and how individuals with disabilities experience discrimination and systemic oppression.” Marion explained the importance of these students representing themselves as people with disabilities to others in professional settings. The course explains their living experiences as people with special needs through academic reading. In this course, all students read numerous narratives by individuals with autism to understand their characteristics and ability to communicate and think.

All the inclusive courses in the three cases are taught by university professors or instructors who are doctoral students at the university.

Credit Courses. The PSE programs for students with ID in the three cases offer the opportunity to earn credits by completing the inclusive courses. However, whether students with ID enrolled in the Case 2 PSE program can take credit courses depends on each student’s efficiency, the program advisor’s directions, and the student’s informed decision regarding each course.

The participants in Case 2 mentioned that students with ID who prefer to take credit courses are treated the same as students without disabilities in the same courses, that is, students with ID do not receive any special accommodations. They are responsible for

meeting all the course requirements, including taking tests and submitting assignments, and they are evaluated like students without disabilities and awarded a course grade. Carol, a faculty member in Case 2 who teaches the Guest Service Management Course, stated, “Last semester, I had a student with ID in a credit course. There was no modification, and I graded him as usual.” Carol explained from her experience of teaching students with ID at the university that it might be hard for them to take credit courses wherein they are supposed to meet all the course requirements with no accommodations and be evaluated like their peers without disabilities.

Consequently, most students with ID opt to audit courses because of the problems they face in completing credit courses. A participant in Case 3 confirmed this: “Most of the time, the students with ID will not complete courses for academic credit, but they will audit the same courses and participate alongside students who are completing the courses for credit.” The students with ID who take credit courses earn academic credit that is added to their professional services credentials.

Audit Courses. The PSE programs considered for this study offer inclusive audit courses to students with ID. The nature of these courses varies from that of credit courses. The students with ID in the audit courses receive accommodations and modified course assignments. Although these students do not receive a course grade, they have to attend classes, participate in class activities, fulfill some course requirements, and take modified exams.

The faculty member participants in the three cases mentioned that they did not change their teaching methods because of the enrollment of students with ID in their courses. Their teaching strategies include giving lectures, using technology to clarify a concept, asking questions, holding brainstorming sessions, facilitating group discussions, assigning group projects, and conducting educational games.

Amelia (Case 2), who had two students with ID in her Human Behavior and Social Environment course, believed that these students could not concentrate on the lecture after 15 to 20 minutes. Therefore, she would lecture at the beginning of the class for 15 to 20 minutes and then use multisensory teaching strategies. In these techniques, students watch videos, take notes, and participate in class activities and group discussions.

Marion, who teaches the Representation of Disability course in the Case 3 PSE program, used the method of critical and creative thinking in his courses. The students are required to think about the images that are being presented, how they are constructed, how people can or cannot access them to describe their own experiences, what are the components of the images, and where we find the images. He stated the following regarding this teaching method:

I get my students to critically analyze text and think about how the text comes from a perspective. Who are the people whose voices we are not hearing, and how might we gain access to the voices we are not getting access to?

This course is discussion-based and focuses on knowledge production. It includes an emphasis on thinking creatively about ways in which students with ID can participate in this course.

Alice (Case 3), who teaches a Japanese language course, paid close attention during class to a student with ID by talking to him individually: “I always went to him and talked to him, asking him whether he was okay and whether he had any problems. He was normally fine. Then, I practiced with him as a partner while the other students were practicing with their student partners.”

However, it was confirmed through observations and participant interviews that the students with ID are provided support and accommodations in all the three cases, including facilitating audio recording of lectures, having a note-taker, facilitating the downloading of the course notes, and the provision of a resource facilitator. Moreover, these students had

peer mentors as well as students without disabilities, who helped them in and out of class to facilitate their college experience. For example, peer mentors help these students in the classroom's learning process, such as helping them in doing class activities, explaining assignments, and solving issues related to classroom activities. The peer mentors also help the students with ID to engage in campus activities or clubs and provide them information about the upcoming activities of their interest.

The program team applies all course accommodations and adjustments to the curricula after professors agree to accept students with ID in their course. Subsequently, the course instructors submit the course syllabi to the program team, making the necessary accommodations that align with the students' abilities, the course content, and the students' professional and personal development goals. These accommodations include extending exam times; allowing students to take tests in an alternative setting such as at home or online; using assistive technology provided through the campus disability services office including Read & Write Gold, note-taking, and recording devices; and making course requirement modifications. The examples of course requirement modifications include reducing the course workload for students with ID, wherein they are not required to complete the entire course or may only do five out of the 15 course assignments assigned to students without disabilities.

However, the quality of the work of the students with ID is expected to be similar to that of students without disabilities. Additionally, the students with ID are also fully responsible for completing these mandatory five assignments to pass the course. According to Thelma (Case 2), "almost all the students with ID are enrolled in the inclusive classes with some sort of modifications, but they still have to give a performance similar to that of students without disabilities." Albert (Case 2) similarly noted the following:

In a communication 1000-level introduction course, a degree-seeking student without any disability might have to write a five-page paper about communication theories. The students with ID would still have to express their ideas about communication theories, but maybe through a PowerPoint presentation or a video. We would like to lessen the professor's responsibility regarding the students with ID enrolled in their class.

The students with ID participate in all curricular and extracurricular activities with their peers without disabilities at each university. However, the proportion of time dedicated by these students to academic and social inclusion in the PSE programs varies among the three cases. In Case 1, the proportion of their time spent only with other students in academic activities in the program was less than 25%, whereas the proportion of their time spent only with other students in extracurricular activities in this program was 25%. In Case 2, the proportion of their time spent in extracurricular activities was 50%, and the proportion of their time spent in academic activities was between 25% and 50% of their time. In Case 3, the students with ID invested between 75% and 100% of their time on campus, involved in the program's academic and social components.

Specialized Courses. All university courses are chosen carefully for students with ID through a person-centered plan designed for each student with ID. These students are required to work individually with the director of academic inclusion in the PSE program to determine their goals, desired outcomes, and the modifications needed based on the inclusive course content. Rebecca (Case 1) stated, "We ask students, through the students' person-centered plan, what career they are going to choose because the ultimate goal for them after completing the program is to get employed, and this program helps them learn the skills they need."

In Case 1, the students with ID need to complete specialized courses as part of their individualized study plans based on their interests and career goals. These specialized courses enable these students to meet their individualized needs in various skills, including academic,

personal, and career skills. Thus, each semester, students take specialized courses with a different focus. Each student completes one specialized class each semester, building upon the skills learned in previous classes, whether regarding independent living, or social or career skills. The program team also conducts individual meetings with students to help them learn to understand the Student Code of Conduct and to participate in various campus activities.

The specialized courses include both on- and off-campus work experiences. Each of these courses has two parts (5–6 credits) that are offered in each semester. For example, two courses in Transition to College Life and Career, namely Transition to College Life and Career I, and Transition to College Life and Career II, are offered in the first semester. In the first semester of their freshman year, the students with ID learn to transition to college through courses that function as an introduction to life as a college student, explaining to them how to be a college student (Transition to College Life and Career). In the second semester of their freshman year, they take a class regarding the acquisition of social skills and ways to be socially involved in a campus (Social Thinking for Careers and Community Living). Subsequently, in the first semester of their sophomore year, they take a class on career exploration to discover their career interests (Literacy for Careers and Community Living), while in the second semester of their sophomore year, they learn literacy and career development (Career Exploration). Miriam (Case 1) stated, “The majority of our specialized classes are career-focused because that is where we think the majority of the concentration should be in our program.”

In their third and fourth years, there is an intensive focus on off-campus internships for these students. The third year is designed to support students when they are in internship placements. Therefore, they obtain assigned internships in the off-campus community. These students are also supported via specialized classes offered by the program in these internship

settings. The off-campus work experience is included in the Career Choices and Finances course in the fifth semester, Career and Community Engagement course in the sixth semester, Workplace Skills, Interactions, and Communication course in the seventh semester; and Preparing for Career and Independence After College course in the eighth semester.

The students with ID gain work experience from the second semester to the eighth semester. In the first four semesters, which span the first 2 years of the program, these students participate in a work-study job on campus: they can work in an office, at the recreation center, or in the dining hall. In the last 2 years, these students complete off-campus internships in their areas of interest. For example, Juan (Case 1) teaches a career course that includes “job readiness skills, where students with ID learn skills such as résumé writing, cover letter writing, and preparing for interviews.”

In Case 2, the PSE program offers four or five specialized courses (18 credits) focused on career and leadership development. Each semester, the students with ID must take two to three specialized courses (4–7 credits), including two campus internships. These courses are as follows:

In the first semester, Career Planning I (3 credits), Internship (1 credit; cocurricular), and Personal Leadership (3 credits);

In the second semester, Work Internship (3 credits; on-campus work experience) and Internship (1 credit; cocurricular);

In the third semester, Career Planning II (3 credits) and Internship (1 credit; cocurricular);

In the fourth semester, Career Planning III/Knights Work (3 credits).

Thelma (Case 2) teaches three classes for students with ID: Career Planning I, II, and III. She explained the main objectives of these three courses. In Career Planning I, students explore their strengths and passions related to their future professions and learn

workplace etiquette. For example, Thelma mentioned teaching them “that it is important to dress professionally, be on time, and do their assignments. If they are late or they are not dressed properly, they do not get to stay in class.” In Career Planning II, the students with ID learn about the job application process, including how to search for a job that fits their interests and how to apply for that job. In Career Planning III, these students learn to advocate for themselves and not be bullied by coworkers or expect special treatment. These students are expected to do the best they can and succeed at their jobs.

The specialized courses in all the three cases are taught by the program staff, professors, or instructors (doctoral students) in the university’s special education department. The programs offered in Case 1 and 2 focus on the career development of the students with ID, with on-campus work experience starting in the second semester. Additionally, the PSE programs in these two cases provide integrated internships off campus, wherein students with ID as well as students without disabilities work together in the same work environment. Contrastingly, in Case 3, no specialized courses are offered for students with ID, instead there is a focus on their learning in a natural environment, that is, their learning occurs everywhere inside and outside the university—in cocurricular activities, in the residential hall, and in the work environment. Carolyn, the director of the PSE program in Case 1, also stated that she believed in the benefits of learning in a natural environment for students with ID.

Barbara, the PSE program director in Case 3, and Dolores, her assistant, mentioned that the students with ID learn a variety of skills through the process of being college students. For example, they learn how to talk to professors when they ask for permission to miss classes, get extensions, a copy of the syllabus, or any other accommodations. More importantly, they learn self-advocacy skills—crucial skills that need to be acquired by all college students. For example, the students with ID learn what to do if they lose their identity card and cannot access the gym. Therefore, putting these students in situations where they

have to make decisions is an efficient way to develop their personal skills. Dolores (Case 3) stated the following regarding this technique:

I also give students the option of meeting my team alone or with their mentors. When they come for a meeting, some want their campus mentor to be there with them. Some other students ask their mentors to sit in the hall, saying, “I am going to talk to the professor alone,” and we always express to students that they need to talk to us privately because it is their life.

The program staff members work with the students with ID on their communication skills in different situations to help them develop these skills.

Another situation repeatedly mentioned by the program staff is that some students with ID, who did not make their own decisions without asking their parents or peer mentors in the past, gained the skill of self-determination as they progressed through the program and began to understand what the program team expects of them. For example, the program team explains to these students that they expect them to make an appointment to see a member of the program team or schedule their classes for the next semester.

Moreover, in Case 3, to further enable students to develop and enhance their interpersonal and life skills, the program includes multiple seminars every week that last anywhere from 45 to 60 minutes. The seminars focus on key topics in these students’ lives, such as money management, navigating the college campus, conflict resolution, self-representation, self-advocacy, adult sexuality and relationships, self-direction, using technology, and self-determination. Barbara (Case 3) presents a weekly seminar, and she allows students to choose whether they want to attend because the program staff “think that [this decision] is also a part of the students’ self-determination. The students get the opportunity to select which [seminars] are useful to them and which ones are not.” While these seminars are available for the students with ID, other university students without disabilities are also allowed to attend these programs. The students with ID are required to attend only two seminars out of all the presented seminars in the first semester of their first

year. The first deals with navigating the college campus, and the second with living in the residential halls, specifically living in a coeducational dormitory.

The second seminar focuses on human sexuality, which students with ID must attend for at least one semester because they all live in coeducational dormitories, wherein students of all genders live on the same floor. These students need to understand the activities in the residence halls, how to protect themselves, and how to make good choices. Dolores (Case 3), who teaches one of the human sexuality seminars, observed that the students with ID date or are interested in dating, and that sometimes high schools do not do a good job in providing sex education to these students. Marion (Case 3), a faculty member, helps Dee present a series of sex education seminars.

Majors. The participants in Case 1 and Case 3 confirmed that students with ID declare their majors and work on certificates related to their majors. The students in audit courses are expected to fully complete the coursework alongside their peers without disabilities. They select their courses from the course catalog of the university, similar to students without disabilities. They take certain courses required for their majors, and they can also take electives, similar to students without disabilities.

Even though the students with ID can select courses based on their academic interests, the institutions in Case 1 and Case 3 do not allow anyone not enrolled in specific degree streams to take classes at the related colleges. For example, in Case 3, the College of Architecture is open only to students pursuing degrees in architecture. According to Dolores (Case 3), “this is true for any student, including students with ID. If you want to take courses in architecture, you must be an acceptable engineering student.” The students with ID cannot take some university courses in these two cases because some courses are advanced, with course requirements that they might find difficult to meet. Stephen (Case 3) mentioned that “the students with ID can take any course as long as it is not an upper-level course. Many of

these programs, such as biology, have specific requirements.” Carolyn (Case 1) confirmed this view:

Students with ID can take any course, but some courses are a little harder for them to access. For example, our music department is a lot harder for these students to get access to because it is harder to modify the technical work that takes place in the music department.

Billy (Case 3), on his part, noted that “not [all] courses are available for students with ID because some master’s level courses in streams such as law or engineering might be difficult for these students.”

However, there are 100 different majors in these two cases that can be taken by students with ID as well as by students without ID. Rebecca (Case 1) noted that one student was interested in the brewing program, so they worked on getting him a job in one of the microbreweries in the state. As another student (Case 1) was interested in early childhood education, they worked on getting him/her a job at a daycare center. While the students with ID in Case 2 can apply for jobs in education, social services, and hospitality, in Case 3, the students with ID can earn certificates in disability studies, health and wellness, art, religion, gerontology, dance, and sound recording.

In Case 3, the students with ID must select specific majors offered through the PSE program, namely education, social services, and hospitality. These majors were chosen according to the state’s labor market needs. Since education, social services, and hospitality jobs are the jobs that are most in demand in the state, the Case 3 PSE program prepares students with ID for these jobs. Majors, called “concentrations,” have specific educational tracks or programs of study. Each semester, students with ID take specific classes, whether inclusive or specialized, in each educational track. For example, in the education track, students take an introduction to the education course, a communication course, a children’s literature course, and other courses that would be beneficial for them in their chosen fields. Ava (Case 3) stated the following:

In the beginning, we left an area of study very broad by saying you can do whatever track you wanted, but it is very hard right now for students with ID to get a job in fields like engineering or medical sciences, which are uniquely specialized. When the students got to the internship phase, the recruiters said that these students could not get a job because they did not have the degree or the certification.

Student Evaluation. The students with ID are evaluated in the PSE programs in the three cases based on completing course requirements, completing vocational experiences, establishing and meeting goals in person-centered plans, and completing surveys/assessments. This evaluation is agreed upon for each student with ID through collaboration between the students, their professors, and the student support coordinators. Thus, although the students do not receive course grades because they audit courses, they are graded on meeting course requirements, such as attending at least 75% of the classes on time, and submitting assignments by the respective deadlines since these are the types of skills they need in the workplace. Anthony (Case 2) confirms this in the following statement: “Students with ID [are evaluated] based on how they do the work more than the work that they did, for example, with respect to time management, staying organized, and talking to professors if they have questions.”

Students who audit courses have to complete a minimum of 70% of the attempted courses to pass the overall course. A student fails a course if they do not do the modified assignments and if their course completion rate is less than 70%. Amelia (Case 2), a faculty member, said that students with ID are graded based on a pass or fail scale.

4.1.13 Professional Component

In the PSE programs offered in all three cases, in the second semester, the students with ID begin paid or unpaid on-campus internships related to their career goals and areas that align with the courses they are taking and want to take. These students are required to take vocational courses at the university to learn prevocational skills such as job readiness

and valuable preemployment skills covering topics that include writing a résumé, searching for a job, collaborating with colleagues, and performing well in job interviews. They also receive preprofessional support through courses, workshops, field visits, and planning meetings with the program staff.

These students also end their college experience with paid or unpaid internships (capstone projects) in the last semester of their second or fourth year. They gain different types of professional experiences through volunteer positions, internships, externships, paid or unpaid employment, on-the-job training, full- or part-time jobs, community service, etc. These students are expected to complete their internships and work-based training in settings with people without disabilities to align with their person-centered plans to build marketable job skills and independence in employment, in addition to ensuring that they successfully transition into a profitable workplace that matches their interests.

Additionally, the students with ID receive program support during their internships. For example, they receive periodic on-site feedback, assistance in troubleshooting, and natural support from coworkers and managers in the workplace, promoting their development of natural relationships, self-advocacy, and independence. Through in-person meetings with the students with ID, the employment coordinator of the PSE programs is responsible for identifying their employment interests, strengths, and needs, as well as the resources available to them. The coordinator also contacts on- and off-campus work experience site supervisors or staff to allow students with ID to be trained at these places based on their goals and interests.

The students with ID in all the three programs surveyed in this study are expected to fulfill several commitments while gaining professional experience, including taking public transportation independently; interacting respectfully with work supervisors, coworkers, and clients; arriving on time to work; adhering to the workplace dress code, rules, and policies;

working within a team; and working independently. They are also expected to practice self-advocacy at the workplace, complete the required documentation and duties on time, employ problem-solving and critical-thinking skills in the workplace, and take the advice offered by supervisors and coworkers.

In Case 2, students completed internships during four semesters, including an off-campus (capstone) internship in the last semester. In this case, the PSE program follows the National Association of Colleges and Employers (NACE) policy relating to the eight competencies required for employment. Since employers value these competencies, the academic coursework and cocurricular experiences of the students in Case 2 are evaluated based on the competencies specified by NACE. These include leadership, adaptability, written and verbal communication, problem-solving, work ethic and initiative, interpersonal skills, organizational ability, and time management. Most students with ID enrolled in the Case 2 PSE program in the past years worked in paid jobs on campus, with 60% of the students with ID holding paid jobs while attending the program. According to Ava (Case 2), “our biggest success is our employment rate. We have approximately an 80% employment rate of our students who just graduated.”

In Case 3, the students with ID work in an integrated internship in three work areas: hospitality, social services, and education. These students begin their internships on campus in their fourth year of the program, after 3 years of academic study. The internships carry 9 credits, like instruction time, which carries 9 credits each semester. While these students are undertaking their internship experiences that align with their goals and interests, they are still required to audit inclusive courses at the university. They spend 20 hours per week alongside students without disabilities in campus departments such as the campus bookstore, cafeteria, and auxiliary services. This is in addition to 5 hours of workshop instruction, individualized with the internship and employment coordinator to help students with ID gain job readiness

and preemployment skills, including learning how to write a résumé, find a job, cooperate with colleagues, and perform well in job interviews. Weekly employment seminars are also available for all university students.

Billy (Case 3) noted that the students with ID “participate in full-time internships to prepare for employment that is actually pretty similar to that of many students across the campus.” In the past years, the students in Case 3 worked as administrative assistants or front desk associates, receptionists and information clerks, inventory, stock, and team associates, landscaping and groundskeeping workers, youth development specialists and daycare assistants, social and human service assistants, and recreation workers.

Contrastingly, the students with ID in Case 1 engage in on-campus internship experiences for six to eight semesters. They complete intensive preemployment skills training from the second to the eighth semester. The skills they develop include communication, résumé building, attending job fair, interview skills, social skills, writing, reading, time management, transportation, hygiene and grooming, independence, using technology, and self-advocacy skills. Skills-development activities include job shadowing, interviewing employers, job observations, vocational courses, and volunteering. Moreover, these students select internship experiences that align with their interests through collaboration with the program employment coordinator. The coordinator helps them to determine their interests and strengths and to identify their available resources through their person-centered plans. The students with ID also learn how to develop their résumés, request letters of recommendation, identify vocational opportunities on and/or off campus, develop interview skills, discuss rights afforded to employees with disabilities, enhance their workplace social skills, and plan the methods of transportation to and from places that offer vocational experiences.

4.1.14 Residential Component

The residential component enables students with ID to live in on- or off-campus housing like their peers without disabilities at the university. This housing experience helps the students with ID to learn to live independently from their parents, promoting their social and personal growth.

These students have access to the PSE program's residence life mentors. These mentors are university students without disabilities, employed by the PSE program staff to provide support and assistance to students with ID in on- and off-campus housing. Although all the three programs offer peer mentors on campus to support students with ID, in Case 1 and 2, off-campus support is also offered to the students with ID via peer mentors. These peer mentors, called "residence life mentors," live with the students with ID as roommates or neighbors. Residence life mentors are responsible for providing suggestions and advice about residential and university life to students with ID without making any decisions for them. This is in addition to their responsibilities of joining students with ID at clubs and other social activities, helping them to plan for the weekend, make friends, communicate effectively with their peers, along with directing them to people they can talk to about their issues or concerns.

In all the three cases, the program teams explained that students with ID as well as students without ID acquire learning through each aspect of college life. The program staff, therefore, recognize the importance of the students with ID living on or off campus and experiencing housing like students without disabilities, and learning skills such as following a daily schedule, making decisions independently, taking medication or supplements on their own, and following through on their social commitments. These students also gain practical knowledge such as identifying personal interests, managing their time, prioritizing activities and tasks, following their goals, and using emergency contact numbers, like 911. They learn

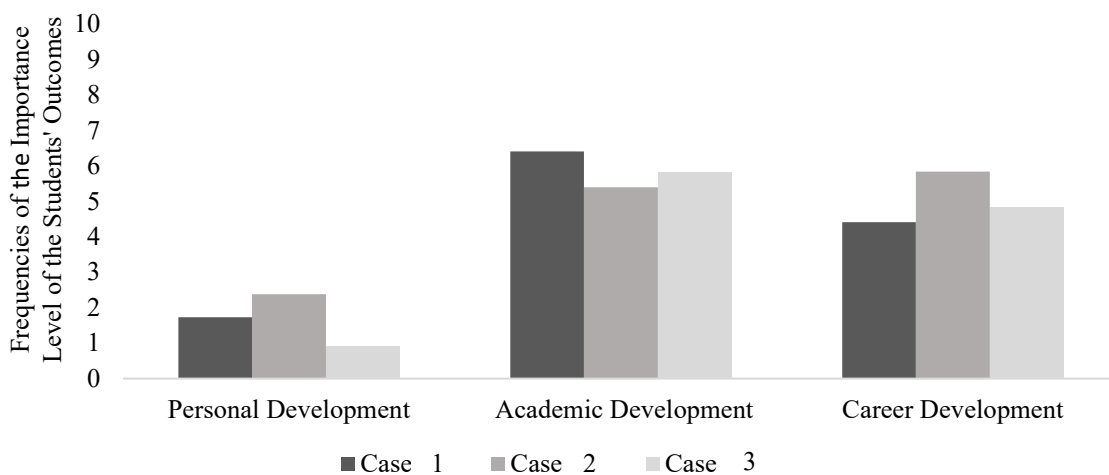
Table 4.3

The Descriptive Analysis for the Students' Outcomes in the Three Cases

Students' outcomes	N	Mean	Standard deviation
Case 1	12.54	4.18	2.34
Case 2	13.6	4.53	1.87
Case 3	11.58	3.86	2.60
All cases	37.72	12.57	6.81

Figure 4.3

The Students' Outcomes in the Three Cases



to determine the difference between true friendship and exploitation, and even learn how to do household chores such as washing dishes, cleaning the bathroom, taking out the trash, making the bed, and preparing a simple breakfast and lunch. Regarding the students' learning through daily activities, Miriam (Case 1) stated the following:

Learning happens in dorm living, it happens at the job site, and it happens in all the day-to-day interactions. A number of my students want to live independently in an apartment. We are really watching these students grow and build independence away from their families.

Albert (Case 2) held a similar view, noting that students learn daily living skills through “on-campus living and the amount of autonomy they get.”

4.1.14.1 Expected Outcomes for Students with ID

The themes identified in the expected outcomes for students with ID in the transition programs and PSE programs for students with ID at institutions offering 2- and 4-year postsecondary programs included the expected outcomes for students in the areas of personal development, academic development, career development, and gainful employment.

Figure 4.3 illustrates the students' outcomes in the three cases in academic, personal, and career development, along with gainful employment. In Case 1, it was clear that academic development had the highest level of importance (6.40), personal development had a low level of importance (1.73), and career development and gainful employment had a middling level of importance (4.41). In the same case, the academic development had the highest importance level of 6.40, as compared to Case 3, which had a middling importance level of 5.83, and Case 2, which had a low importance level of 5.39 (Table 4.3).

4.1.15 Personal Development

The access to the university experience for students with ID enables them to develop personal, academic, and professional skills that in turn help them to gain independence. These students gradually acquire these skills through their participation in campus organizations and activities, and by attending inclusive and specialized classes designed for them. These students learn communication skills, independence, self-determination, leadership, self-advocacy, and decision-making skills in specialized classes. Anthony (Case 2) explained the following:

We cover many of these skills in the special classes that we designed. We designed a career development class and a leadership class to guide and teach students about these types of skills. As they become increasingly involved in other activities on campus, they get the related guidance and coaching.

In Case 1, the PSE program was designed to help students to develop independence by developing their academic skills, social skills, and self-determination. The students learn

these skills as well as the skills required for campus engagement in inclusive college courses and specialized courses that focus on career preparation.

Self-determination skills are among the most important skill sets that all college students should acquire, including students with ID. The students with ID build these skills through their university experiences, attending specialized classes, and participating in meetings with the program staff. Additionally, these students live with roommates on or off campus, away from their parents. They attend classes with their mentors, participate in work and program meetings, and participate in on-campus activities that align with their interests. Through these activities, they develop life skills and determine their own career paths, since engaging in day-to-day practices increases their self-determination skills. Stephen (Case 3) pointed out that “students learn how to do things for themselves, how to take charge of their life.” The program team members in Case 2 are equally committed to enabling students to develop self-determination skills, stating the following to that effect:

We put much value on the aspect of self-determination in the campus engagement lecture. We very much highlight student choice. We always put that first. We ask students, “What do you like?” “What do you prefer?” “Do you want to take this class?” “Would you be interested in this job?”

More importantly, participants from all the three cases emphasized that students with ID have to make their own choices, and not adhere to their families’ wishes to achieve self-determination.

The participants in the three cases explained that the students with ID have the opportunity to practice self-advocacy in all aspects of university life. These skills are also learned in and out of the classroom through the process of being a college student. According to Barbara (Case 3), “As a college student, the students with ID learn how to talk to a professor when they are going to miss a class or when they need an extension or a copy of the syllabus or regarding their accommodation needs.” Thelma (Case 2) highlighted the

importance of accountability: “We hold the students accountable, which makes them bigger self-advocates because they realize they have the right to advocate for themselves.”

Consequently, the students with ID experience a staggering growth in confidence and self-advocacy skills at university because they learn that their voices and opinions have to be heard. Juan (Case 1) explained that “students learn how to communicate professionally. That includes how to advocate for themselves, how to ask their employer’s support, etc.”

Moreover, Juan (Case 1) and Catherine (Case 2) shared the view that students with ID gain a significant variety of skills at university because they live away from their families. They learn how to be independent and confident, navigate conflicts with their peers, and communicate with supervisors.

The participants placed particular emphasis on the social skills development of students with ID that takes place while they are enrolled in PSE programs.

4.1.15.1 Social Skills

The participants highlighted the importance of full campus inclusion of the students with ID, enabling them to develop social skills. As college students, they participate in campus organizations, clubs, and activities in line with their professional and personal interests. Juan (Case 1) observed that “students with ID become members of clubs and organizations of their choice. They can explore all the clubs on campus to find out which is the best fit for them.” The students with ID can also undertake leadership roles in campus organizations and clubs as evinced by the following statement:

We have a couple of our students in leadership roles in a student association at our university.

We have a student this year who was selected to be a Remembrance Scholar, one of the most prestigious honors that you can get in our university.

The students with ID develop different types of social skills while attending college. They learn how to talk to others in the workplace and society, especially in college, which facilitates learning outside the classroom. Billy (Case 3) noted that “students with ID learn

how to be a contributing member of a campus community, how to get along with others, how to become interdependent, and how to work with other people.” In Case 2, campus participation is a requirement in every semester to obtain a PSE program certificate. Therefore, the students with ID have to be active on campus in some way. They can volunteer, attend sporting events, join clubs, or work in on-campus jobs. Catherine (Case 2) explained the following:

Regarding mandatory campus engagement, students need to be connected to campus in some way every semester to complete the credential. Thus, they decide how they want to be engaged with the campus.

At college and university, learning occurs during dorm living on the job site, and during the day-to-day interactions. Thus, every aspect of the college experience can be an opportunity for the students with ID to learn and improve their skills and abilities.

4.1.15.2 *Academic Development*

The students with ID learn in inclusive and specialized college classes that align with their interests, abilities, and career goals. In inclusive classes, these students learn along with students without disabilities and gain knowledge and information related to the academic content of the course, participate in class activities with their peers without disabilities, and commit to meeting all the modified course requirements by completing course assignments, taking exams, attending class on time, participating in class activities, etc. For example, in Case 3, an undergraduate course, *Representations of Disability*, included three students with ID in an inclusive class. In this course, the students with ID were expected to learn how disability is socially constructed and how individuals with disabilities experience discrimination and systemic oppression. Marion (Case 3), the course presenter, explained the following: “The students with ID think about representation, particularly representation aimed at professionals. Thus, I get the students to begin to uncover and

address how power is embedded in these representations.” In this course, the students with ID participate in class activities and perform all modified course assignments

In Case 2, the students with ID take the inclusive Strategies for Student Success course. In this course, they learn academic skills such as time management, critical thinking, exam preparation, writing a college-level paper, and writing papers according to the American Psychological Association (APA) requirements. John (Case 2), who teaches this course, noted that “self-efficacy, confidence, motivation, communication, and utilizing technology skills are the main skills that students develop in this course.” Additionally, they develop a résumé; attend a career services workshop about résumé development; design an elevator pitch; participate in a poster session with respect to a research project; develop a poster, adding graphics and a brief narration; and deliver a narrative report about their experiences in college. In Case 1, University 101, an inclusive course, is offered. This course is a learning and development class for first-year students, including students with ID. Stanley, who teaches this course, mentioned that students with ID are expected to learn about how to effectively manage their time and study, set long-term and short-term goals for what they want to accomplish as students at the university, identify career options, and conduct a research project.

Contrastingly, in specialized courses, the students with ID determine the skills they need based on their person-centered planning. These skills include vocational skills, self-determination, and self-advocacy skills. Thelma (Case 2) explained how specialized courses help students to prepare for the future:

I teach a Career I class, which helps students with ID to explore their passion and teaches them that it is important to dress professionally and be on time. This helps them to learn that they have to be on time and follow a dress code" to enhance the readability of the text.

Academic skills cannot be taught in isolation from personal, social, and professional skills. These skills are learned in tandem by students with ID as they are connected to the lives of all college students.

4.1.15.3 Career Development and Gainful Employment

The students with ID acquire knowledge, information, work readiness skills, personal development skills, and on- and off-campus integrated internship experiences in their areas of interest at university to prepare for competitive and paid employment. In Case 2, these students are expected to complete their internships and work-based training in settings with individuals without disabilities to help ensure their successful transition to gainful employment positions aligned with their interests. Additionally, a participant in Case 1 “[anticipated] that the vocational experiences prepare students to express their employment goals and enter the workforce as a more mature and experienced person.”

The students’ employment goals are identified through person-centered plans created by the PSE program team members, who help students determine their careers. After determining their careers, the students learn professional skills in specialized classes. For example, in Case 2, students learn personal leadership, as stated by Ava (Case 2): “Students are learning skills like what are self-limiting beliefs? What does it mean to be a professional in the workplace? What does it mean to have a resume and a cover letter? Juan (Case 1) follows a similar strategy:

Students learn how to apply [for a job] and obtain a job, complete a resume, complete a job application with their personal information, insurance details, and references. They learn how to write a cover letter and address an employer of interest.

Moreover, students learn other vocational skills and gain other vocational knowledge, including information regarding the skills, qualifications, limits, and employer values required at their place of employment. They also learn time management, punctuality, professional communication, dressing expectations for the workplace, and budgeting. Furthermore, these students learn the best practices for searching for a job, giving an interview, maintaining a job, and accessing support for work from the employer and community.

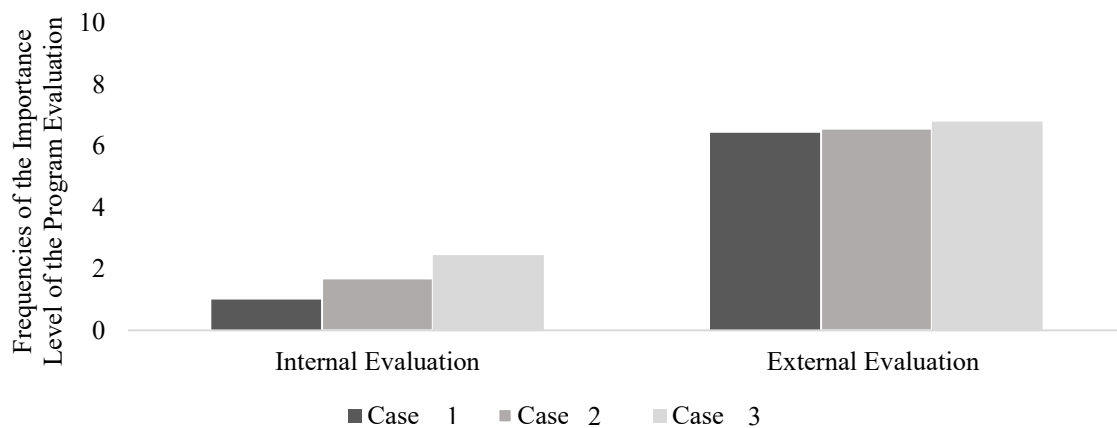
Table 4.4

The Descriptive Analysis for the Program Evaluation in the Three Cases

Program evaluation	N	Mean	Standard deviation
Case 1	7.42	3.71	3.83
Case 2	8.25	4.13	3.44
Case 3	9.24	4.62	3.06
All cases	24.91	12.46	10.33

Figure 4.4

The Program Evaluation in the Three Cases



community. The support may be natural from coworkers or managers, who may use services provided by the Division of Vocational Rehabilitation.

4.1.16 Types of Evaluation for PSE Programs

The themes identified in this study are internal and external evaluations of the transition and PSE programs for students with ID at institutions offering 2- and 4-year postsecondary programs.

Figure 4.4 shows that the three cases have two types of program evaluations. In Case 3, the internal evaluation had the highest importance level of 6.79 as compared to the external

evaluation, which had a low importance level of 2.45. In Case 3, the internal evaluation had the highest importance level of 2.45 as compared to Case 2, which had a middling importance level of 1.69, and Case 1, which had a low importance level of 1.00 (Table 4.4).

4.1.16.1 Internal Evaluation

The participants in the three cases confirmed that the program team members internally evaluated their PSE programs. The evaluations follow the four critical Think College Standards related to the PSE programs' conceptual frameworks for students with ID, with unique quality indicators for each standard. The standards and their quality indicators are as follows:

- a. Academic access (providing access to a variety of inclusive college courses, teaching skills to students to facilitate their learning, and addressing issues that affect students' participation in college courses).
- b. Career development (preparing students for employment by providing support and experiences).
- c. Campus membership (facilitating full campus participation of students in all organizations, providing facilities and technology).
- d. Self-determination (ensuring students' participation in defining their personal goals, developing students' self-determination skills, and involving students' families in the program).

These standards are supported and made possible by the following four types of programmatic infrastructure that connect services, which also have their own quality indicators:

- a. Alignment with college systems and practices (identifying outcomes to offer educational credentials for students, providing access to academic counseling and

- college campus resources, collaborating with faculty and staff, and adhering to the college schedules, policies and procedures, public relations, and communications).
- b. Coordination and collaboration (building PSE programs by establishing relationships with college or university departments and having a program coordinator to facilitate coordination of program-specific services).
 - c. Sustainability (using diverse sources of funding and having a planning and advisory team).
 - d. Ongoing evaluation (continuously evaluating services and results related to the program).

The four standards and four infrastructure elements work together to provide a coherent framework for promoting HEOA guidelines and providing any service required by the students with ID enrolled in the PSE programs (see Appendix M for full standards and criteria).

Timmy and Albert (Case 2) explained that their internal evaluation involves assessing how the PSE program aligns with the Think College Standards. Rebecca and Carolyn (Case 1) indicated that they used the same criteria for their internal evaluations and pointed out that they have to participate in the evaluation process to remain eligible for state funding. Billy (Case 3) offered a more comprehensive explanation of the internal evaluation process:

In addition to receiving feedback about the program from the professors and students, we do an internal evaluation to make sure that we are doing what we said we were going to do in our mission statement. We discuss the evaluation results during our weekly meetings, and we are always trying to improve the program design based on these evaluation results.

4.1.16.2 External Evaluation

All the three PSE programs considered in this study are also subject to external evaluation by external evaluators from national organizations who assess the programs' effectiveness and quality to sanction the provision of grants. External evaluators determine

how well a PSE program is doing in response to the requirements of grants such as the TPSID Grant. The TPSID Grant is a significant funding source, and it has many specific requirements and qualifications that the PSE programs need to meet to continue receiving the grant. Think College, the external evaluator for this grant, monitors the number of students enrolled in the program, the number of students who complete the program, and rate of employment of students after completing the program. Additionally, it focuses on the number of students taking inclusive courses, the number of inclusive courses taken by students, and the extent of the students' social inclusion on campus, where they spend at least 50% of their time. Meeting the requirements set in these areas plays a considerable role in the PSE programs' qualifying for the grant and obtaining funding.

Think College is one of the main organizations that evaluates PSE programs for students with ID. Think College helps these programs to work effectively and offers extensive guidance to colleges for obtaining grants. After each evaluation, Think College provides an evaluation report that highlights areas and strategies for program improvement, and the PSE program teams must submit the data requested through this report to Think College because it is a national coordinating center that provides PSE grants. While external evaluations typically occur annually, the PSE program teams usually meet with Think College members multiple times a year.

Billy (Case 3) highlighted the benefits of external evaluation from Think College: "The grant evaluators give us suggestions for professional development, and they make sure that we are doing what we are supposed to do with the grant as well." Barbara (Case 3) noted that they often use the Think College external evaluation report as a part of their strategic planning. The participants in Case 2 stated that they followed a similar strategy: "Think College evaluates us, and then we take their base criteria to kind of work into our evaluation" (Thelma, Case 2). According to Andrea, two external reviewers from Think College assigned

“the gold standard” to the Case 2 program, while Albert (Case 2) stated that “Think College really rated [us] highly and thought that what [we] are doing currently is a national model for other transitional programs.”

In Case 1, the President Halstead Foundation, which provides financial support to the program, also conducts external evaluations. The foundation oversees the university’s program and requests a progress report biannually from the program's executive director. Furthermore, another organization, called “IN,” provides financial support to the institution in Case 1 as part of a Senate funding bill. According to Carolyn (Case 1), IN requires evaluations from several stakeholders: “IN asked to do the Think College self-evaluation of the program, and then a student’s evaluation of the program, parents’ evaluation of the program, and the peer mentors’ evaluation of the program.”

The Case 2 PSE program was also evaluated by the US Department of Education, which reviewed the detailed report submitted by the program team regarding the program functioning. The report described how the program works, its goals, and the structure the students go through.” Catherine (Case 2) explained that the evaluation was exploratory and that the program team asked for feedback. The program was designated as a comprehensive transition program, which meant that it met certain criteria such as preparing the students with ID for life after college and that students in this program were eligible for financial aid. Furthermore, the Case 2 PSE program was hailed as a leader in PSE for students with ID, and it received commendations regarding its sustainability, the different ways to connect with faculty members for teaching and training, and several of its design aspects.

At the end of this section, the hypothesis that the PSE programs for students with ID in the US are designed based on the Think College Standards-based conceptual framework was accepted as corroborated in this section. These Think College standards include academic access, career development, campus membership, self-determination, alignment

with college systems and practices, coordination and collaboration, sustainability, and ongoing evaluation (Grigal et al. 2011; 2012a; Jester, 2016; Weir et al., 2013).

4.2 *Proposing a Framework for a PSE Program*

To develop a framework for a PSE program for students with ID at a university in Saudi Arabia, the author synthesized the results related to the design of the PSE programs design for students with ID in the US to set benchmarks for designing abovementioned framework. Table 4.5 presents the benchmarks and the synthesized results of the three cases to design the framework of the proposed PSE program for students with ID at a university in Saudi Arabia.

Table 4.5*Benchmarks and Synthesized Results of the Three Cases***First benchmark: Philosophical and theoretical stances**

This benchmark guides the institution to design a PSE program based on its vision, mission, objectives, and other philosophical aspects.

Program Design	Case		
	One	Two	Three
General Framework	X	X	X
Program Mission	X	X	X
Students earn a non-degree certificate	X	X	X
2-year program	–	X	–
4-year program	X	–	X
Program serves students with ID	X	X	X
Academic focus	X	X	X
Professional focus	X	X	X
Program sets expected outcomes	X	X	X
Portion of time spent on academic inclusion (%)	75	25–50	75–100
Portion of time spent on campus inclusion (%)	75	50	100
Provision of all services and support for students	X	X	X
Program Vision	X	X	X
Provision of a pioneering program for students with ID	X	X	X
Constant adjustments to improve program	X	X	X

Program Design	Case		
	One	Two	Three
Program Objectives	X	X	X
Equality	X	X	X
Diversity	X	X	X
Development of personal skills	X	X	X
Development of academic skills	X	X	X
Development of professional skills	X	X	X
Development of social skills	X	X	X
Assistance to students to obtain paid employment	X	X	X
Program Philosophy	X	X	X
Follow a 2-year program design	–	X	–
Follow a 4-year program design	X	–	X
Students obtain university experience	X	X	X
Learning acquired by students in every university aspect	X	X	X
Students study in the area of their interest and strength	X	X	X
Full participation on campus	X	X	X
Offers inclusive on-campus housing	X	X	X
Offers inclusive off-campus housing	–	X	X
Improvement of self-determination skills	X	X	X
Improvement of self-advocacy skills	X	X	X
Improvement of independence skills	X	X	X
Assistance to students to obtain paid and integrated jobs	X	X	X
Students responsible for their success at university	X	X	X

Second benchmark: Program’s main components

The PSE program for students with ID will focus only on the primary components, such as academic, professional, or residential factors. These main components are in line with the institution’s philosophy.

Program Design	Case		
	One	Two	Three
Program’s main components			
Academic component			
All majors are allowed based on the student’s abilities and strengths	X	3	X
Number of units in each semester	11	10	6–9
Inclusive classes	2 (7 credits max.)	2–3 (3–6 credits)	2–3 (6–9 credits)
Inclusive preparatory courses	X	X	X
Inclusive courses based on the student’s interests	X	X	X
Specialized classes in personal, social, and career skills	1 (4 credits)	2–3 (4–7 credits)	Sem.
Students required to complete a specific number of classes	X	X	X
Students required to submit course requirements by the deadline	X	X	X
Students required to attend at least 75% of classes on time	X	X	X
Students required to participate in activities in and out of class	X	X	X
Students required to take modified exams	X	X	X
Professors’ teaching methods are not modified for students with ID enrolled in their courses	X	X	X

Program Design	Case		
	One	Two	Three
Students do not receive a course grade	X	X	X
Students are required to successfully complete a minimum of 70% of the attempted courses to pass the overall course	X	X	X
Students are evaluated based on completing course requirements and vocational experiences, establishing goals in person-centered plans, and completing surveys and assessments	X	X	X
Student evaluation process is determined by collaboration among the student, professors, and support coordinator	X	X	X
Professional Components			
Students select internship experiences based on their goal outlined in person-centered plans	X	X	X
Students start on-campus internships from the second semester	X	X	X
Students are required to take a variety of prevocational skills courses throughout the program in university	X	X	X
Students receive preprofessional support through courses, workshops, field visits, and planning meetings with the program staff	X	X	X
Students finish their college experience with off-campus paid or unpaid internships (capstone internships)	X	X	X
Integrated internships	X	X	X
Students receive program support during their internships including periodic onsite observations, troubleshooting, and natural support	X	X	X
Students with ID are expected to meet a number of commitments to simulate professional experience	X	X	X
On-campus internships	X	X	X
Off-campus internships during the fourth year	X	–	X
Off-campus internships in the last semester of the second year	–	X	–

Program Design	Case		
	One	Two	Three
Residential Component			
Students live in inclusive on-campus housing	X	X	X
Students live in inclusive off-campus housing	–	X	X
Students learn to live independently; the program promotes social and personal growth	X	X	X
Provision of residence life mentors	X	X	–
Program Services and Support			
Peer mentors on campus	X	X	X
Residence life mentors	X	X	–
All accommodations provided	X	X	X
Person-centered planning	X	X	X

Third benchmark: The learning outcomes for students with ID in the PSE program

The PSE program plans its desired outcomes for students based on the previous two benchmarks.

Program Design	Case		
	One	Two	Three
Improvement of self-determination skills	X	X	X
Improvement of self-advocacy skills	X	X	X
Improvement of independence skills	X	X	X
Assistance to students to obtain paid and integrated job	X	X	X
Students responsible for their success at university	X	X	X

Fourth benchmark: Program evaluation

The PSE program defines at an early stage the method by which the program as a whole will be evaluated: the evaluators, when, and what type of evaluations (e.g., weekly, monthly, yearly) to ensure that the program is on the right track.

Program Design	Case		
	One	Two	Three
Program Evaluation			
Internal evaluation	X	X	X
External evaluation	X	X	X

After synthesizing the results of the three cases and setting these benchmarks to design the framework for the proposed PSE program, the author then compared the compiled results of the three cases in the US with the perspectives of the administrators, employees, and faculty members at KSU in the survey and interview concerning the inclusion of these benchmarks in the proposed program at KSU. These benchmarks will be discussed later in Chapter 5.

4.3 Summary

The current study proposed a framework for a PSE program for students with ID at a university in Saudi Arabia. Stake's (2006) Worksheets (2–6) was used to study three cases of PSE programs for students with ID at institutions offering 2-year or 4-year programs in the US. Each case was analyzed individually and then among cases to generate multiple case themes. The design of PSE programs for students in the US was determined by the concerned American university directors, administrative staff, and faculty members. The program designs of the three selected PSE programs relied on multiple themes. The first theme was the program framework: the programs' missions, visions, objectives, and philosophies. The second theme was the programs' main components: academic, professional, and residential. The third theme was the expected outcomes for students with ID in the PSE programs in the areas of personal development, academic development, career development, and gainful employment. The last theme was the internal and external evaluation criteria for the PSE programs. These results regarding the PSE program design for students with ID in the US were synthesized to set benchmarks to propose the PSE program's framework for students with ID at a university in Saudi Arabia. In this study, the following four benchmarks were identified to propose the framework: philosophical and theoretical stances, the program's main components, the learning outcomes for students with ID in the PSE program, and program evaluation.

CHAPTER 5: PROPOSED FRAMEWORK FOR A POST-SECONDARY EDUCATION PROGRAM FOR STUDENTS WITH INTELLECTUAL DISABILITY

Overview

This chapter presents the theoretical proposed framework for the post-secondary education (PSE) program for students with intellectual disability (ID) at KSU in Saudi Arabia. A detailed description of the proposed framework, including its philosophical and theoretical stances, its main components, the anticipated learning outcomes for students with ID in the program, and the program's evaluation criteria, will be highlighted in this chapter.

5.1 Section 1: Description of the Proposed Framework for a PSE Program

The program's proposed framework has been created to support students with ID to access university education like their peers without disabilities at KSU. The proposed framework was designed in KSU in Saudi Arabia by compiling the results of the three cases of PSE programs design for students with ID in the United States (US), which were based on the Think College' Standards in the inclusive higher education conceptual framework. Based on the combined results of these three cases, four benchmarks were developed for the proposed framework design: Philosophical and theoretical stances, program's main components, the learning outcomes for students with ID in the PSE program, and program evaluation. After that, the views of administrators, employees, and faculty members at KSU regarding including these benchmarks in the proposed framework were surveyed (Table 5.1). The proposed framework was also designed based on the regulations, philosophy, available resources, and support provided to students with disabilities at KSU.

Table 5.1*Benchmarks and Synthesized Results of the Three Cases*

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: –	Comments
	One	Two	Three			
General Framework						
<i>Program Mission</i>	X	X	X	X	+	
Students earn a non-degree certificate	X	X	X	–	–	49.2% of participants in KSU agreed that students with ID should earn a diploma certificate.
Two-year program	–	X	–	–	–	51.6% of participants in KSU said that the program length should differ by students.
Four-year program	X	–	X	–	–	
Program serves students with ID	X	X	X	X	+	
Academic focus	X	X	X	X	+	61.7% of participants in KSU agreed that the proposed program should have an academic and professional focus.
Professional focus	X	X	X	X	+	
Program sets expected outcomes	X	X	X	X	+	
Proportion of time spent on academic inclusion (%)	75	25–50	75–100	50	+	60.9% of participants in KSU agreed that the students should spend at least 50% of their time
Proportion of time spent on campus inclusion (%)	75	50	100	50	+	in academic inclusion. 64.8% of participants in KSU agreed that the students should attend at least 50% of their campus inclusion time.
All services and support provided for students	X	X	X	X	+	

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: –	Comments
	One	Two	Three			
<i>Program Vision</i>	X	X	X	X	+	
Provides a pioneering program for students with ID	X	X	X	X	+	
Constant adjustments made to improve the program	X	X	X	X	+	
<i>Program Objectives</i>	X	X	X	X	+	
Equality	X	X	X	X	+	
Diversity	X	X	X	X	+	
Develop personal skills	X	X	X	X	+	57.0% of participants in KSU agreed that the program should develop students' personal, academic, and career skills.
Develop academic skills	X	X	X	X	+	
Develop professional skills	X	X	X	X	+	
Develop social skills	X	X	X	X	+	
Obtain paid employment	X	X	X	+	+	62.5% of participants in KSU agreed that the program should focus on developing social skills.
<i>Program Philosophy</i>	X	X	X	X	+	57.8% of participants in KSU agreed on obtaining paid employment for students with ID.
Follows a two-year program	–	X	–	–	–	
Follows a four-year program	X	–	X	–	–	
Students obtain university experience	X	X	X	X	+	
Learning acquired through every university aspect	X	X	X	X	+	
Students study in the area of their interest and strength		X		X	+	
		X				
		X				

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: -	Comments
	One	Two	Three			
Full participation on campus	X	X	X	X	+	82.8% of participants in KSU agreed on full participation on campus for these students.
Offers inclusive housing on campus	X	X	X	X	+	61.7% of participants in KSU agreed that these students should be allowed to access on-campus inclusive housing.
Offers inclusive housing off-campus	-	X	X	-	-	No housing off-campus in KSU for any university students with or without disabilities.
Improves self-determination skills	X	X	X	X	+	69.5% of participants in KSU agreed that the program should focus on improving students' self-determination skills.
Improves self-advocacy skills	X	X	X	X	+	71.7% of participants in KSU agreed that the program should focus on improving students' self-advocacy skills.
Improves independence skills	X	X	X	X	+	85.2% of participants in KSU agreed that the program should focus on improving students' independence skills.
Obtain paid and integrated job	X	X	X	+	+	57.8% of participants in KSU agreed that the program should help students obtain paid and integrated jobs.
Students responsible for their success at university	X	X	X	X	+	
Program main components						
<i>Academic component</i>						
All majors are allowed based on students' abilities and strengths	X	3	X	X	+	58.6% of participants in KSU said that all majors should be allowed based on students' abilities and strengths.

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: –	Comments
	One	Two	Three			
Number of units in each semester	11	10	6–9	3–10	+	
Inclusive classes	2 (7 cr.)	2–3 (3–6 units)	2–3 (6–9 units)	1–3	+	52.6% of participants in KSU said that students should take 1–3 courses each semester.
Inclusive preparatory courses	X	X	X	X	+	
Inclusive courses based on students' interests	X	X	X	X	+	59.4% of participants in KSU agreed that the program should offer inclusive courses based on students' interests.
Specialized classes in personal, social, and career skills	1 (4 cr.)	2–3 (4–7 units)	Sem.	2	+	57% of participants in KSU agreed that students with ID should have access to courses relating to their personal, academic, or career goals.
Students are required to complete a specific number of classes	X	X	X	X	+	
Students are required to submit course requirements by the deadline	X	X	X	X	+	50.8% of participants in KSU agreed that students should submit course requirements by the deadline.
Students are required to attend at least 75% of classes on time	X	X	X	X	+	73% of participants in KSU agreed that students with ID should attend at least 75% of the class on time.
Students are required to participate in activities in and out of class	X	X	X	X	+	

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: -	Comments
	One	Two	Three			
Students are required to take modified exams	X	X	X	X	+	
Professors' teaching methods are not modified for students with ID enrolled in their courses	X	X	X	-	-	46% of participants in KSU disagreed with this statement.
Students do not receive a course grade	X	X	X	-	-	50% of participants in KSU disagreed with this statement.
Students are required to successfully complete a minimum of 70% of attempted courses to pass the overall course	X	X	X	X	+	48.4% participants in KSU agreed with this statement.
Students are evaluated based on completing course requirements and vocational experiences, establishing goals in person-centered plans, and completing surveys and assessments	X	X	X	X	+	71.9% participants in KSU agreed with this statement.
Student evaluation process is determined by collaboration among student, professors, and support coordinator	X	X	X	X	+	57.8% participants in KSU agreed with this statement.

Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: –	Comments
	One	Two	Three			
<i>Professional Components</i>						
Students select internship experiences based on goal aligned with person-centered plans	X	X	X	X	+	64.8% of participants in KSU agreed with this statement
Students start on-campus internships from the second semester	X	X	X	X	+	
Students are required to take a variety of prevocational skills courses through the university	X	X	X	X	+	
Students receive preprofessional support through courses, workshops, field visits, and planning meetings with program staff	X	X	X	X	+	
Students finish their college experience with off-campus paid or unpaid internships (capstone)	X	X	X	X	+	60.2% of participants in KSU agreed with this statement
Integrated internships	X	X	X	X	+	57.8% of participants in KSU agreed with this statement

Students receive program support during their internships: periodic onsite observations, troubleshooting, and natural support

	X	X	X	X	+
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Program design benchmarks	Case			Proposed Framework	Including Yes: + / No: -	Comments
	One	Two	Three			
Students with ID are expected to meet a number of commitments to pursue professional experience	X	X	X	X	+	
On-campus internships	X	X	X	X	+	At KSU, students with disabilities participate in off-campus integrated internships.
Off-campus internships during the full fourth year	X	-	X	X	+	
Off-campus internships during the last semester of the second year	-	X	-	X	+	
Residential Component						
Students live in inclusive on-campus housing	X	X	X	X	+	61.7% of participants in KSU agreed with this statement. KSU offers only inclusive on-campus housing for all university students with or without disabilities.
Students live in inclusive off-campus housing	-	X	X	-	-	
Students learn to live independently; promotes social and personal growth	X	X	X	X	+	
Offers residence-life mentors	X	X	-	X	+	
Program Services and Support						
Peer mentors on campus	X	X	X	X	+	

Residence-life mentors	X	X	-	X	+	54.7% of participants in KSU agreed with this statement.
All accommodations provided	X	X	X	X	+	
Person-centered planning	X	X	X	X	+	
Program Evaluation						
Internal evaluation	X	X	X	X	+	56.3% of participants in KSU agreed with these two statements.
External evaluation	X	X	X	+	+	

Note. Cr.: credits; sem.: seminars; X: element present in the case; -: element not present in the case or not included in the proposed framework of the program; +: element present in the proposed framework of the program.

Table 5.1 above was presented the proposed framework to clarify in one table the benchmarks covered by the framework in line with a university in Saudi Arabia according to the experience of Saudi administrators, employees, and faculty members at KSU. In addition to some documents on the KSU website about the services and support available to students with disabilities at the university. The table was presented here as a visual illustration of the benchmarks included in the proposed framework. The basis for verification to include these benchmarks was the Saudi respondents' agreement in the survey and interview to include these benchmarks in the program,

5.1.1 Literature Review and Theoretical Grounding

The proposed framework design process began with a review of previous literature in the field of PSE programs for students with ID to identify the most important aspects on which these program structures should be based. The design of the proposed framework was based on the theoretical foundation of Think College Standards, where all aspects of these standards were covered during the design of the proposed framework. These standards present as a unifying theoretical and conceptual framework for PSE programs for students with ID that promise to advance these programs and provide a strong foundation upon which these programs are built. These standards are a rich resource for educators, administrators, and policymakers on how to design successful and effective programs for these students (Lynch, & Getzel, 2013).

As above mentioned, the three cases in addition to many PSE programs for students with ID the US follow the Think College' Standards in the inclusive higher education conceptual framework, the proposed framework in the current study follows the same Think College' Standards: Inclusive Academic access, career development, campus membership, and self-determination (Grigal et al., 2011; Grigal et al., 2019; Weir et al., 2013). Theoretical grounding for the proposed framework design is presented in Table 5.2

Table 5.2*Theoretical Grounding for the Proposed Framework Design*

Proposed Framework Objectives	Proposed Framework Design Foundations	Theoretical Grounding
Provide equality for students with ID to experience university life	Inclusive Academic Access	Access college increases self-esteem for students with ID, where they see themselves as similar to students without disabilities (Blumberg & Daley, 2009; Grigal et al., 2011; Haneghan, 2012).
Learn in inclusive university courses	Inclusive Academic Access	PSE programs for students with ID advance their academic, and intellectual knowledge that leads to a lifelong learning experience (Foxyer, 2018; Ryan, 2014). The inclusive academic courses are designed to help these students develop knowledge, information, and skills (Foxyer, 2018; Stolar, 2016). Students with ID audit college courses or enroll in credit or noncredit courses with students without disabilities (Hart et al., 2006; Neubert & Moon, 2006; Stodden & Whelley, 2004).
Improve students' personal, academic, social, and professional skills		College experience for students with ID increase personal skills, self-advocacy, self-awareness, self-confidence, and self-determination (Hart et al., 2010; Kardos, 2011; Kleinert et al., 2012; Foxyer, 2018; Stolar, 2016). Students with ID who attend PSE often succeed in the university experience and the academic field, which happens to expand their vocational and social skills, becoming valued and active members of their society, and increase chances for integrated employment and improve employment experiences, leading to improved personal independence, better wages, self-determination, and economic self-sufficiency (Cook et al., 2015; Ryan, 2014; Petcu et al., 2015).

Obtain integrated and paid employment	Career Development	Students with ID who completed a PSE program were more likely to obtain competitive jobs and earn higher wages compared to other students with disabilities who did not attend PSE (Blumberg &
Proposed Framework Objectives	Proposed Framework Design Foundations	Theoretical Grounding
Obtain integrated and paid employment	Career Development	Daley, 2009; Grigal et al., 2014; Migliore et al., 2009). PSE programs help students with ID increase their work experiences that lead to a professional career (Ryan, 2014).
Participate in campus clubs and organizations	Campus Membership	Students with ID experience social acceptance while participating in courses, clubs, and other extracurricular activities with their peers without disabilities (Izzo & Shuman, 2013; Jester, 2016).
	Self-determination	Students with ID reported that they had positive experiences with their peers without disabilities in college and politely and kindly dealt with them. These students felt more acceptance, competence, and ability to make friends beyond the program than others (O'Brien et al., 2009). Students with ID need self-determination to effectively adapt and stay at an institution and achieve their educational degrees (Thoma, 2008). Self-determination is a major part of transitional services and, thus, a component of postsecondary learning. Colleges and universities engage students with ID in the goal-establishment process to help them develop their own self-determination skills (Grigl et al., 2011).
live in inclusive campus housing	Living independently	Completing PSE programs for students with ID significantly improved their lives through activities such as using transportation on their own, making friends, and living independently (Cook et al., 2015; Haneghan, 2012; Kleinert et al., 2012). Grigal and Hart (2010) and Plotner and Marshall (2015) have stressed the significance of residential options for students with ID in these programs.

Students with ID who live on campus in university housing alongside other university students, become more dependable and gain self-confidence (Hart et al., 2010).

With respect to the first standard, inclusive academic access, the proposed framework allows these students with ID to enroll in credit courses attended by students without disabilities in the university. A wide range of inclusive courses will be offered for these students with ID to choose based on their personal, academic, and career goals as defined by person-centered planning. They will also learn in specialized courses designed only for students with ID to improve their personal, academic, social, and professional skills.

In the proposed framework, administrators, employees, and faculty members in KSU, identified the challenges that may face the implementation of the proposed framework and suggested some solutions to address these issues that may affect the participation of these students with ID in the university courses, including university policies that may negatively affect students participation, such as: imposing prerequisites or placement tests for these students to enroll in inclusive courses. In addition to any challenges that prevent these students from accessing the following: the use of necessary public or personal transportation, Disability Services Center to obtain accommodations, the use of necessary technology, educational coaches who receive training and constant supervision, and peer mentors. In addition to providing training for faculty members on the use of the universal design in their classrooms. The proposed framework will provide these students with ID with the knowledge and skills necessary to educate them about educational opportunities in the university and community and the resources available to them.

The second standard, which is career development, was highlighted in the proposed framework in the professional component, which focuses on these students accessing

competitive employment by providing them with the necessary career skills in their desirable professions, which can be achieved through defining students' career goals through person-centered planning, providing these students professional coaches, participating in work-based internships in inclusive environments, or in paid work experiences inside or outside the university. The PSE program team are supposed to communicate with other agencies and adult service providers to provide inclusive employment opportunity for these students.

Campus membership, which is the third standard, was highlighted in the proposed framework by providing access to these students in all activities, organizations, clubs, and facilities on campus.

Self-determination is the fourth standard in the proposed framework, where the framework prepares to improve the self-determination skills of these students by ensuring students' participation in all aspects of university life and setting their personal goals that are based on their interests and desires, providing accommodation and technology needs, regularly modifying the person-centered planning as needed, and help these students achieve the desired results. In addition to monitoring students' progress towards their personal goals, assisting them in preparing their schedules and choices related to courses, activities, employment, registering for courses, requesting accommodations, and dealing directly with faculty members and employers in requesting the necessary adjustments accommodations.

Alignment with college systems and practices is the fifth standard. The proposed framework was prepared to comply with current practices and procedures at the KSU, such as the colleges in which students with disabilities are allowed to study, the services and resources of support provided, the degrees awarded to these students, cooperation with faculty members and staff, and to adhere to the college's schedules, policies, and procedures. Through this

program, the approved certificate, which will be granted to students with ID by the university, was determined.

The sixth standard is coordination and cooperation by the program team by establishing relationships within the university, such as departments and centers, outside the university, to facilitate students' participation in inclusive environments.

Sustainability is the seventh standard, which was clarified in the proposed framework by providing various funding sources to ensure the continuity of the program and the program team's presence for planning and consulting.

Ongoing evaluation is the eighth standard, where the proposed framework will be followed by a comprehensive and continuous evaluation of the program through internal evaluation to ensure that the proposed framework is moving towards achieving the expected outcomes. All these standards will be presented in the proposed framework in this chapter.

Of the administrators, employees, and faculty members at KSU surveyed, 55.5% mentioned that the proposed framework should be designed to meet Saudi students' needs with ID. As a result, the hypothesis of the current study was accepted regarding that the identification of the capabilities, anticipated needs of Saudi students with ID, regulations, philosophy, available resources, and support provided to students with disabilities at KSU will help design the proposed framework for the PSE program for students with ID in Saudi Arabia (Baker et al., 2018; Grigal & Hart, 2010; Francis et al., 2018).

This proposed framework for the PSE program has an academic and vocational focus, as supported by 61.7% of administrators, employees, and faculty members at KSU, who believed that the proposed program should have such a focus. Students with ID will take inclusive courses with students without disabilities, with 59.4% of administrators, employees, and faculty members agreeing that they should access college courses attended by students without

disabilities for which the student with ID receives academic credit. These inclusive courses include introductory courses required for all first-year students and core courses in the area of students' interests. Of the administrators, employees, and faculty members at KSU interviewed, 57.0% agreed that students with ID in the proposed program should have access to courses relating to their personal, academic, or career goals. Inclusive courses will be modified for students with ID based on their abilities and needs. Students with ID will choose their core courses after completing the first-year courses in the program. They will also be required to take specialized courses designed for only students with ID that cover a variety of important skills, including independent living, self-development, social, academic, and vocational skills, and other skills they need to obtain paid jobs (Griffin et al., 2010; Hart & Grigal, 2010).

Students will be required to take nine to ten units each semester, including two inclusive courses and one specialized course. They must earn 40–74 credits to complete the five- to eight-semester, two-and-a-half, or four-year program. Students will earn a regular diploma certificate or a high diploma certificate in the area of their interest. The program will be open for only four to six students every semester.

The proposed program framework will be implemented at KSU. Previous research has stressed the importance of identifying a location in which the PSE program will be implemented during the design phase (Grigal et al., 2002). When choosing the location of a PSE program, program developers must consider factors such as the extent of the support program staff can obtain from the college administration, transportation provided to students with ID, the accessibility of the campus, and the available courses (Grigal & Hart, 2010; Paiewonsky & Ostergard, 2010).

KSU is an appropriate location to implement the proposed PSE program due to its physical, professional, and educational capabilities. A half (50%) of the administrators, employees, and faculty members at KSU believed that the proposed program would be applicable at KSU due to its capability and experience serving students with disabilities. The university already has extensive support services available, and the accessible university environment may adequately address any concerns relating to the provision of support services for students with ID once the program is implemented. In addition to the university's human resources, the university also offers the experiences of establishing cooperative partnerships with many universities in the US, integrating students with disabilities into higher education in Saudi Arabia, and competing with other Saudi universities to align with the Saudi Vision 2030, as discussed in Chapter Two.

5.1.2 Philosophical and Theoretical Stances of the Proposed Program Framework

According to Grigal and Hart (2010), “planning must take into account the anticipated student needs, the goals and outcomes of these services, and also the philosophical beliefs and values that will guide the creation of services and activities” (pp. 241–242). Therefore, the proposed program framework highlights these points, starting with the proposed framework's philosophy, which encompasses the program's mission, vision, and objectives. Nevertheless, there is no single way to design a PSE program for students with ID. Each program differs from the others based on the philosophical foundations of the program design; the governance structure; the college's mission; the community's location, or the location of both the student and the university; and the availability of resources at the college and university to support the PSE program for students with ID (Baker et al., 2018; Grigal & Hart, 2010).

Program Philosophy. PSE programs for students with ID are designed based on philosophical beliefs, with the planning teams defending and answering difficult questions

about the inclusion of people with ID in both schools and communities (Francis et al., 2018; Grigal & Hart, 2010; Hines et al., 2016). The framework of a program encompasses the college or university's philosophy and values, which help shape the framework. Additionally, PSE programs' frameworks are based on a fundamental belief that individuals with ID have a human right to pursue higher education—like other students with or without disabilities (Jones et al., 2015).

In developing a framework for a PSE program for students with ID, program developers should not focus only on the physical presence and accessibility of the program but rather on the belief in and value of individual differences, as these differences are essential aspects of society (Jones et al., 2015). Uditsky and Hughson (2012) indicated that inclusion does not mean simply obtaining a seat in the college; instead, it means developing attitudes of acceptance of these individuals, and affiliation, values, and communication throughout the campus in a manner that guarantees equality and dignity for all members of the university or college (Hall, 2010). Jones et al. (2015) recommended that PSE programs for people with ID should embrace a common philosophy to guide their practices, owing to the significant differences between them in terms of their designs, structures, options, missions, policies, expected student outcomes, and so on (Fewox, 2018; Grigal et al., 2011; Jester, 2016; Moore, 2014; Papay & Bambara, 2011).

The common philosophy in PSE programs can be created by defining a common framework for these programs by comparing skepticism and creativity toward comprehensive PSE programs (Fewox, 2018; Jones et al., 2015). A shared philosophy benefits all those involved in inclusive college and university environments, and creating a shared philosophy can be achieved through the collective efforts of college and university staff in this field to build an understanding of the services and activities needed to make these PSE programs a

reality for students with ID (Grigal et al., 2006; Jones et al., 2015; Plotner & Marshall, 2014; Stola, 2016; Yarbrough et al., 2014). The intellectual diversity of individuals and their varied experiences and perspectives helps those with ID to develop to their fullest potential (Jones et al., 2015; Plotner & Marshall, 2014; Yarbrough et al., 2014).

Program Mission. A PSE program's mission should align with the college or university's overall mission, where the program will be implemented (Baker et al., 2018). Thus, the mission statement of the proposed framework aligns with KSU's mission statement. KSU's mission is to provide distinguished education, produce creative research that serves society, and contribute to building a knowledge economy by creating an environment that promotes learning and creative thinking and promotes the optimal use of technology and effective national and international partnerships (KSUe, 2020). Furthermore, the proposed PSE program's mission statement is based on the US and Saudi respondents' data in the three PSE programs studied and at KSU, the literature on evidence-based practices, and Think College resources.

The program's mission is to provide an opportunity for students with ID to continue their higher education in an area of their choosing and to provide all services and support to facilitate these students' university experience. The university experience will encompass inclusive housing on campus, work-based training for students with ID, using technology, and effective national and international partnerships to create an environment that promotes learning at the university (Francis et al., 2018). Furthermore, the author proposes a four-year program with an academic and professional focus. Students with ID will be expected to be independent and autonomous and participate in social activities and work in integrated employment (Grigal & Hart, 2010; Kertcher, 2014). Students will spend 50% of their time on campus engaged in

inclusive activities, and the remainder engaged in inclusive academic activities (Grigal et al., 2019).

Program Vision. The vision of the proposed program framework is to create a distinguished university experience for students with ID in the Arab world in line with their right to access inclusive higher education. As KSU has stated (2020e), “KSU is poised to become a role model, locally and regionally, in creating an innovative, technology-rich, and broadly accessible learning environment” for all students with disabilities, including students with ID. In addition, KSU will provide a pioneering university education program that reflects these individuals' ability to continue their education at university as students without disabilities while providing students with all the skills they need to be ready for careers that match their interests.

Program Objectives. The main objectives of the proposed program are to provide equality for these students to enable them to attend university and experience university life like students without disabilities, and to create diversity in the university community that adds vital value to the university environment (Mansell & Beadle-Brown, 2004; Plotner & Marshall, 2014). The program also aims to improve students' personal, academic, social, and professional skills and to help students obtain integrated and paid employment in areas of their interest through learning in university courses, participating in campus clubs and organizations, living in inclusive campus housing, and experiencing on-campus internships (Hall et al., 2000; Hart et al., 2010; Zafft et al., 2004; Stolar, 2016). Successful PSE programs focus on all the skills mentioned above (Lynch & Getzel, 2013).

5.1.3 Program Operation

Of the administrators, employees, and faculty members interviewed at KSU, 69.5% indicated that KSU had no plans to create a PSE program for students with ID. Of the same

participants, 46.1% believed that the timeframe KSU would need to start such a program was “between 1–3 years.”

In addition, these administrators, employees, and faculty members were asked to respond to the statements that best described the support KSU would provide for students with ID once they were enrolled in regular university classes. Of the options available, the statement “There will be a new support program to be implemented in cooperation with Saudi agencies and sectors of KSU” was supported by 43.8% of the participants. Most participants (52.3%) also agreed that the expected amount of the total budget directed to all disability services centers and programs in the university that could be provided to implement a PSE program for students with ID at KSU would be “10%–less than 30%.”

Moreover, 34.4% of participants indicated that the administration responsible for providing funding for the proposed program in KSU would be Budgets and Quality Assurance, while 53.9% agreed that the college that would host the proposed program was the Humanities College.

Program Team. Implementing the PSE programs for students with ID is more than just creating a general and simple formulation to implement the programs. It requires selecting suitable people to work in the program. People who have sufficient experience to assist in the program's design and development have the passion and desire to integrate these students with ID into the campus culture and help them live a valuable university experience (Morgan, 2014).

The program staff in the proposed framework of the PSE program at KSU will be small, with five to eight people involved (Grigal & Hart, 2010; Hines et al., 205). In all three PSE program case studies, the program teams were this size. The program team will include an executive director, assistant director, academic inclusion coordinator, social inclusion coordinator, residential coordinator, and employment coordinator.

There will be no obstacles to finding a program team for the proposed framework at KSU because the Disability Services Centers and programs have many employees. In addition, the Department of Special Education employs many professionals.

5.1.4 Program Outline

Program Duration. The student's proposed program duration will differ from two and a half to five years. Of the administrators, employees, and faculty members at KSU interviewed, 51.6% believed that the proposed program's length should be tailored to each student. The students with ID will finish the program once they have met half of all of the program requirements, based on their abilities and preferences. This option is already available in some PSE programs for students with ID in the US and is included on the Think College website.

Students who finish half of the program requirements within two and a half years will earn a Regular Diploma, while other students who finish all completed program requirements within four to five years will earn a High Diploma certificate.

Number of Students. The program will accept four to six students with ID each semester. This number of admissions found support from 33.6% of administrators, employees, and faculty members at KSU.

It should be noted that the participants in KSU did not clarify during the interviews the reasons of choosing the specific number of students with ID should be enrolled in the program each semester. In general, the appropriate number of students with ID enrolled in the program can be determined based on the university's readiness and capacity for admission from among the total numbers of student acceptance rates at the university, in addition to the number of the faculty members to teach them. KSU indicated in its annual strategy for the year 2020 that the number of faculty members reached 5664 compared to 6,000 students at the university, as the

a faculty members -to students ratio is 1:11 and the applicant acceptance rate is 50% (KSUF,2020).

This proposed program is considered in its preliminary form and can be considered a picture of the future of program implementation phrase. With the advancement of the proposed program implementation procedures, some concepts or components of the proposed program may be introduced or modified according to the university's requirements or its updated systems created in a manner that does not conflict with the foundations on which this program is based on (Think College standards). With the start of the implementation of the program and the acquisition of data related to the results of the proposed program that will be obtained, the proposed program will be able to deal with the current conditions and able to perform in a way that creates a successful university experience for students with ID. Lynch and Getzel (2013)

consider that the PSE programs for students with ID that are created based on the standards of the Think College have strong evidence that their programs will be effective. Many PSE programs for students with ID across the US have built based on the quality and performance standards and indicators of the Think College (Lynch, & Getzel, 2013).

Student Population Served. The program is designed exclusively for students with ID.

Program Fee. The program will be free.

Admissions Criteria. To be eligible for admission, applicants must meet the following criteria:

- Must have graduated from high school within the past five years;
- Should not be prevented by their type of disability or health condition from practicing and applying the basic skills necessary to complete the academic program to which they are admitted;
- Aged 21–23 years;

- Have documented mild ID;
- Have a recognized high school certificate or its equivalent; and
- Have a desire and passion for learning at university, independence, making their own decisions, and securing paid employment.

The proposed program's admission requirements are based on the KSU (2020e), an admission requirement for people with disabilities. The admissions requirements in the proposed program are also based on the views of administrators, employees, and faculty members at KSU, in addition to the research of Neubert et al. (2001), Hall et al. (2000), Smith and Puccini (1995), and Grigal and Hart (2010), as well as existing KSU admissions requirements. Some existing PSE programs for students with ID include adult education and dual-enrollment programs for students who have finished public school and for students aged 18–22 years who are still enrolled in public schools (Grigal & Hart, 2010; Grigal et al., 2006; Martinez et al., 2012). Most Saudi students in their last year of high school in the 2017–2018 academic year were 17 years old and graduated at 18 (Saudi Open Data, 2019).

This narrows the focus to students aged 18–22 years. In addition, the Ministry of Education (2020c) and Al-Mousa (2010) have reported that Saudi students with ID graduate from high school-aged on average aged 18–21, the same ages that US students with ID remain in high schools (Grigal & Hart, 2010). On the other hand, most of these students' IDs in the PSE programs were mild to moderate (Fewox, 2018; Papay & Bambara, 2011). The proposed program focuses mainly on young adults with mild ID (IQ 55–70; American Psychiatric Association, 2013).

In special education, the Ministry of Education follows the American Association on Intellectual and Developmental Disabilities and the US legislation, measurement, and diagnosis of disability, disability classifications, and educational settings for these students

with a disability (Almutairi, 2018), in addition to reviewing the US special education system’s policies, definitions of types of disabilities, and responsibilities of professionals working with these individuals with disabilities (Alrusaiyes, 2014). Therefore, the proposed program policies will become clear once the program is implemented.

The final requirement regarding applicants’ desire for learning will be assessed by interviewing applicants to identify whether they are motivated to enroll in the program or their parents who want them to enroll. Francis et al. (2018) found that while some students with ID were interested in PSE programs, others applied because their parents motivated them to apply.

Type of Program Credential. Of the participants, administrators, employees, and faculty members at KSU, 52.3% believed that students in the program should take “from 1–3 courses” each semester. In addition, 50.8% of the same participants pointed out that credit courses “would be more appropriate for students' needs and abilities with ID in the proposed program in KSU,” while 39.1% disagreed with the statement that students in the program should not receive a course grade.

Students will earn a Regular Diploma or High Diploma from KSU if they meet several program completion requirements in the proposed program. Students must:

- a. *For Regular Diploma (two and a half years)*
 - take preparatory courses at the university;
 - complete 40 academic hours or units to obtain college credit, including:
 - six inclusive courses of three units each (two inclusive courses each semester) for a total of 18 units,
 - three specialized courses of three units each (one specialized course each semester) for a total of nine units, and
 - four units of an off-campus internship;

- complete all course requirements; and
 - participate in any type of campus activity or organization (at least two activities every semester).
- b. For High Diploma (four to five years)*
- take preparatory courses at the university;
 - complete 74 academic hours or units to obtain college credit, including:
 - 14 inclusive courses of three units each for a total of 42 units, and
 - seven specialized courses of four units each for a total of 28 units;
 - complete all course requirements;
 - participate in any type of campus activity or organization (at least two activities every semester); and
 - complete four units of an off-campus internship.

5.1.5 Program Model

The proposed program will use a mixed or hybrid model selected as most appropriate by 59.4% of the KSU administrators, employees, and faculty members. In this model, students with ID are involved in inclusive courses and campus activities with college students without disabilities (Hart & Grigal, 2010; Neubert & Moon, 2006). Students with ID will also learn in individualized courses focused on various skills, such as building financial literacy and independent living skills. Students will also engage in internships and job training while attending college courses alongside college students without disabilities (Casale-Giannola & Kamens, 2006; Hart et al., 2006).

This type of model is the best fit for students with ID in Saudi Arabia, especially in KSU, and with the philosophy of the proposed framework of the program (Baker et al., 2018). Currently, all types of students with disabilities in KSU learn in inclusive classes. Therefore,

the mixed model is the best fit with the KSU mission and philosophy that call for increasing diversity at the campus and providing education for all (Baker et al., 2018).

These students need the additional support provided for them in specialized classes because they have significant limitations in the areas of intellectual functioning (e.g., learning, application of information) and adaptive behavior (e.g., social skills, daily living skills, self-management; American Association of Intellectual and Developmental Disabilities, 2017; American School Counselor Association, 2013).

5.1.6 Inclusion Method

Academic Inclusion. Students in this program will spend 50% of their time at university learning in inclusive courses with students without disabilities (Grigal et al., 2019), a proposition supported by 60.9% of the interviewed administrators, employees, and faculty members.

The current academic inclusion method for students with disabilities at KSU is full inclusion in academic courses with students without disabilities (Disability Services Center, 2020).

Campus Inclusion. Students with ID will be required to participate in campus clubs, organizations, and activities as part of completing the program (Grigal et al., 2019; Grigal & Hart, 2010). Of the interviewed administrators, employees, and faculty members at KSU, 64.8% believed that these students should spend 50% of their time in campus inclusion engaged in inclusive activities with students without disabilities. At KSU, students with disabilities experience full participation on and off-campus and participate in activities and organizations with their peers without disabilities. Every semester, the University Council approves an implementation plan for these programs and activities to assign funding (Persons with Disability Services Center, 2020).

5.1.7 Majors

Although 58.6% of administrators, employees, and faculty members at KSU believed that all majors at the university could be potential options for students with ID based on their abilities and strengths, the university's current policies and philosophy restrict students with disabilities to studying specific majors at KSU, all humanities disciplines. For example, students with hearing and visual impairments who demonstrate sufficient ability to learn independently can major in any humanities discipline at KSU and its community-college branches.

Students with hearing impairments can currently major in only one specialty, Heritage Resource Management and Tourist Guidance, in the Faculty of Tourism and Archeology. The availability of specialization for this category of disability depends on the program's ability to provide sign-language interpreters and adapt the curriculum through the Disability Services Center. Previously, students with hearing impairments could study in Special Education and Art Education (KSUe, 2020).

Many students with disabilities have graduated from KSU with bachelor's and master's degrees; however, in majors in the Department of Media Journalism and Public Relations in the College of Arts, the Department of English Language in the College of Languages and Translation, the Department of Law at the College of Law and Political Systems, and the College of Tourism and Archeology (Disability Services Center, 2020).

Students with disabilities can study at KSU in many departments in KSU's ten colleges (KSU, 2020e). These include the following eight humanities colleges:

- College of Law and Political Sciences,
- College of Languages and Translation,
- College of Tourism and Archeology,

- College of Business Administration,
- Arabic Language Institute,
- College of Sport Sciences and Physical Activity,
- College of Education, and
- College of Arts.

Alternatively, they can enroll in one of KSU's two community colleges: Community College and the College of Applied Studies and Community Services.

5.1.8 Support Services

KSU will provide full support services for students with ID, in and out of class. These services include academic support, professional support, residential support, and other support services. KSU administrators, employees, and faculty members agreed that all support services should be provided for students with ID in the proposed program at KSU. For example, 61.7% agreed that these students should have access to and instruction in the use of needed adaptive technology, 55.5% agreed that they should have access to paid educational coaches, and 54.7% and 58.6% agreed that they should have access to job coaches.

As mentioned in Chapter Two, KSU has two main support service centers for students with disabilities to facilitate their learning on campus: UAP and the Disability Services Center.

The responsibility for providing support services for students with disabilities at KSU is divided among support service centers and programs, faculty members, and the students with disabilities themselves (Al-Zahrani, 2012; KSU, 2020g). According to Al-Zahrani (2012), the Disability Services Center (2020), and KSU (2020g), in the provision of support services for students with disabilities, these centers' roles and responsibilities are to:

- Facilitate and coordinate the provision of appropriate accommodations and modifications for students with disabilities;

- Establish policies and procedures to guide the provision of support services in accordance with the university rules and procedures for university students;
- Provide students, faculty members, and staff with procedures and organizational rules governing service for people with disabilities;
- Facilitate the evaluation of documents and procedures for academic accommodations and housing;
- Communicate with students to inform them of evaluation results, including requests for additional documents, recommendations regarding transition support services, and/or adaptations appropriate to the situation;
- Maintain a group of service providers and coordinate provider functions;
- Maintain confidentiality of records, including documents;
- Provide guidance on resources for students, faculty members, and staff who receive and/or provide access to facilities, programs, activities, and services for people with disabilities; and
- Contact the college and faculty members on behalf of students when necessary to facilitate the provision of the required adjustments and/or access to services.

The UAP and Disability Services Center currently provides all support services for students with disabilities, and they can do the same for students with ID.

5.1.9 Academic Support

Accommodations. The educational accommodations and support services provided to students with disabilities are determined based on each student's case. They are provided only to students with disabilities who do not have an equal opportunity to access educational opportunities without educational accommodations and appropriate support services. The process of providing accommodations and support services involves sending forms requesting

accommodations and support services to faculty members throughout the semester based on students' requests. Students with disabilities are encouraged to start the registration process early so that faculty members are notified of their needs before the first day of the semester. The centers for people with disabilities offer extensive services to students with disabilities. In general, the accommodations and support services specified in the committee's report are not difficult for faculty members to implement. However, faculty members should not change the course's basic requirements (Al-Zahrani, 2012; KSU, 2018, 2020g).

Al-Zahrani (2012), Disability Services Center (2020), and KSU (2018, 2020g) mentioned that the educational accommodations and support services for students with disabilities include:

- Taking notes,
- Extending test time,
- Providing exams in alternative forms,
- Reducing dispersed stimuli from the test environment,
- Taking breaks,
- Extending task completion times and duties on a case-by-case basis,
- Reducing the required material,
- Providing assistive technology (e.g., tape recorder, screen-magnification system),
- Using a word processor for writing papers,
- Creating picture replacement books (PDF, audio),
- Providing audiobooks,
- Recording unavailable courses,
- Arranging special tests,
- Facilitating access to modified computers,

- Volunteering readers and authors,
- Providing referrals to private lessons,
- Advising students on how to deal with disabilities,
- Providing sign language and interpretation services,
- Providing information and referrals to sources on and off-campus, and
- Providing IEP for each student according to their abilities and needs.

The administrators, employees, and faculty members at KSU were asked to identify the available accommodations to students with ID enrolled in inclusive university classes. They responded as follows:

- 54.7% identified “Accessible text.”
- 37.5% identified “Alternative formats.”
- 19.5% identified “Advance material.”
- 34.4% identified “E-reader.”
- 38.3% identified “Laptop.”
- 53.9% identified “Peer note taker.”
- 43.0% identified, “Professor notes.”
- 54.7% identified “Priority seating.”
- 39.8% identified “Read/write software.”
- 31.3% identified “Spell/grammar check”
- 46.1% identified “Screen reader.”

Peer Mentor Support. Of the interviewed KSU administrators, employees, and faculty members, 54.7% agreed to provide students with ID access to volunteer peer support, such as peer mentors, peer tutors, and campus ambassadors. The Disability Services Center at KSU provides students with disabilities employed or volunteer readers and writers and employed

guides on campus for students with visual impairments to help them learn and complete course requirements. They can live in a dorm with students with visual impairments if necessary (Disability Services Center, 2020; KSU, 2020g). Therefore, if this service continues to exist at KSU, peer mentors can be provided for students with ID once the proposed program is implemented to help provide academic, social, and interaction support, to help with navigating the community and the workplace, and so on (Think College, 2019).

Person-Centered Planning. Person-centered planning (PCP) is substantial for students with disabilities, including students with ID, in PSE. This is the most recent approach offered to people with ID that aims to provide individual support to improve quality of life by identifying these individuals' strengths, goals, medical needs, home needs, community services, and desired results, as well as a person's preferences in areas such as entertainment, transportation, friendships, treatment, housing, vocational training, employment, family relations, and social activities (Mansell & Beadle-Brown, 2004). This approach is directed by those receiving the services and support, and it is linked to the inclusion process to trying to achieve equality and empowerment for these students (U.S. Department of Health and Human Services, 2019; Mansell & Beadle-Brown, 2004).

Of the interviewed administrators, employees, and faculty members at KSU, 64.8% agreed that the proposed program should direct these students' choice of courses, activities, and employment experiences; 57.0% agreed that they should choose courses related to their interests and preferences. In addition, 62.5% agreed that these students should interact directly with faculty members and employers, including articulating their needed accommodations.

At KSU, PCP is not offered for students with disabilities. Instead, IEPs are provided, with students as the focus of educational learning. This means that the students' educational accommodations, support services, teaching strategies, and appropriate communication

methods are determined in coordination with them and the faculty members who need to approve their study of the requested curricula (KSU, 2018, 2020g). PCP can be provided for all students with disabilities, including students with ID because IEPs are already provided, and IEPs are considered a part of PCPs.

Professional Support. Professional support is linked with other support services in the PSE program to provide a complete college or university experience for students with disabilities, including ID. Think College (2018) and three cases of PSE programs in the US all noted that the following process is used to provide professional support for students with ID:

- The person in charge of the program's professional aspect communicates with department directors on campus and employers, companies off-campus to develop a partnership to allow students with ID to complete their training in a place appropriate to their desired career or provide training based on employment.
- The program staff members conduct field visits every week.
- The workplace may provide a supervisor for these students to guide them and give them feedback.
- Colleagues provide professional help for students with ID in the workplace.

This process is similar to the current professional support process for students with disabilities at KSU (Disability Services Center, 2020). The Partnership and Programs Unit at the university is responsible for forming partnerships with parties inside and outside the university interested in students' specific categories. It also seeks to activate programs related to student service. Its tasks include the following:

- Coordinating with the units of the center to determine the material and moral needs,
- Following up on activating partnerships and programs with the units,

- Making agreements with the existing partners that wish to cooperate with the university,
- Providing a quarterly evaluation of programs and partnerships and;
- Submitting a quarterly report to the center's management about the unit's progress.

The center also provides a career counseling service for students with disabilities that aims to enable them to take full advantage of the time and effort spent on the university experience. Counseling involves meeting with students, discussing their desired jobs, and helping them discover their appropriate professional capabilities considering their characteristics, needs, and preferences (KSU, 2018). Therefore, given that a professional support service already exists at the university, it can be extended to students with ID once the program is implemented.

On- and Off-campus Internships. On- and off-campus internships are other professional services provided in the PSE program for students with ID. Of the interviewed administrators, employees, and faculty members at KSU, 58.6% agreed that the students in the proposed program should have access to job coaches, 57.8% said they should have access to paid work experiences in settings with people without disabilities, and 60.2% said they should have the opportunity to participate in unpaid internships, service learning, and other work-related experiences with people without disabilities.

At KSU, the center provides only off-campus internships for students with disabilities according to their partnerships and the students' chosen majors.

Students with ID need to complete on-campus internships, as highlighted by the PSE program staff in the three cases. For example, it may be possible to start cooperating with departments at the university and building relationships with them to train students with ID

according to the students' specializations, if possible. The center can also take advantage of all the university resources and centers, including the university market, library, gym, cafeteria, celebrations and events hall, and the kindergarten section. Off-campus work experience can be added later.

5.1.10 Residential Support

On-campus Inclusive Housing. Not all colleges and universities offer housing options for students with ID (Stolar, 2016). Even though on-campus inclusive housing is optional for students with disabilities, including students with ID, it may be needed for students who live far away from their college or university. Students with ID in on-campus inclusive housing will learn independent living, self-determination, decision making, and other at-home activities such as using the toilet, doing laundry, cooking, eating balanced meals, housekeeping, dressing, maintaining their hygiene, and operating home appliances (Leach, 2015; Thompson et al., 2014).

Under the proposed program, according to 61.7% of administrators, employees, and faculty members at KSU, these students should be allowed to access on-campus inclusive housing. KSU already offers on-campus inclusive housing for students with disabilities.

Residential Peer Mentors. Natural support or residential peer mentors play a key role in providing support to students with ID within residential halls (Hendrickson et al., 2013). This PSE program employs these residential peer mentors, and they live in the halls of residence with students with ID to provide support according to the students' needs. These mentors in the three selected programs are responsible for helping students with ID understand and follow housing rules, manage private time, clean rooms, make friends, participate in activities, improve their problem-solving skills, and develop decision-making skills. The residence hall support and the residential mentors may need training by a program team (Kelley, 2017). At

KSU, a residential mentor service is provided for students with visual impairments to help them in residential life (Disability Services Center, 2020).

Support in On-campus Housing. Although colleges and universities have clear concerns about offering inclusive housing for students with ID alongside students without disabilities, it is possible to deal with these concerns through planning this experience for those with ID in cooperation with campus partnerships and official support systems provided to all students.

These support systems and stakeholders include on-campus housing departments, administrators, and other housing participants. Indeed, one person cannot be an expert in all housing services and the needs of students with ID. Rather, integration requires a collective effort through cooperative partnerships between the college administration and the PSE program team, established using existing support systems, to identify the possible benefits and risks of providing housing on campus for these students.

It is important to plan all possible support so that those providing support know when to intervene and when to withdraw to enable all students to achieve growth and independence (Kelley, 2017).

Residential life staff indicated that placing students in inclusive dorms throughout a residence hall led to increased understanding, acceptance, and social awareness of disability as part of human diversity. It also reduced complaints and violations of rules for students with ID, such as violations of their room contracts (Francis et al., 2018).

KSU offers inclusive on-campus housing for students with disabilities, with the relevant centers providing housing and transportation services. The Service Unit provides housing services in the center, which coordinates with the Housing and Student Feeding Departments to determine the suitable buildings for students with disabilities according to their condition and their companions, as needed while exempting them from housing fees. In the transportation

services, vehicles equipped with cranes are provided for students with physical disabilities, and coordination with the Transportation Department to allocate a bus to transport students from their residence to the college and back (Disability Services Center, 2020; KSU, 2018).

Other Support Services. Other support services are provided for students with disabilities at KSU through the Disability Services Center. These include extracurricular activities, training courses and seminars, a messaging service, and a parking service (Disability Services Center, 2020; KSU, 2020g).

Extracurricular Activities. Each semester, the Disability Services Center organizes trips to public institutions or government agencies for students with disabilities and their peers without disabilities, in addition to external trips. Sports activity programs with students without disabilities are also implemented through university facilities. These sports and recreational activities are suitable for students with every type of disability.

5.1.11 Training Courses and Seminars

The Skills Development Department implements several approved training courses aimed at all university students and employees. Coordination with the Computer and Skills Development Department is carried out to approve the courses implemented by the center and make some adjustments to the training courses, and exempt students from fees

5.1.12 Messaging Service

This service aims to notify students with disabilities of the center's programs, activities, events, and developments through SMS.

5.1.13 Parking Service

In coordination with the Department of Safety and University Security, the center allocates suitable parking spaces for students, ensures that others do not use the assigned

parking spaces, and issues the university complex's permit cards. In addition, it coordinates and facilitates the arrival of taxis and visitors to the center.

5.2 Section 2: Main Components of the Proposed Program Framework

The proposed program framework includes academic, professional, and residential components.

5.2.1 Academic Component

The academic component is designed to enable students with ID to learn in university classes and experience their nature. In these classes, these students will learn with their peers without disabilities, sharing the same class activities and course content, and being responsible for their learning. This means students with ID will be required to attend the course, participate in and out of the classes, submit modified course assignments, take tests, ask their professors questions, and raise concerns with their professors. Thus, they will experience university life's academic side and be committed to behaving, like all university students are expected to behave.

Of the survey participants, 60.9% believed that students with ID should spend at least 50% of their time in academic inclusion, while 64.8% agreed that these students should spend at least 50% of their time in on-campus inclusion, 48.4% said that these students should have to complete a minimum of 70% of an attempted course to pass, and 57% agreed that they should attend at least 75% of the class on time.

The academic component is critical for them, as it is for students without disabilities; it helps students with ID to become educated, independent, autonomous, and able to choose their dream jobs and work toward securing those jobs by attending university courses, whether they are inclusive or specialized courses, to earn their program certificates. The courses and units chosen in the proposed framework plan were selected from KSU Preparatory Year Catalog, in

addition to the TVTC courses that students with ID study in. The selection of was based on the Think College standards-based conceptual framework for the PSE programs for students with ID. For example, with regard to the self-determination standard, Courses were chosen in the proposed framework plan to develop students 'self-determination skills for students with ID, such as Personal Leadership, Career Planning, Universal skills, and entrepreneurship courses. The proposed program framework is an academic two and a half or four-year plan, as presented in Table 5.3 and Table 5.4, discussed in the following sections.

Table 5.3

Plan for Four-Year Academic Program

Semester	Courses	Units
First Year		
First Semester	University Skills (CUR 101) ¹	3
	Fitness and Health Education (EPH 101) ¹	3
	Personal Leadership ²	4
		10
Second Semester	English Language skills (ENGS 101) ¹	3
	Computer Skills (CT 101) ¹	3
	Career Planning I ²	4
		10
Second Year		
First semester	Core course chosen by student ³	3
	On-campus Training Experience I ⁴	3
	Career Planning II ²	4
		10
Second semester	Core course chosen by student ³	3
	On-campus Training Experience II ⁴	3
	Communication Skills ²	4
		10
Third Year		
First Semester	Core course chosen by student ³	3
	On-campus Internship I ⁴	3
	Vocational Skills I ²	4
		10
Second Semester	Core course chosen by student ³	3
	On-campus Internship II ⁴	3
	Vocational Skills II ²	4
		10
Fourth Year		
First Semester	Core course chosen by the student ³	3
	On-campus Internship III ⁴	3
	Professional Ethics ²	4

Second semester	Off-campus Internship	10 4
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5.2.2 Types of Courses

Courses are chosen to provide students with information and skills necessary to achieve the program's anticipated outcomes (Francis et al., 2018). The proposed framework includes two types of courses: inclusive and specialized courses. The inclusive courses include preparatory courses and core courses in students' interests, while the specialized courses are

Table 5.4

Plan for Two-and-a-Half Year Academic Program

Courses		Units
First Year		
First Semester	University Skills (CUR 101) ¹	3
	Fitness and Health Education (EPH 101) ¹	3
	Personal Leadership ²	3
		9
Second Semester	English Language skills (ENGS 101) ¹	3
	Computer Skills (CT 101) ¹	3
	Career Planning I ²	3
		9
Second Year		
First semester	Core course chosen by student ³	3
	On-campus Training Experience I ⁴	3
	Vocational Skills I ²	3
		9
Second semester	Core course chosen by student ³	3
	On-campus Internship I ⁴	3
	Communication Skills ²	3
		9
Last semester	Off-campus Internship	4

Note. ¹Preparatory courses are inclusive courses; ²specialized courses; ³core inclusive courses in the field of student's major; ⁴inclusive training experience on campus. Ten units are required during each of the first seven semesters, four units are required during the final semester, and 74 units are required to complete the program.

designed for only students with ID to learn a variety of skills they need (Stolar, 2016; Foxer, 2018).

Through a review of the curricula of the TVTC, commonalities were found among them and those of the proposed framework. The curricula of the TVTC include some general courses present in the proposed program, such as mathematics, English language, Arabic language, computers, health education, Islamic culture, communication skills, business skills, career guidance, professional ethics, entrepreneurship, leadership, and training.

The TVTC offers general curricula that would be valuable to add to the proposed framework. These courses are:

- Inclusive courses: Vocational Safety and Health (VENV 101; 3 units), Public Health Principles (VENV 102; 3 units)
- Specialized courses: Vocational Guidance & Excellence (VOCA 101; 2 units); Professional Ethics & Communication Skills (ETHS 101; 2 units; Introduction to Entrepreneurship (MEHN 004; 5 units). (Administration for Curriculum Design and Development, 2020; Technical and Vocational Training Corporation, 2018b)

Inclusive Courses. The inclusive courses will be audited and modified for students with ID based on their abilities and needs (Grigal & Hart, 2010; Stolar, 2016). The program will offer 14 inclusive courses of three units each, for a total of 42 units. The inclusive courses offered will be preparatory courses and core courses.

Preparatory Courses. At KSU, the common first year (CFY) is the preparatory year for freshmen. During the CFY, all students are required to take a variety of mandatory and preparatory courses to improve their abilities in self-development, basic science, and English to enable them to continue their learning at the university (KSUd, 2020). These preparatory courses are as follows:

- Courses in self-development skills—University Skills (CUR 101; 3 units), Fitness and Health Education (EPH 101; 2 units), Entrepreneurship (ENT 101; 1 unit), and Computer Skills (CT 101 and 102; 3 units each), Vocational Safety and Health (VENV 101; 3 units), Public Health Principles (VENV 102; 3 units)
- Courses in basic science—Differential Calculus (MATH 101; 3 units), Introduction to Probability and Statistics (STAT 101; 3 units), and Principles of Statistics and Probability (STAT 102; 3 units)
- Courses in the English language—English Language Skills (ENGS 101 and 102; 3 units each)

The following sections highlight the main contents of each preparatory course.

University Skills (CUR 101; 3 units). This course aims to develop first-year students’ academic, personal, and communication skills and teach the application of these skills in the university and work contexts. Skills include information processing, effective recall, learning toolbox, communication skills, design of scientific research tools, preparation of scientific research, techniques for writing and researching scientific research, future planning skills, critical- and creative-thinking skills, and self-discovery skills (KSU, 2020d).

Fitness and Health Education (EPH 101; 2 units). This course aims to equip students with skills related to personal health, food, sports, injury prevention, psychological health, and first aid. Students also learn how to apply these skills in real-life situations (KSU, 2020d).

English Language Skills (ENGS 101; 3 units). This introductory course focuses on developing four basic skills: listening, speaking, reading, and writing. Students learn the basic grammatical forms and structure of languages, such as sentence construction and the linguistic focus, to develop the basic repertoire of words and simple phrases related to personal information and life situations through communication and career activities (KSU, 2020d).

Computer Skills (CT 101; 3 units). The course aims to equip students with basic computer skills, including operating systems and applications, introduction to modern-day programming with algorithms, recognition of visual data, communications, networks, and information security (KSU, 2020d).

Core Courses in Students' Areas of Interest. Students with ID who finish the first-year program can select courses based on the majors that are of interest to them. These majors are offered in the humanities and community colleges. The humanities colleges include the College of Law and Political Sciences, College of Languages and Translation, College of Tourism and Archeology, College of Business Administration, Arabic Language Institute, College of Sport Sciences and Physical Activity, College of Education, and College of Arts. The community college includes two colleges: the College of Applied Studies and Community Services and the Community College. Students with ID can audit all these fully inclusive college courses.

Specialized Courses. Students with ID will learn personal, social, and vocational skills in specialized courses offered only for students with ID (Hart et al., 2006). The program will offer seven specialized courses, each with four units, for a total of 28 units. These courses have been chosen based on the PSE programs at Cases One and Two.

Personal Leadership (3 units). Students will learn the concepts of personal leadership philosophy, self-awareness and an internal moral perspective, and self-regulation. Students are expected to define their own personal leadership philosophy and clarify their views on their leadership and other leadership concepts, how they interact with different circumstances, and their expectations of themselves and others (Speranza & Pierce, 2019).

Communication Skills (3 units). Students will learn how to speak and communicate clearly and make sure that others understand their meaning: for example, by asking clarifying

questions and listening attentively. This will also be learning communication methods with faculty members, supervisors, coworkers, and the residence hall staff. They will also participate in talking to others about a topic, learning ways to offer greetings, starting conversations with peers and classmates, learning how to ask for help or clarification on and off-campus, and learning how to access community resources (Hart et al., 2017).

Professional Ethics (3 units). Students will learn about work ethic and professionalism, including attendance and punctuality, workplace appearance, accepting direction and constructive criticism, motivation and taking the initiative, and understanding workplace culture, policy, and safety (Think College, 2009).

Career Planning I (3 units). This course aims to teach foundational skills to guide students in developing their career goals and to develop skills related to commitment, interpersonal relations, persistence, responsibility, collaboration, independence, and engagement in the workplace (Hart et al., 2017).

Career Planning II (3 units). Students will learn to identify their personal support needs, solve potential problems or overcome challenges, defend their own needs, become aware of and use resources, and learn management, personal finance, and decision-making skills (Hart et al., 2017).

Vocational Skills I (3 units). This course aims to teach students career-readiness skills, including self-awareness, identifying personal strengths and weaknesses, knowing their disabilities and required support, setting realistic goals according to their capabilities, knowing their individual learning style, resilience skills, social connections, personal-social skills, motivation skills, obtaining and processing information, and using and producing information (Think College, 2017).

Vocational Skills II (3 units). Students will learn career success strategies, career financing, budget management, and preparation for work and independence after college.

Vocational Guidance & Excellence (VOCA 101; 2 units). This course aims to identify the skills necessary for the trainees to discover their professional aptitudes and to guide them to choose the appropriate specialization for their abilities and interests, in addition to identifying the work climate and professional satisfaction, analyzing work elements and employee personalities, and teaching them communication skills and time management.

Professional Ethics & Comm. Skills (ETHS 101; 2 units). This course aims to introduce the trainees to the concept of professional behavior, work systems, work ethics and habits, thinking and problem-solving skills, scientific-research skills, information systems and artificial intelligence, and the skills needed to prepare a CV.

Introduction to Entrepreneurship (MEHN 004; 5 units). This course meets for five hours weekly: one hour of lecture and four practical hours. It aims to provide the trainees with the basic knowledge and develop their entrepreneurial capabilities to create a business and successfully manage small projects.

Internships. Students will experience two types of internships: on- and off-campus internships.

Training Experience on Campus I and II (3 units each). Students with ID will implement all skills learned in the college courses in this training experience on campus. They will receive extensive supervision by program staff.

On-campus Internship I, II, and III (3 units each). In these courses, students with ID will implement the vocational skills learned in the courses. However, they will receive less extensive supervision by program staff and instead will receive directions and feedback from the directors or supervisors in departments or centers in which they work on campus.

Off-campus Internship (4 units). Students experience a real and integrated workplace with other employees without disabilities in their career of interest. Students receive supervision from their employers and weekly field visits by the program team.

Elective Courses. The proposed program framework includes elective and traditional courses chosen from KSU course catalogs (KSU, 2020d). Students will be able to select the courses they are interested in and develop their decision-making and self-determination skills. All these courses are inclusive courses.

Introduction to Islamic Culture (SLM 101; 2 units). This course aims to establish the correct Islamic belief to identify Islam's most important contemporary doctrines, Islamic civilization's foundations, and Islamic morals and teachings and apply them in daily working life (KSU, 2020c).

The Family in Islam (SLM 102; 2 units). This course aims to introduce the family's concept in the Muslim community and the foundations of forming these families, the values and principles upon which these families are based, discuss the most important family issues/problems, and provide appropriate solutions to the nature of those issues/problems. (KSUc, 2020).

Arabic Language Writing Skills (ARAB 100; 2 units). This course aims to develop the Arabic language written skills for first-year students and enable them to apply those skills in their university and practical lives. Students learn how to write an essay; all types of letters, punctuation marks, and correct positions; the different grammatical methods; how to use dictionaries; and how to recognize the origins, meanings, and correct pronunciations spellings of words (KSU, 2020d).

Arabic Language Skills (ARAB 101; 2 units). This course aims to equip students with the Arabic language's grammar, including spelling, grammatical, morphological, and stylistic

skills, to raise students' expressive capabilities, increase their linguistic wealth, and train students to speak and logically organize ideas (KSub, 2020).

Arabic Language Editing Course (ARAB 102; 2 units). The course aims to equip students with the skills to link vocabulary, sentences, language structures, punctuation marks, locations, different types of Arabic editing, and different solutions to the difficulties of writing, drawing, and its applications (KSub, 2020).

Entrepreneurship (ENT 101; 1 unit). This course aims to provide students with knowledge of the basics and principles of entrepreneurship and its practical applications; the concept of work culture, appropriate paths for projects, and making use of available opportunities; research skills for information from various sources; opportunities for successful projects; writing a business plan; preparing a feasibility study that includes marketing, operational, and financial plans; and managing teams (KSU, 2020d).

Vocational Safety and Health (VENV 101; 3 units). This course meets for three hours weekly: one hour of lecture and two practical hours. The course includes an introduction to occupational health and its importance and objectives, emergencies and occupational accidents, prevention methods, and identification of first aid treatment and common accidents.

Public Health Principles (VENV 102; 3 units). This course aims to introduce the trainees to the general principles of health and disease and train them in types of diseases and their effects, infection and its types, immunity, healthy cities, and their effect on public health, and home health.

Computer Skills (CT 102; 3 units). The course aims to equip students with basic computer skills by understanding computer components, operating systems, the concept of the Internet and its applications (e-mail, browsers); skills of creating, editing, and printing documents; using electronic tables and performing calculations; designing presentations;

searching for information from various sources; and designing and using simple educational software (KSU, 2020d).

English Language Skills (ENGS 102; 3 units). This course combines writing, listening, and speaking skills while using an extensive set of texts. In this course, more emphasis is placed on communicative interaction by supporting students as they talk to each other on various topics with which they are familiar (KSU, 2020d).

An Introduction to Probability and Statistics (Stat 101; 3 units). This course focuses on developing students' knowledge and application of the following mathematical concepts: sets of numbers and inequalities, basic definitions and examples, properties of functions and their combination, the definition of limits, limits laws, limits involving infinity, continuity of functions, differentiation rules, derivatives of trigonometric functions, implicit differentiation, higher-order derivatives, the mean value theorem, increasing and decreasing functions, concavity, and curve sketching (KSU, 2020d).

5.2.3 Student Evaluation

Students with ID will be evaluated on academic, social, independent living, and employment aspects. The program team will evaluate faculty members and residential staff if they live in on-campus housing. 57.8% of the administrators, employees, and faculty members at KSU agreed that the proposed program for students with ID should determine the students' evaluation process by collaborating with a peer mentor, the program team, and support the residential office. In addition, 71.9% of the administrators, employees, and faculty members at KSU agreed that the proposed program for students with ID should evaluate students with ID based on completing course requirements, vocational experiences, establishing goals with program staff, and completing surveys/assessments.

The evaluation process will be based on the expected student outcomes discussed in section 3(a) of this proposed framework. The Think College student progress tracking form (2012) will evaluate students in the program (see Appendix L).

5.2.4 Professional Development

The existing professional support services that are already provided to students with disabilities at KSU, as previously discussed, will also be offered to students with ID once the proposed program is implemented. Students with ID will learn prevocational skills in specialized classes to prepare them for the workplace. These skills will include communication skills focused on communicating with their managers or employers and colleagues, commitment to work rules and policies such as wearing formal work attire, being punctual, handing over tasks, and following their supervisors' instructions at work. They will also learn how to advocate for their rights, make their own decisions, and develop personal and financial independence.

Additionally, students with ID will choose jobs aligned with their interests through weekly meetings with the program's professional coordinator. In these meetings, person-centered plans will be used to identify the interests and strengths of the students, develop résumés and request letters of recommendation, develop interview skills and social skills in the workplace, identify career opportunities available to them on and off-campus, discuss the rights granted to employees with disabilities in Saudi Arabia, and learn transportation methods to and from internships. The three selected programs followed all this.

Students with ID will also complete 19 hours of training experience both on and off-campus. The on-campus training experience will be arranged by program staff in the Disability Center at KSU to enable cooperation with departments at the university to train students with ID according to students' interests. The center can also take advantage of all the university

resources and centers to train students with ID, such as the university market, library, gym, cafeteria, celebrations and events hall, and kindergarten.

After finishing 15 hours of training experience on campus for over 3.5 years, four hours of off-campus work experience will be provided during the last semester in the fourth year. The off-campus work experience will be organized by the professional coordinator at the center, who will communicate with employers and managers of companies off-campus to build partnerships that allow students with ID to complete their training in the workplace. In addition, the program staff will conduct weekly field visits for these students. The workplace may provide supervisors for these students to guide them and give them feedback, and colleagues in the workplace may provide professional help (Think College, 2018).

Residential Component. Many PSE programs provide residential options for students with ID, whether on or off-campus. This option depends on university protocols and the availability of this service, in addition to the culture of the college or university (Kertcher, 2014). At KSU, inclusive housing is available for students with disabilities at no cost. Living on campus will be optional for students with ID. It is helpful, however, for these students to live independently of their parents to learn to relocate to their own homes, know meal plans in the dining hall, learn their schedules and campus shuttle methods, and get to know the residential staff and program mentors without the disorder introduced by several hundred other students moving around at the same time (Francis et al., 2018).

The Disability Services Center at KSU will employ residential peer mentors as long as there are employed residential mentors for blind students at the university (Disability Services Center, 2020). The residential peer mentors will live in the residence halls with students with ID to provide support according to the students' needs. These mentors will be responsible for helping students with ID understand and follow housing rules, manage their time, clean their

rooms, make friends, participate in activities, and improve their problem-solving and decision-making skills. The residential mentors may need to undergo training provided by the program team at KSU (Kelley, 2017).

5.3 Section 3: Program Evaluation

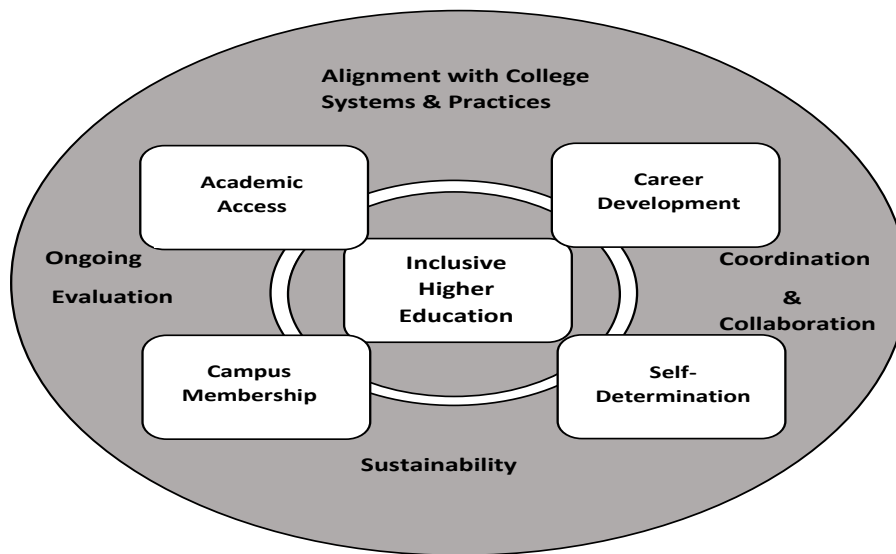
5.3.1 Evaluation Criteria of the Proposed Framework for a PSE Program

During the program design phase, it is crucial to plan the program evaluation method that will be used continuously. According to 56.3% of the administrators, employees, and faculty members at KSU, the proposed program should be subject to external and internal evaluation to improve. External program evaluation can be used if the program can pay the evaluation costs. The evaluation process includes evaluating the program goals and analyzing the tasks so that decisions can be reached regarding the program's progress. Designing a logical model for the program that includes the inputs, outputs, and results related to the program may also help program developers make informed decisions (Baker et al., 2018).

Think College provides information situated within a standards-based conceptual framework to guide colleges, universities, and researchers to improve and evaluate their higher education programs for students with ID. This framework includes eight standards, 18 quality indicators, and 87 benchmarks for PSE programs for students with ID can help boost the quality in terms of planning, implementation, and assessment (Grigal et al., 2011, 2012a; Weir et al., 2013 (Figure 5.1).

Figure 5.1

The Think College standards-based conceptual framework



Note. From " Framing the future," by M. Grigal et al., 2011, *Think College Insight Brief, 10*, p. 6. Copyright 2011 from Think College, Institute for Community Inclusion, University of Massachusetts–Boston.

Grigal et al. (2011) and Weir et al. (2013) explained four critical standards in the inclusive higher education conceptual framework: academic access, career development, campus membership, and self-determination. These standards are supported and made possible in the model by four types of programmatic infrastructure that connect services: integration with college systems and practices, coordination and collaboration, sustainability, and ongoing evaluation. These eight elements work together to provide a coherent framework for promoting HEOA guidelines, and any services students with ID in PSE may require.

The Think College standards will be used at KSU as an internal evaluation tool for the proposed program framework (see Appendix M). External evaluation can also be used because the Disability Services Center and UAP already have contracts with external agencies and other universities (KSU, 2020g; KSU, 2018). Similarly, several KSU colleges, including the College

of Dentistry, the College of Pharmacy, the College of Medicine, the College of Engineering, the College of Food and Agricultural Sciences, the College of Science, and the Riyadh Community College, already undergo external evaluation. The external evaluation teams include the American Academy for Liberal Education, the National Council for Accreditation (NCA), the Commission on English Language Program Accreditation Agency for Study Programs in Health and Social Sciences, the National Architectural Accrediting Board, and the Evaluation Agency for the French Research and Higher Education Board (KSU, 2020g).

5.3.2 Evaluation Framework for Inclusive Practices

Another internal evaluation used in the initial design of the proposed framework is a framework for an inclusive PSE program for students with ID in higher education that was developed by members of the Think College special interest group Building Inclusive Campus Communities in collaboration with partners from the Institute for Community Inclusion (see Appendix N). This framework was designed to facilitate PSE programs' design processes and evaluate existing PSE programs for students with ID. The framework includes a checklist containing a series of questions for practitioners and administrators in the field of PSE for students with ID. These questions reflect significant factors that should be considered when designing or evaluating PSE programs at colleges and universities. On this checklist, implemented program components are marked “Yes,” and missing components are marked “No.” This allows program facilitators to review programs and include the missing components for program development (Jones et al., 2015, pp. 3–4).

As shown on the checklist in Appendix N, the PSE program's proposed framework needs to be developed in some areas, including the natural proportion of students with ID to students without disabilities enrolled in the university. Furthermore, the proposed framework lacks a formal system for monitoring inclusion in the university. Students with disabilities are

enrolled in a separate program at KSU, and students with ID may not have the option of choosing a peer mentor or tutor at the beginning of the program because the author cannot guarantee that a large number of these paid or unpaid mentors or tutors will be available in the program. It will be possible to have a peer mentor for every student with ID once students enroll in the program.

5.3.3 Expected Outcomes of the Proposed Framework for a PSE Program

Student Outcomes. The program's proposed framework will be delivered for the first time and closely monitored to ensure the achievement of program objectives and learning outcomes. Students with ID results will be measured, including academic, successful completion, transition, jobs, and independent living outcomes (Handsome, 2018; Stolar, 2016). The occupational sessions are also examined for personal development findings like the definition of goals, communication skills, and organizational skills. The traditional lecturers' experiences teach university students with ID, such as the desire to adapt and learn how to educate students with ID and address personal and professional difficulties. In addition, the appropriateness of inclusive assessments and the effectiveness of the content provided (Handsome, 2018).

Upon completing the program, students with ID will be expected to have acquired various skills mentioned in previous studies (Hall et al., 2000; Hart et al., 2010; Zafft et al., 2004). According to the proposed framework of the PSE program, the students are expected to meet the following expectations:

- Be responsible for registering for the courses in which they are interested every semester,
- Be responsible for requesting accommodations from the program staff and faculty members,

- Be responsible for attending classes themselves,
- Be responsible for submitting course work and meeting course requirements,
- Be responsible for their success in the program,
- Participate in activities and organizations on campus,
- Be responsible for attending all scheduled meetings with the program team,
- Be autonomous,
- Be self-advocates,
- Achieve independent living, and
- Follow the university code and regulations.

The administrators, employees, and faculty members at KSU were asked to identify the skills students would be expected to acquire during the program. They agreed as follows with the assessment that the following skills should be acquired:

- “Course registration” (48.4%),
- “Accommodations requests” (39.8%),
- “Class attendance” (65.6%),
- “Course requirements submission” (50.8%),
- “Participation in on-campus activities and organizations” (82.8%),
- “Scheduling meetings with the program team” (52.3%),
- “Self-determination” (69.5%),
- “Self-advocacy” (71.7%), and
- “Independent living” (85.2%).

Program Outcomes. The program's proposed framework is expected to gain support from the KSU administration and faculty members due to their positive attitudes toward integrating students with ID into the university (Almutairi et al., 2020a). Similarly, the

proposed framework may obtain support from people without disabilities involved in the university who want to support students with ID (Weinkauf, 2002). This may increase the positive expectations of faculty members, students, and university staff regarding students with ID as college students instead of people with disabilities (Zafft et al. 2004). Integrating individuals with ID can be considered a tool for social change, shifting views away from traditional negative perceptions toward these individuals, and may lead to the acceptance of these people into society (Francis et al., 2018; Weinkauf, 2002). It may also create diversity on campus, as these students have the full right to learn at the university (Francis et al., 2018).

The proposed framework will contribute to teaching and learning within the university and society in the field of special education because the inclusion of students with ID increases the awareness of those at the university of such students, such as understanding their needs and capabilities. Additionally, faculty members will identify the best ways to teach these students in their classrooms, while students without disabilities learn about and come to understand their peers' needs and capabilities with ID who are learning with them in the same classroom. More importantly, the proposed framework will create diversity in the university community, leading to positive attitudes toward students with ID.

Integrating students with ID at KSU may lead to more research in other medical, scientific, and human specializations on how the university can better serve these individuals. Moreover, the proposed framework may contribute to knowledge that helps improve educational outcomes for the KSU community in particular and at the national level in general. The proposed program may help raise the profile of KSU as the first Arab university to integrate students with ID. It may also contribute to establishing partnerships with other universities or leading research centers in the field of PSE programs for students with ID, such

as Think College. In the course of this research, the author established relationships with experts in this field, and this, too, may enhance partnerships with other universities.

Through the proposed framework design in this section, the hypothesis that identifying the capabilities and anticipated needs of the Saudi students with ID, in addition to the regulations, philosophy, the available resources, and support provided to students with disabilities in a university in Saudi Arabia, will help design the proposed framework for a PSE program for students with ID, was accepted (Baker et al., 2018; Grigal & Hart, 2010; Francis et al., 2018; Paiewonsky & Ostergard, 2010).

5.4 Applicability of the Proposed Framework for the PSE Program at KSU

The applicability of the proposed framework for the PSE program was verified based on the survey of and interviews with administrators, employees, and faculty members at KSU, in addition to interviews with Saudi students with ID and their parents. The results were presented along several themes, as follows:

5.4.1 The validity of the proposed framework in the Saudi context

The proposed framework categorizes the students according to their needs and the type of ID they have. For example, those with moderate ID are distinguished from other students with mild ID. Additionally, the framework formats program goals, selects content, and determines its relevance to the life experiences and maturity of the faculty and students. Although these points are essential to ensure that a suitable design is applied to the PSE program, it was indicated by the participants that it is still important to consult specialists, faculty, and doctors to collect feedback about the best practices and achieve the utmost benefit from this proposed framework. In addition, joint workshops and meetings for the specialists, faculty members, and students with ID should be arranged.

During the interviews, it was obvious that the academic participants possessed knowledge about the nature of students with ID, because they indicated that these students have limitations with respect to their cognitive functions and adaptive behaviors. The participants also indicated that the skills of these students should be developed upon enrollment at the university. Ashraf, a faculty member, added to this point by stating: “These students face difficulty in using higher-order thinking skills, in addition to social integration.”

Table 5.5

Gender and Position of the participants

Gender	Frequency	Percentage
Male	6	4.7
Female	122	95.3
Total	128	100.0

Position	Frequency	Percentage
I am working as an administrator only	4	3.1
I am working as a faculty member only	101	78.9
I am working simultaneously as an administrator and a faculty member	17	13.3
I am working as an employee at the Disability Services Center	6	4.7
Total	128	100.0

The participants’ awareness of the capabilities and needs of students with ID is important with respect to the validity and applicability of the proposed framework, because their awareness reflects their understanding of the nature of the PSE program for students with ID and its components and will enable them to evaluate it based on their experiences and perceptions.

4.7% of the participants were male, whereas 95.3% of them were female. In addition, 3.1% of them worked solely as administrators, 78.9% worked solely as faculty members,

13.3% worked simultaneously as administrators and faculty members, and 4.7% worked as employees at the Disability Services Center (Table 5.5).

Moreover, it was mentioned by 43.8% of the participants that the appropriate age range for students with ID to be enrolled into the program was “21–23 years,” whereas 35.2% of them indicated “18–20 years,” and 16.4% indicated “24–26 years.” Only 4.7% of the participants selected “more than 26 years.” The results reflect the current status of the age of enrollment for students with disabilities at KSU, which ranges from 18 to 23 years. Additionally, 32.8% of the participants agreed that the appropriate number of students with ID to be enrolled in the PSE program was “between 1–3 students,” whereas 33.6% said

Table 5.6

Ages and Number of Students with ID

Ages of Students	Frequency	Percentage
18–20 years	45	35.2
21–23 years	56	43.8
24–26 years	21	16.4
More than 26 years	6	4.7
Total	128	100.0
Number of students	Frequency	Percentage
1–3 students	42	32.8
4–6 students	43	33.6
7–9 students	22	17.2
More than nine students	21	16.4
Total	128	100.0

Table 5.7

Length of the Program and Level of ID

Length of the program	Frequency	Percentage
One year	4	3.1
Two years	43	33.6
Three years	9	7.0
Four years	6	4.7
Differs from student to student	66	51.6
Total	128	100.0

Level of ID	Frequency	Percentage
Students with mild ID	73	57.0
Students with moderate ID	2	1.6
Both students with mild and moderate ID	53	41.4
Total	128	100.0

“between 4–6 students,” 17.2% said “between 7–9 students,” and 16.4% said “more than nine students.” The results potentially reflect KSU’s ability to accommodate this quantity of students (Table 5.6).

With respect to the ideal length of the program for students with ID, 3.1% of the participants chose “1 year,” 33.6% chose “2 years,” 7.0% chose “3 years,” 4.7% chose “4 years,” and 51.6% stated that it “differs from student to student.” This suggests that the length of the program should consider the individual differences among students. Furthermore, 57% of the participants stated that “students with mild ID” should be accepted into the program, whereas 1.6% said “students with moderate ID,” and 41.4% said “both students with mild and moderate ID” should be accepted. The results justify the acceptance of students into the program regardless of their level of ID (Table 5.7).

With respect to the number of courses that students with ID should take each semester, 52.3% of the participants chose “1–3 courses,” 41.9% chose “4–6 courses,” 4.7% chose “7–9 courses,” and 0.8% selected “10–12 courses.” The results indicate that the educational process should be cognizant of the students’ abilities and not burden them with too many courses.

With respect to the certificate that students who participate in the program should be given, 21.1% of the participants chose “non-degree certificate,” 49.2% selected “diploma,” and 29.7% chose “Bachelor’s degree.” Plotner and Marshall (2015) and Thomas (2013) indicated that those who disagree about awarding a degree diploma to students with ID have negative perspectives regarding these students (Table 5.8).

With regard to the colleges that would be appropriate for providing majors to students with ID at KSU, 10.9% of the participants chose the “College of Languages and Translation,” 25.9% selected the “College of Tourism and Archeology,” 3.1% chose the “College of Business Administration,” 49.2% selected the “College of Sport Sciences and Physical Activity,” 34.4% selected the “College of Education,” 15.6% selected the “College of Arts,” 26.6% selected “Community College,” and 37.5% selected the “College of Applied Studies and Community Services.” Most participants (58.6%) agreed with the statement that “All majors can be allowed based on the students’ abilities and strengths” (Table 5.9).

In addition, 30.5% of the participants indicated that a “separate program (special university classes only for students with ID)” would be the ideal type of PSE program at KSU based on the needs and abilities of Saudi students with ID, whereas 59.4% selected a

Table 5.8

Type of Program Credentials and Number of Courses

Type of program credentials	Frequency	Percentage
Non-degree certificate	27	21.1
Diploma	63	49.2
Bachelor’s degree	38	29.7
Total	128	100.0
Number of courses	Frequency	Percentage
1–3 courses	67	52.3
4–6 courses	54	41.9
7–9 courses	6	4.7
10–12 courses	1	0.8
Total	128	100.0

Table 5.9

KSU colleges that the participants selected as most appropriate for students with ID to study at

College	Frequency	Percentage
College of Law and Political Sciences	0	0.0

College of Languages and Translation	14	10.9
College of Tourism and Archeology	33	25.8
College of Business Administration	4	3.1
College of Sport Sciences and Physical Activity	63	49.2
College of Education	44	34.4
College of Arts	20	15.6
Community College	34	26.6
College of Applied Studies and Community Services	48	37.5
All majors can be allowed based on the students' abilities and strengths	75	58.6

“mixed program (students with ID spend half of their time in inclusive regular university classes and the remaining half in special classes),” and 10.2% chose a “fully inclusive program (students with ID learn only in inclusive regular university classes).”

More than half of the participants reported that a mixed program, which has been more commonly adopted by colleges and universities in the US (Jester, 2016), would be an appropriate model for the PSE program at the university.

Table 5.10

Type and Courses of PSE Program

Type of PSE Program	Frequency	Percentage
Separate program (special university classes exclusively for students with ID)	39	30.5
Mixed program (students with ID spend half of their time in the inclusive regular university classes and the other half in special classes)	76	59.4
Fully inclusive program (students with ID learn only in inclusive regular university classes)	13	10.2
Total	128	100.0

Type of University Courses	Frequency	Percentage
Credit courses	65	50.8
Non-credit courses	51	39.8
Audit courses	12	9.4
Total	128	100.0

With respect to the courses that students with ID should be allowed to undertake at the university, 50.8% of the participants selected credit courses to be appropriate for the needs and abilities of students with ID, whereas 39.8% chose “non-credit courses,” and 9.4% selected “audit courses.”

The results indicate that the participants advocate for the students with ID to be provided with the same university experience as other students at KSU, such as taking credit courses to earn a degree. In addition, efforts are being made to modify these credit courses to suit these students’ abilities and needs. However, additional measures are still required in this regard. Students with ID who display a high academic ability can take credit courses and are required to fulfill the same course requirements as their peers without disabilities (Papay & Bambara, 2011; Papay & Griffin, 2013; Stolar, 2016). There are no modifications made to the curriculum requirements in the credit courses. However, certain accommodations can be made for students with ID (Papay & Griffin, 2013; Stolar, 2016; Table 5.10).

Moreover, 55.5% of the participants agreed that the PSE program should be designed to meet the need of Saudi students with ID, and 61.7% of them believed that the program should have an academic and professional focus. In addition, 57 % of the participants agreed that courses should be related to the students’ personal, academic, or career goals, and 64.8% agreed that the students should be able to direct their choice of courses, activities, and employment experience.

In the same context, 60.9% of the participants agreed that students with ID should spend at least 50% of their time in academically inclusive settings and 64.8% of them agreed that the students should spend at least 50% of their time in inclusive on-campus settings. Additionally, 71.9% of the participants agreed that the evaluation of students in the program should be based on them achieving their course requirements, obtaining vocational experience,

establishing goals with program staff, and completing surveys/assessments. Also, 57.8% of the participants agreed that the students' evaluation should occur through collaboration among their peer mentor, the program team, and the support residential office. Lastly, 56.3% of the participants agreed that the program should be subject to external and internal evaluation to ensure that it is continually improved.

The colleges suggested to host the PSE program for students with ID were “Health Colleges” (1.6%), “Humanities Colleges” (53.9%),” and “Community College” (44.5%). Additionally, “cooperation between two colleges” (19.53%) was also suggested (Table 5.11).

As stated above, some participants said that the program could be hosted by two colleges cooperating with each other. For example, cooperation between “humanities colleges and community colleges” received support from 14.84% of participants, whereas cooperation between “health and humanities colleges” was chosen by 1.56% of them. However, some participants suggested that the cooperation should be between departments, such as Special Education and Technical Education (2.34%) or Sociology and Psychology (0.78%; Table 5.12).

The participants who believed the program could be hosted jointly by the Humanities Colleges and Community Colleges explained that these colleges possessed awareness and

Table 5.11

Host College of the Program

College	Frequency	Percentage
Science colleges	0	0
Health colleges	2	1.6
Humanities colleges	69	53.9
Community college	57	44.5
Preparatory year	0	0.0
Total	128	100.0
Cooperation between two colleges	25	19.53

Table 5.12*Cooperation between Two Departments/Colleges*

Cooperation between Two Departments/ Colleges	Frequency	Percentages
Humanities Colleges and Community College	19	14.84
Special Education and Technical Education departments	3	2.34
Health and Humanities Colleges	2	1.56
Sociology and Psychology departments	1	0.78
Total	25	19.53

knowledge regarding the abilities and needs of students with ID. These programs and majors could be easily modified according to such students' needs and abilities, they had suitable majors for such students, they were experienced with respect to including students with disabilities into their field, their attitudes toward these students would be significantly more positive than those of other colleges, and these colleges aim to serve all community members, which include people with ID.

Participants who indicated that the program should be hosted in cooperation between health and humanities colleges did not explain the rationale behind their choice. On the other hand, some participants thought that the cooperation could be between two departments, such as between the Special Education and Technical Education departments or between the Sociology and Psychology departments, that have knowledge regarding the needs and abilities of students with ID.

5.5 Applicability of the proposed framework in the Saudi Context

Institutional values. The participants' support for the rights of students with ID indicates the existence of a human rights base that supports the feasibility and effectiveness of

the program and provides better opportunities for its implementation. Haitham, a director, stated:

Education is not a privilege that some individuals in societies receive while others do not, but rather it is a basic human right and is at the core of UNESCO's mandate. However, to ensure the exercise of the right to education, there must be equal opportunities and universal access to education.

Additionally, Maha, a faculty member, stated:

The goal here is to integrate students with ID in the educational process, in the job market, as well as social life, and I believe that integration in the educational process is the most important step to achieving this. The support should be comprehensive [and should involve] specialists in ID and specialists in inclusion, awareness, and counseling.

Munira, a faculty member, added:

Its importance lies in providing equal opportunity for students with ID in higher education, which is considered necessary for obtaining a job in the future and for increasing their experience and providing them with skills. Its importance for the university lies in achieving leadership in integrating these students in educational settings and providing services to individuals with disabilities at the university level.

All in all, the value of the program, as explained by the interviewees, is to promote the integration of students with ID into universities, workplaces, and society at large. It is also important to make these students active and productive members of society. Ali, a director, said:

We aspire to create a productive human being, who has their own life, future, and rights, and who enjoys all the advantages that any normal person enjoys. We want to prevent discrimination against people with ID and help them obtain their rights.

KSU seeks to achieve its vision of creating distinguished education for all and serving society through creating an educational environment and fostering effective international partnerships. One of the objectives of KSU's strategies in 2020 is to improve support services and programs for students with disabilities at the university (KSU, 2020f).

The benefits of implementing the program. The results showed that the program's value would be demonstrated by the benefits that will accrue to the students with ID and the university. It is expected to contribute to enhancing the independence of those with ID and helping them get jobs that will increase their professional experience, which in turn reduces the burden on their families. The interviews also revealed the students' desire for self-realization, jobs, and money, which would secure their future. The students demanded to be provided with opportunities through the promotion of inclusion in universities and the consolidation of the competence of faculty and others working at educational institutions. These points are stipulated in the proposed program and are greatly highlighted. As for the university, the program contributes to achieving leadership in integrating students with ID into education and utilization of services

Moreover, providing appropriate university education for students with ID will enhance their integration into society, and this sentiment is echoed by parents and other participants as well. Besides, helping this group of students to join university reduces the financial burden resulting from their unemployment, as they can work after graduating and forge a decent life for themselves.

Social Acceptance of the Program. To a large extent, the academics who were interviewed agreed on the importance of the program. Most of the interviewed students demanded support for students with ID. The interviews with the students indicated that they believed that such a program would make university accessible to them. The students and parents expressed that they would continue to achieve academic success through these new opportunities. The interviews also revealed that the students with ID had inadequate experience of being involved in PSE programs.

Participants Support for the program. The participants demonstrated their personal desire to support the program and students with ID if they were accepted into the university, particularly by contributing to the success of implementing the new program. They agreed that the most important thing that could be done for students with ID is to integrate them into the classroom like their regular peers. Some academics explained that this could be achieved through educating university students about the rights of persons with disabilities and the importance of accepting them, which would change their negative perception about people with disabilities. However, the number of participants that would like to be involved in the PSE program is unknown because they were not directly asked about their potential involvement during the interview. Almost all the interviewees supported the idea of implementing the PSE program for students with ID at KSU. The interviewees expressed what their contribution could be with respect to supporting students with ID to make the program effective at the university. Only one participant believed that it might be challenging to implement such a program at the university due to the prevalence of a negative attitude toward these students. The same participant expressed that she will support the program if KSU chooses to implement it.

The supportive opinions presented by the participants at KSU may be viewed as bias. However, it should be noted that negative perceptions toward implementing the PSE program

at KSU were also highlighted. These included bureaucracy and the university's financial issues. Another important point is that the results of the interviews concerning support for the PSE program and the integration of students with ID into the university were consistent with a study regarding the views of administrators and faculty members at KSU toward integrating students with ID into the university that was conducted in 2018 and published in 2020. The results of this study were positive, as the participants agreed to integrate students with ID into the university (Almutairi et al., 2020a). The participants in both this dissertation and the earlier study were chosen randomly in different periods, i.e., in 2018 for the earlier study and in 2020 for this dissertation. Therefore, the results suggest a reduced prevalence of bias in the current study with respect to support for the PSE program for students with ID.

The need for the PSE program in the Saudi context. Parents expressed their concerns about the future of their children's education. Some parents asked for extra attention to be paid to education programs to ensure equal educational opportunities in their children's education. Some parents explained that their children were unable to complete their studies and stressed the need to develop this program in order to give their children an opportunity to continue learning, especially since some of the children were reported to possess high academic capabilities and achieved satisfactory results in high school.

Through the interviews, it was found that the students who were interviewed did not receive adequate PSE, and some of them stayed home after completing their high school education and had concerns about their future. Although the parents and students with ID reviewed the academic options available to them after high school, such students were often unable to join universities due to the lack of adaptation and the absence of programs that permitted the enrollment of students with ID.

The participants mentioned that KSU provides students with disabilities with support, but not those with ID. There is thus a great need to develop the university’s services to meet the needs of students with ID. 30.5% of the participants indicated that KSU had plans to create

Table 5.13

The institution has plans to create a PSE program

Does your institution have plans to create a program for students with ID?	Frequency	Percentage
Yes	39	30.5
No	89	69.5
Total	128	100.0

Table 5.14

PSE Program Timeframe

Timeframe KSU would need in order to start a program for students with ID	Frequency	Percentage
1–3 years	59	46.1
4–6 years	46	35.9
7–9 years	13	10.2
More than nine years	10	7.8
Total	128	100.0

a PSE program for students with ID, whereas 69.5% indicated that it did not (Table 5.13).

Timeframe to start the program. With respect to the timeframe needed to start the program, 46.1% of the participants believed that KSU would need “between 1–3 years,” 35.9% said “between 4–6 years,” 10.2% said “between 7–9 years,” and 7.8% said “more than nine years.” The results indicate that KSU should start planning to launch a PSE program for students with ID within 1–3 years. This result is consistent with Morgan’s (2014) assertion that a PSE program for students with ID could be fully implemented within three years, provided that administrative staff, employees, and students with ID devote maximum effort to the

implementation of the program and accurately implemented the practices, policies, and regulations related to the program (Table 5.14).

Available essential human and financial resources. Amal, a faculty member, said, “We now have a new department, which is a postgraduate department to train students and help

Table 5.15

Support to be Provided by KSU for Students with ID

The support that should be provided by KSU for students with ID	Frequency	Percentage
There should be a designated program to support students with ID	24	18.8
The center serving students with disabilities should provide support for students with ID in regular university classes	48	37.5
A new support program should be implemented in cooperation with Saudi agencies and KSU’s sectors	56	43.8
Total	128	100.0

them get jobs.” In addition, most of the interviewees focused on the university’s infrastructure, supervisors, and faculty—highlighting the contribution of those components to the success of the program and its implementation. Besides, the availability of such factors makes the program more implementable.

Some participants mentioned the current university-supported centers that provide necessary support for people with ID and in which a number of experienced cadres work with students with special needs.

Fares, an employee at KSU’s Disability Services Center, said:

The university has centers that contain all the support devices for students with special needs. Therefore, the university can equip a center for those with ID with little effort, and this is one of the factors that can help launch the program.

Table 5.15 illustrates responses to statements that best describe the support that should be provided by KSU for students with ID enrolled in regular university classes. 18.8% of the participants agreed that “There should be a designated program to support students with ID,” 37.5% agreed that “The center serving students with disabilities should provide support for students with ID in regular university classes,” and 43.8% agreed that “There should be a new support program to be implemented in cooperation with Saudi agencies and KSU’s sectors.”

Participants were provided with a list of 11 accommodations that could be made available to students with ID who are enrolled into regular university classes. The largest number (54.7%) of participants agreed that accessible text should be made available, 53.9% selected “peer note-takers,” 43% chose “the professor’s notes,” and 54.7% selected “priority seating.” Additionally, “screen readers” (46.1%), “read/write software” (39.8%), and “laptops” (38.3%) were also selected as potential accommodations. Jester (2016) surveyed 40 public universities and colleges in Florida, 90% of which had implemented the accommodations that were selected with the highest frequency. These included accessible text, alternative formats, and peer note-takers, and “read/write software.”

In the US, there are certain laws and regulations in place to support the rights of people with ID. Such regulations state that universities should provide necessary accommodations for these students (Almutairi & Kawai, 2019; Grigal & Hart, 2010; Yingling, 2011). As mentioned in Chapter Two, Saudi Arabia requires educational institutions to provide accommodations and services for all people with disabilities, including ID. KSU policies also provide all accommodations and services for people with disabilities. These services are provided through the Disability Services Center and its programs.

Moreover, the results indicate the participants’ support for providing students with ID all the necessary services and resources in the program. For example, 61.7% of the participants

agreed that the program should have access to and instruction in the use of needed technology, 55.5% advocated for access to paid educational coaches, 54.7% advocated for access to volunteer peer support such as peer mentors, peer tutors, and campus ambassadors, 58.6% supported access to job coaches, 57.8% supported access to paid work experience in settings with people without disabilities, 60.2% supported access to participation in unpaid internships,

Table 5.16

Percentage of the Total Budget to be Provided to the PSE Program, and its Administration

Percentage	Frequency	Percentage
10–less than 30%	67	52.3
32–less than 50%	44	34.4
52–less than 70%	16	12.5
Deanship of Student Affairs	38	29.7
Deanship of Development and Quality	14	10.9
Administration	Frequency	Percentage
Budgets and Quality Assurance	44	34.4
Financial Management	32	25.0
Total	128	100.0

service learning, and other work-related experiences alongside people without disabilities, and 62.5% advocated for direct interaction with faculty and employers, including the articulation of needed accommodations. 58.6% of the participants agreed that students with ID should qualify for the financial aid provided by KSU, 61.7% agreed that these students should be permitted to access on-campus inclusive housing. Additionally, 35.9% of the participants disagreed with the notion of not requiring professors and instructors to change their teaching methods once students with ID enroll in their courses. The participants thus suggested that faculty members should modify their teaching methods based on the abilities and needs of students with ID.

Program funding. As for the percentage of the total KSU budget directed to the Disability Support Center and its programs at KSU that should be utilized to implement the

PSE program for students with ID, 52.3% of the participants chose “10–Less than 30%,” 34.4% chose “30–Less than 50%,” 12.5% chose “50–Less than 70%,” and 0.8% chose “70–Less than 90%.” The participants were also asked which part of the KSU administration should be responsible for providing funding to the program. 29.8% of them chose “Deanship of Student Affairs,” 10.9% chose “Deanship of Development and Quality,” 34.4% selected “Budgets and Quality Assurance,” and 25.0% selected “Financial Management.” The results indicate the significance of financing the PSE program’s design and development, especially with respect to providing the equipment and materials needed for the students. This result was also obtained by Cheatham et al. (2013) and Morgan (2014), who discussed the significance of financing for the colleges and the families involved (Table 5.16).

Organizational expertise and capacity. 50.0% of the participants agreed that the program could be implemented at KSU due to the university’s capabilities and experience with regard to serving students with disabilities. Participants referred to several factors that enhance the feasibility and viability of implementing the program, such as “culture,” “capabilities possessed by the university,” and “resources.” KSU’s staff reported that the university has the infrastructure and professional teaching staff required facilitate the implementation of the program. Nada, a director, said:

The application is possible as we have a suitable infrastructure, and the implementation of such programs has succeeded in other countries such as America. However, the process of restructuring and organizing the human cadres and efforts are needed for the success of the program.

The results also showed that the university has the resources to launch and implement the proposed program, as there are laboratories available to provide teaching for students with ID, if necessary.

The interviewees also mentioned that the universities have certain resources for students with ID (i.e., technical equipment), but lack others (i.e., comprehensive programs for guiding the education of students with ID). Among the most important resources that must be provided are suitable places for students (this may require making certain modifications to places of teaching), auxiliary materials for the teaching process, necessary books and printings, and the required tools.

The findings of the study revealed that the KSU currently has services for 13 types of disabilities, except for ID. The interviewed academics believe that the students with ID have the right to be admitted into KSU, and the university is now prepared to some extent to include more students with disabilities. The Department of Special Education at KSU, which was established nearly 40 years ago, is the first such department in the Middle East. The department has professional faculty members and provides materials to help students with disabilities be admitted to KSU. The university also has the staff and the materials that can be further developed to suit students with ID, which means that the program could be easily implemented.

Transformability. In addition, they indicated that the staff's awareness of the implementation of similar programs in other countries might bolster the applicability of the program, given that there are a number of trained competencies that have studied at the university in the US and the United Kingdom and are aware of the nature of programs for students with ID. Through the interviews, most participants indicated the suitability of the program and its applicability in Saudi Arabia. However, one director indicated that the program's application would be challenging due to administrative and organizational procedures at the university. Hayat, a director, said: "At the Department of Special Education, we have nine academics who hold the title of professor, all of whom are graduates from America, Britain, and prestigious universities worldwide."

The interviews also indicated the benefits of learning from the experiences of other countries, especially those that have developed special PSE programs for students with ID. Gader, a faculty member, said:

We must benefit from the experiences of countries that have succeeded in developing such programs and try to establish partnerships with them if possible, so as to start from where they left off. This will save time and increase the efficiency of the program.

It was mentioned by Alnahdi (2012) that the transference of PSE programs from one culture to another takes time. Therefore, creating PSE education programs is a process that requires time and effort. It would be helpful for Saudi Arabia to study the challenges and difficulties faced by PSE program teams from different countries when planning these programs.

The following section presents the Likert scale results in the survey to determine the plan for KSU to implement the program for students with ID. A one-sample *t*-test was used to determine whether the respondent had a favorable opinion of statements 22–46. To consider these statements positive, they should have weighted means greater than 60.0%, *p*-values of less than 0.05, and a *t*-test value greater than the *t*-critical value. Otherwise, they will be considered negative statements. The weighted mean was calculated by dividing the mean value by 5 and multiplying by 100%. For example, if the mean of an item = 4.0, the weighted mean = $4/5 * 100 = 80.0\%$. It was compared the mean of items with value 3 by using a one-sample *t*-test, and if the *p*-value was less than 0.05, there is a difference between the mean of the item and value 3, and if the mean > 3, the response of the sample about that item was positive (high respondents).

Future Plan for Institutions to Implement a PSE Program for Students with ID A one-sample *t*-test was used to test the respondents' opinions about the institution's plan to implement a PSE program for students with ID. The results are shown in Table 5.17, which

ranks them from highest to lowest. The factors, according to their weighted means, were as follows:

The statement “Access to courses that relate to their personal, academic, or career goals” has the highest weighted mean (85.94%), whereas the statement “Not receive a course grade” has the lowest weighted mean (54.69%). In general, the results for all items about students with ID show that the average mean equals 3.95 from (5), the weighted mean equals 78.97% > “60%,” the *t*-test equals 19.447 > *t*-critical = 1.98, and the *p*-value equals 0.000 < 0.05. This

Table 5.17

Results of t-test of Future Plan for Institution to Implement a PSE Program for Students with ID at KSU

No.	Students with ID should...	<i>M</i>	<i>SD</i>	Weighted <i>M</i>	<i>t</i>	<i>p</i>	Rank
23	Have access to courses that relate to their personal, academic, or career goals	4.30	0.75	85.94	19.662	0.000	1
30	Have access to volunteer peer support, such as peer mentors, peer tutors, and campus ambassadors	4.27	0.78	85.31	18.393	0.000	2
31	Have access to job coaches	4.23	0.77	84.53	18.127	0.000	3
38	Qualify for financial aid provided by KSU	4.20	0.77	83.91	17.468	0.000	4
34	Have access to all campus social activities	4.16	0.75	83.13	17.511	0.000	5
37	Interact directly with faculty and employers, including articulating their needed accommodations	0.15	0.77	82.97	16.776	0.000	6
25	Spend at least 50% of their time in on-campus inclusion	0.13	0.80	82.66	16.074	0.000	7
29	Have access to paid educational coaches	4.13	0.88	82.50	14.489	0.000	8
32	Have access to paid work experience in settings alongside people without disabilities	4.11	0.79	82.19	15.967	0.000	9

No.	Students with ID should...	<i>M</i>	<i>SD</i>	Weighted <i>M</i>	<i>t</i>	<i>p</i>	Rank
28	Have access to and instruction in the use of needed technology	4.09	0.86	81.88	14.470	0.000	10
33	Have access to participation in unpaid internships, service learning, and other work-related experiences alongside people without disabilities	4.09	0.80	81.72	15.285	0.000	11
36	Direct their choice of courses, activities, and employment experience	4.02	0.81	80.47	14.329	0.000	12
24	Spend at least 50% of their time in academic inclusion	3.94	0.95	78.75	11.122	0.000	13
35	Attend at least 75% of classes on time	3.67	1.04	73.44	7.286	0.000	14
27	Be required to complete a minimum of 70% of attempted courses to pass the program	3.48	1.14	69.69	4.823	0.000	15
22	Have access to enrollment in college courses attended by students without disabilities for which the student with ID receives academic credit	3.44	1.08	68.75	4.562	0.000	16
26	Not receive a course grade	2.73	1.28	54.69	-2.343	0.021	17
	All items	3.95	0.55	78.97	19.447	0.000	

Note. The critical value of *t* at df “127” and significance level 0.05 equals 1.98.

indicates that the plan for the KSU to implement a PSE program for students with ID is good at significance level $\alpha = 0.05$.

These results indicate that the KSU participants’ opinions are in line with the university’s vision toward expanding its services to cater to all types of disability, including ID. Additionally, the results display consistency with the KSU vision, which emphasizes the need to incorporate students with ID into the educational process. Palmer et al. (2012) stressed the need to evaluate students with ID and plan programs accordingly. Daniel et al. (2013) also emphasized that disability groups should be assessed based on appropriate programs.

Standards for a PSE Program for Students with ID at KSU. A one-sample *t*-test was used to test the respondents' opinions about the PSE program standards for students with ID at KSU. The results are shown in Table 5.18, in which they are ranked from highest to lowest. The assertion that the program should be designed to meet the need of Saudi students with ID has the highest weight (86.72%), whereas the assertion that professors and instructors should not change their teaching methods once students with ID enroll in their courses has the lowest weight (55.16%).

In general, the results for all items about students with ID show that the average mean equals 4.00 from (5), the weighted mean equals 79.96% > “60%,” the *t*-test equals 21.0 > *t*-critical = 1.98, and the *p*-value = 0.000 < 0.05. This means that the PSE program standards for

Table 5.18

Results of t-test of Standards for a PSE Program for Students with ID at KSU

No.	Item	<i>M</i>	<i>SD</i>	Weighted <i>M</i>	<i>t</i>	<i>p</i>	Rank
39	Be designed to meet the need of Saudi students with ID	4.34	0.71	86.72	21.200	0.000	1
40	Be applicable to KSU's capabilities and experience serving students with disabilities	4.30	0.84	85.94	17.555	0.000	2
46	Be subject to external and internal evaluation to improve the PSE program	4.30	0.68	85.94	21.578	0.000	3
41	Have an academic and professional focus	4.19	0.76	83.75	17.660	0.000	4
45	Determine the students' evaluation process through the collaboration of a peer mentor, the program team, and the support of the residential office	4.13	0.84	82.66	15.332	0.000	5
43	Evaluate students with ID based on completing course requirements, obtaining vocational experience, establishing goals with program staff,	4.05	0.74	80.94	15.986	0.000	6

No.	Item	<i>M</i>	<i>SD</i>	Weighted <i>M</i>	<i>t</i>	<i>p</i>	Rank
44	and completing surveys/assessments Allow these students to access on-campus, inclusive housing	3.93	0.85	78.59	12.333	0.000	7
42	Not require professors and instructors to change their teaching methods once students with ID enroll in their courses	2.76	1.36	55.16	-2.021	0.045	8
	All items	4.00	0.54	79.96	21.000	0.000	

Note. The critical value of *t* at df “127” and significance level 0.05 equals 1.98s.

students with ID at KSU are good at significance level $\alpha = 0.05$. The answers displayed variance, which indicates the respondents’ awareness of the different needs of students with ID.

This result is consistent with those of Plotner and Marshall (2014) and Grigal et al. (2012), who highlighted certain points to consider when designing a PSE program for students with ID, such as evaluating the level of students, providing a qualified program team to address these students’ needs, providing a variety of courses and materials within the program, and developing the program over time.

The independent samples *t*-test was used to test whether there was a difference between the mean values of the two samples. For example, it tested the difference between the mean of males and females about the proposed framework, and if the *p*-value was less than 0.05, the difference was significant. There are statistically significant differences in the responses at the significance level ($\alpha < 0.05$). These are the result of demographic variables: the participant’s gender and position, the type of PSE program, the type of university course, and the timeframe KSU would need in order to start the program. The hypothesis is divided into the following sub-hypotheses:

There are statistically significant ($\alpha < 0.05$) differences in the responses to the proposed framework based on participant's gender.

The Independent Samples *t*-test was used to test this hypothesis and the results are illustrated in Table 5.19. The results show that there were no statistically significant gendered differences in the responses related to the proposed framework for the PSE program for students with ID. The results illustrate the necessity of implementing the program in line with the respondents' views and the extent of the participants' awareness of the benefits of this type of program. Moreover, it shows the value of the proposed program. Neither men nor women had problems with the proposed implementation of this program. These results are consistent with those of Chia and Wong (2014).

On the other hand, a One-way ANOVA was used to test whether there was a difference between the mean values of three samples or more. For example, it tested the differences in the responses of participants about the proposed framework based on the position of the

Table 5.19

Independent Samples Test for Differences among Respondents' Answers due to Gender Regarding a Proposed Framework for a PSE Program for Students with ID at a University in Saudi Arabia

Section	<i>M</i>		<i>t</i>	<i>p</i>
	Male (<i>N</i> = 6)	Female (<i>N</i> = 122)		
The plan to implement the PSE program for students with ID at KSU	4.20	3.94	11.127	0.262
The standards for the PSE program for students with ID at KSU	4.35	3.98	11.673	0.097

Table 5.20

One-Way ANOVA Test for Differences among Responses Regarding the Proposed Framework in the Position of the Participants

Section	M				F	p
	A (N = 4)	F (N = 101)	Simultaneous A/F (N = 17)	Employee (N = 6)		
The plan to implement a PSE program for students with ID at KSU	3.79	3.98	3.94	3.53	1.387	0.250
The standards for the PSE program for students with ID at KSU	3.75	4.03	3.98	3.63	1.414	0.242

Note. A= administrators; F= means faculty members; A/F= work as administrators and faculty simultaneously.

participants, which includes four categories, and if the p-value was less than 0.05, the difference was significant.

A one-way ANOVA test was used to test the hypotheses and the results are illustrated in Table 5.20. The results show that there were no statistically significant differences in the participants' responses about the plan and the standards for the program that arose due to their position. It is evident from the results that, regardless of job position, there is a consensus about the importance of implementing this program. There are statistically significant differences in the participants' position in their responses regarding the proposed framework at the significance level ($\alpha < 0.05$).

The results also show the importance of this program for students with ID, as well as for faculty and administrators at the university. In addition, developing PSE programs for students with ID contributes to adding value for students and parents. This was confirmed by

several studies, such as those by Thoma et al. (2013), Kleinert et al. (2012), and Bennett and Gallagher (2013).

There are not statistically significant ($\alpha > 0.05$) differences in the responses to the proposed framework based on the type of PSE program.

A one-way ANOVA test was used to test the hypothesis. The results are illustrated in Table 5.21, which shows that there were no statistically significant differences due to the type of PSE program in the responses regarding the plan and the standards. This result indicates the necessity for equality between students with different levels of ID based on their abilities and their educational needs. This echoes the results obtained by Papay and Griffin (2013), who indicated that evaluating these students and taking their ID levels into account are essential to the program’s success when designing the program.

There are statistically significant ($\alpha < 0.05$) differences in the responses to the proposed framework based on type of university courses.

A one-way ANOVA test was used to test the hypothesis, and the results are illustrated in Table 5.22. The results show that there were statistically significant differences in the responses regarding the future plan and the standards for the program due to the type of university courses. The Scheffe test for Multiple Comparisons in Table 5.23 shows that there is a difference between “Audit Courses” and “Credit courses” in favor of “Credit courses.” A

Table 5.21

One-way ANOVA Test for Differences Due to Type of Postsecondary Education Program among Respondents’ Answers about the Proposed Framework for a PSE Program for Students with ID

Section	Separate program (N = 39)	<i>M</i> Mixed program (N = 76)	Fully inclusive program (N = 13)	<i>F</i>	<i>p</i>
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The plan for institutions to implement the PSE program for students with ID at KSU	3.85	3.95	4.23	2.427	0.092
The standards for the PSE program for students with ID at KSU	3.91	4.03	4.07	0.718	0.490

Table 5.22

One-Way ANOVA Test for Differences due to Type of University Courses among Respondents' Answers Regarding the Proposed Framework for a PSE Program for Students with ID

Section	Credit courses (N = 65)	Mean Non-credit courses (N = 51)	Audit Courses (N = 12)	F	p
The plan for institutions to implement the PSE program for students with ID at KSU	4.02	3.94	3.55	3.850	0.024
The standards for the PSE program for students with ID at KSU	4.05	3.97	3.84	0.875	0.420

Table 5.23

Scheffe Test for Multiple Comparisons Due to Type of University Courses

Mean Difference	Credit courses	Non-credit courses	Audit courses
Credit courses		0.07980	0.47051*
Non-credit courses	-0.07980		0.39072
Audit courses	-0.47051*	-0.39072	

consensus emerges here on the importance of the courses and the rapprochement among all categories of students with ID and the necessity of their suitability for students with ID.

There are statistically significant ($\alpha < 0.05$) differences in the responses to the proposed framework based on the timeframe KSU would need to start the PSE program.

Table 5.24

One-Way ANOVA Test for Differences in Timeframe KSU Needs to Start the PSE Program for Students with ID among Respondents' Answers about the Proposed Framework for a PSE Program for Students with ID

Section	Mean				<i>F</i>	<i>p</i>
	1–3 years (<i>N</i> = 59)	4–6 years (<i>N</i> = 46)	7–9 years (<i>N</i> = 13)	More than 9 years (<i>N</i> = 10)		
The plan for institutions to implement the PSE program for students with ID at KSU	4.05	3.94	3.67	3.75	2.305	0.080
The standards for the PSE program for students with ID at KSU	4.09	3.93	3.91	3.85	1.213	0.308

A one-way *ANOVA* test was used to test the hypothesis and the results are illustrated in Table 5.24. It shows that there were no statistically significant differences in the responses based on the timeframe KSU would need to start the PSE program. The results of Sulasmi and Akrim (2020) show that the construction of inclusive education management can be observed in implementation and the factors that affect it. In terms of implementation, there is a gap between Ministry of Education Regulation No. 70 of 2009 regarding the implementation of inclusive education for students with disabilities who have the potential for violence and/or special talents. This gap can be observed in terms of student learning activities, teacher teaching activities, learning activities, facilities, inscriptions, education, and community support. In contrast, the factors consist of curriculum policies, teacher competencies, and supporting facilities.

In general, the results of the applicability of the proposed framework for the PSE program for students with ID at KSU indicate that the views of the participants at KSU are in line with the university's vision of expanding its services to suit all disability categories. Additionally, the results show consistency with the vision of KSU, which emphasizes the need to integrate students with ID in the educational process. Palmer et al. (2012) stressed the need to assess students with ID and plan appropriate programs accordingly. The results showed that the PSE program criteria for students with ID at KSU are good at significance level ($\alpha = 0.05$).

The differences in some of the answers provided indicate the respondents' awareness of the different needs of students with ID. This result is comparable to those of Plotner and Marshall (2014) and Grigal et al. (2012), who highlighted some of the points that must be considered when designing a PSE program for students with ID, such as assessing the level of students, providing a qualified program team to meet the needs of these students, providing a variety of courses and materials within the program, and developing the program over time. The results illustrate the necessity of implementing the program for students with ID from the respondents' point of view and the participants' awareness of the benefits of this type of program.

Moreover, the value of the proposed program was illustrated through the results. Both men and women showed no qualms with respect to the implementation of the program. These results are in agreement with those of Chia and Wong (2014). It is evident from the results that regardless of the function, there is consensus on the importance of implementing this program. The results also demonstrate the importance of this program for students with ID and the university's faculty and administrators. In addition, the development of PSE programs for students with ID contributes to adding value to students and their parents. This has been confirmed by several studies, such as those by Thoma et al. (2013), Kleinert et al. (2012), and Bennett and Gallagher (2013). The results also indicated the necessity of equality among students in accordance with their abilities and educational needs. This finding is consistent with those of Papay and Griffin (2013), who indicated that evaluating these students and considering their levels of knowledge when designing the program are essential parts of the program's success.

Table 5.25

Six-Year Implementation Plan for the Proposed PSE Program

Year	Actions
1 2018	<ul style="list-style-type: none"> • Completed survey: “Faculty members’ and administrators’ attitudes to integrating students with an intellectual disability into post-secondary education” (Almutairi et al., 2020a) • Searched for PSE programs for students with ID that were willing to allow data collection for the current study; obtained programs’ approval • Obtained institutional board review from HU and KSU • Completed study: “Lessons offered by United States’ experience in integrating students with an intellectual disability into post-secondary education” (Almutairi et al., 2020b) to understand the nature of PSE programs
2 2019	<ul style="list-style-type: none"> • Completed study: “Interagency cooperation in inclusive higher education for persons with an intellectual disability” (Almutairi & Kawai, 2019), to research on- and off-campus partnerships for training students with ID • Collected and analyzed data from three PSE programs for students with ID
3 2020	<ul style="list-style-type: none"> • Began designing a proposed PSE education program for students with ID based on the data analysis of three cases and the KSU system, services provided for students with disabilities, a survey of and interviews with administrators, employees, and faculty members at KSU toward a proposed framework
3 2020	<ul style="list-style-type: none"> • Interviewed Saudi students with ID and their families • Obtained institutional board review from HU and KSU • Completed survey: “A survey of the views of administrators, employees, and faculty members toward a proposed framework for the post-secondary education program for students with intellectual disability at King Saud University” to explore the applicability of the proposed framework of the PSE program at KSU • Completed survey; interviewed students with ID and their families in Saudi Arabia to identify their needs and perspectives with respect to a PSE program (Francis et al., 2018; Jones et al., 2015) and the proposed framework for the PSE program for students with ID at KSU • Revised and updated the proposed PSE program for students with ID several times • Developed the final version of the proposed program
4 2021	<ul style="list-style-type: none"> • Survey students without disabilities to identify their perspectives on integrating students with ID; focus on options concerns (Gibbons et al., 2015)

-
- Send proposed program for feedback to local and international experts in PSE programs for students with ID
 - Update proposed program after receiving feedback from local and international reviewers
 - Meet KSU directors to discuss the proposed program (Francis et al., 2018; Grigal & Hart, 2010; Hines et al., 2016)
 - **Rejected:** Discuss concerns with the relevant authority; provide logical evidence
Accepted: Submit proposed program with a formal letter; await approval
- 5
2022
- Form a small team to work on the proposed program; determine team members' roles; team to be selected based on members' field experience with students with disabilities (Baker et al., 2018; Francis et al., 2018; Hines et al., 2016)
 - Prepare program (on- and off-campus internship partnerships and employment; Flowers et al., 2018; Francis et al., 2018; Grigal et al., 2013)
- 6
2023
-

As discussed in this section, the proposed framework for a PSE program for students with ID was found to be valid and applicable to the Saudi context. Therefore, the hypothesis that the design of the proposed analytical framework for a PSE program for students with ID in a university in Saudi Arabia will help verify the applicability and validity of the proposed framework in the Saudi context (Booth, 2004; Buffet et al., 2011; Wilson, 2010) was accepted. In summary, the proposed framework can be implemented as soon as the program team completes the program's remaining areas. Therefore, the author suggests a six-year implementation plan for the proposed program framework, which is presented in Table 5.25.

5.6 The challenges to Implementing PSE Programs

The challenges to implementing PSE programs for students with ID at KSU include social, material, human, administrative, and executive challenges, in addition to challenges related to program design and planning. These are detailed as follows:

5.6.1 *Social Challenges*

Negative Perspectives at the University. Most administrators, employees, and faculty members indicated that a major challenge to the program's implementation is the negative attitudes toward students with ID, especially for those with visibly apparent disabilities and those who can display behavioral problems in the classroom. This concern was shared by faculty members, other university employees, and students without disabilities. For instance, faculty may refuse to teach these students with ID and students without disabilities may bully or be intolerant toward the students with ID. Munira, a faculty member, said: "The biggest challenge is the negative perspectives toward integrating students with ID, especially those whose disabilities appear to others, such as those with Down Syndrome or students who have behavioral problems while they are in the classrooms."

On the other hand, some students with ID expressed fear about joining universities due to society's negative views regarding disability and their fear of being bullied. A negative societal view toward people with ID in colleges was one of the main concerns that made both students with ID and their parents hesitant about attending college. Morgan (2014) mentioned that the negative attitudes toward the integration of students with ID on the campus by university members on campus is one of the main challenges faced by the program. Almutairi et al. (2020a) stated that Saudi faculty members and administrators at KSU somewhat agreed that integrating students with ID into regular college classes may negatively affect other students' concentration. This confirmed Gibbons et al.'s (2015) finding that faculty members believed that having students with ID in their classes would disrupt classroom activities and make other students uncomfortable. Sharma and Chow's (2008) study, in which 43% of the administrators interviewed exhibited negative attitudes with respect to including students with

special needs in traditional educational classes, was premised on the strong belief that students with disabilities would negatively influence their peers without disabilities.

Additionally, these students may have problems that can be further compounded due to their ID (Test et al., 2014), such as deficits in communication and social interaction, a lack of understanding of social norms, a lack of proper behavior, and high rates of comorbid psychiatric disorders, such as depression, anxiety, psychotic symptoms, or emotionally uncertain syndromes (Wilbertz et al., 2013).

Employers in the Community. Most administrators, employees, and faculty members indicated that employers continue to have negative attitudes toward employing people with disabilities in general, specifically those with ID, which constitutes a problem for the program's design and implementation. Students with ID are not guaranteed employment, regardless of whether they are granted a certificate from the program. Additionally, there is no guarantee that these students will earn a good wage if employed. Employers' attitudes toward employing people with disabilities are still relatively negative, as many of them believe that people with ID are not efficient or productive.

Saudi employers prefer not to employ people with disabilities. Abushaira (2011) observed that the main hindrance to the employment of persons with disabilities in Saudi Arabia is that employers do not have a clear understanding of what abilities they have and are unaware about the rehabilitation centers that train such individuals or the benefits of hiring such individuals. Reports by Al-Ajmi and Albattal (2016) and Alrusaiyes (2014) support this finding, which was discussed in the second chapter.

Material Challenges. These include challenges to providing adequate support for students with ID and accurately identifying and making needed adaptations. Participants indicated that the university has some material facilities such as the Disability Services Center

to serve students with disabilities, but the university may not have other material facilities related to the education of students with ID. These facilities must be made available before implementing the PSE program for them.

5.6.2 Human Challenges

Faculty Members and Program Staff. These challenges relate to faculty members' lack of adequate knowledge about teaching and adapting to students with ID, the presence of qualified staff in the programs whose responsibilities are precisely defined, and the guidance provided to students through training and counseling regarding professional work.

Fewox (2018) reported that hiring program staff and precisely defining their roles, professional experience, and communication were among the challenges that a PSE program needed to address. University staff, faculty, and administrators feel fear and hesitation, as they do not possess sufficient knowledge to deal with students with ID. In addition, some have limited experience in dealing with such students at the university. Faculty members expressed their lack of understanding and knowledge regarding the accommodations provided to students with ID and expressed that they wished to possess prior knowledge regarding the same (Stolar, 2016; Papay & Griffin, 2013).

Parents. One challenge pertaining to the parents of students with ID was their lack of interest in the integration process or the education of their children after high school and their insufficient participation in the program. Parents are an important source of support for students' success and their entrance into university.

However, the lived experiences of and accommodations for students with ID in PSE programs and their parents' involvement in their academics were found to be weak as per the interviews conducted in the current study. The parents seemed to lack sufficient knowledge concerning the accommodations provided to their children in high school and did not express

a desire to participate with the program team at the high school or in future programs at the university. They indicated that they believed teachers were more knowledgeable about what was in the interest of and would benefit their children. Kleinert et al. (2012) noted that most parents of students with ID find it difficult to understand the differences among their children's accommodations and modifications with ID. In addition, some parents are unaware of the services and support that should be provided for students with ID and the difference between high school education and college/university education (Morgan, 2014).

Limitations of Abilities of Students with ID. The current study revealed that the limitations of students with ID necessitates that the program provide them with rehabilitation to improve their skills, especially time-management skills, assignment management, and communication with other students and faculty. Hayat, a director, added: "Among the obstacles is the inflexibility of the systems at the university. For example, students with ID may face time management problems, attend lectures and exams on time, and deliver the assignment to the faculty members' understanding." Nada, a director, added to this point: "The main challenges faced by students are the use of higher-order thinking skills and social integration."

PSE programs should identify the challenges students with ID may face in the future and prepare them accordingly. In fact, they usually face the same challenges as their peers without disabilities (Papay & Bambara, 2011; Papay & Griffin, 2013). Students both with and without ID experience many obstacles as they transition to independent living after their school lives. These obstacles include unstructured time management, relationship and job formation and retention, personal finances, and autonomous decision-making. Students with ID and their family members reported that they needed support for the transition from high school to PSE (Dente & Coles, 2012; Stolar, 2016). Students with ID can face a variety of challenges within PSE, such as accommodation and training management, changes in schedules, social

relationships, the ability to live independently, executive skills, organizational problems, graphomotor difficulty, anxiety, and sensory integration dysfunction (Foxyer, 2018; Krell & Pérusse, 2012).

5.6.3 Administrative and Executive Challenges

Funding. The program's funding and its need for external financing through sponsors are also significant challenges. Morgan (2014) noted that these programs' financial sponsors play a significant role in influencing their design and implementation, whether positively or negatively. Foxyer (2018), Jester (2016), Morgan (2014), and Nuebert et al. (2004) mentioned that funding and funding sustainability are the most significant challenges that the program faces. The tuition costs and funding for these programs are very expensive. Therefore, program implementers and team members should consider the need to create plans to ensure that it is sustainably financed (Almutairi et al., 2020b; Grigal et al., 2019; Morgan, 2014). Additionally, the parents of students with ID should be provided with all the program costs and available grants or scholarship options.

In addition, students with disabilities, including ID, require specialized equipment and learning materials, such as technical devices, and this equipment is often too expensive to procure. As a result, their participation in education and training is limited, and this leads to low education outcomes for such students (O'Conner et al., 2012).

Legislation and Regulations at the University. Many administrators and faculty members indicated that there were no legislation and regulations to facilitate, guide, or implement this type of program at the university. As there is no executive or procedural guidance that details the services provided to students with disabilities at KSU, the adaptations

and accommodations provided to these students offer the faculty no flexibility to make appropriate decisions or choose the best evaluation methods for them, no information about the rights of either the faculty or the students, and no information about the program outcomes and objectives. In addition, there are no evidence-based practices that support these students' transition to university. The current systems available at the university are the result of the personal efforts of some interested faculty members.

Limitations of Flexibility in the University Administration. Some administrators, employees, and faculty members pointed out that one main challenge the program will face is the university administration's limited flexibility with respect to making decisions. The prevalent bureaucracy in some departments and faculties at the university means that this program's implementation will need time and effort.

Other studies have supported the aforementioned administrative and executive challenges. Grigal and Hart (2010) and Fewox (2018) highlighted a significant point in designing programs for students with ID: throughout history, these programs were designed by IHE without following a specific and clear approach. There were PSE programs that depended on the mission of the institution and local administrative control. However, recently, PSE institutions have defended the need to develop programs using pre-designed frameworks, which has prompted other institutions to develop and implement these frameworks due to their desire to integrate students with ID on campus.

Another important point is that it is critical to develop a vision that benefits both students with ID and the school. In addition, determining a vision for these students' university programs is important in the early stages of designing the program. Thus, it is essential that all members of the program's planning team agree to define a collective and shared program mission and vision in order to enhance them in the college community (Papay & Griffin, 2013).

More importantly, the importance of defining a philosophy to guide the practices of the PSE program for students with ID has also been highlighted in the previous studies (Baker et al., 2018; Grigal et al., 2011; Jones et al., 2015; Papay & Bambara, 2011; Weir et al., 2013). Fewox (2018) mentioned that the lack of administrative support from the top is considered a major challenge to PSE programs for students with ID. Thus, the design process for these PSE programs should be both flexible and comprehensive. More precisely, it should be done carefully to ensure that it meets all the needs of students with ID and ensures a smooth transition to college life. Plotner and Marshall (2015) also came to this conclusion. Fewox (2018) reviewed and evaluated various PSE programs and provided a broad image of the facilitators and barriers to implementing PSE programs for students with ID.

5.6.4 Challenges in Program Design and Planning

Most administrators, employees, and faculty members pointed out the challenges related to the nature of the program. These challenges include determining the mechanism for student admission, the curricula, the majors that students will be permitted to undertake, the method of evaluating the students, the type of program certificate, cooperation with external parties supporting the program, the employment of students with ID, the transfer of other international PSE programs for students with ID to the Saudi Arabian context without taking into account the cultural differences of these programs, the needs of Saudi students with ID, and the nature of the university administration and regulations.

The students with ID and their parents expressed concern about their lack of adequate access to PSE, having to stay home after completing their high-school education, and the future. Additionally, the extent to which they need support at all levels, including educational, psychological, social, and financial support, became clear through the interviews. The parents of these students expressed their concerns about the future of their children's education. They

asked for extra attention to be paid to PSE programs in general in order to ensure equal educational opportunities for their children. Some of these parents stressed the need to develop these programs so that they present an opportunity to learn, especially since some of their children were reported to be highly capable and had achieved satisfactory results in high school.

Folk et al. (2012) and Fewox (2018) have noted that the inadequate or ineffective planning and implementation of these programs lead to poor student readiness, insufficient support, and inadequate student participation on campus. Planning is an important challenge for such programs. Planning is linked to multiple components, including finance, employment, the development of policies and procedures, program curricula, student admissions criteria, job opportunities, and internships for students. Additionally, these programs need to be adapted to suit the needs of the students and the program itself.

This section makes it apparent that the hypothesis that the proposed framework for the PSE program for students with ID will face some challenges in the implementation phase was accepted. These challenges include the hesitation of stakeholders to accept students with ID into the university, admissions criteria and prerequisites, sourcing funding for services and support (Folk et al., 2012; Foxer, 2018; Grigal & Hart, 2010; Plotner & Marshall, 2015; Walker, 2014), the development of policies and procedures in these programs (Foxer, 2018; Plotner & Marshall, 2015), selecting team members for the program (Foxer, 2018), and finding employment and internships for students with ID (Abushaira, 2011; Al-Ajmi & Albattal, 2016; Foxer, 2018).

5.6.5 Solutions to Overcome the Challenges of Implementing PSE programs

The implementation of a PSE program for students with ID needs to entail the resolution of potential challenges. The current study presents some suggested solutions that were gleaned

from the perspectives of Saudi university directors, administrative staff, and faculty members at KSU and the Saudi students with ID and their parents. These solutions include strategic planning, raising awareness, establishing a professional committee, and cooperation.

Strategic Planning. All participants stressed the importance of strategic planning in the early stages of designing the proposed framework. They primarily recommended that optimal administrative procedures should be considered when developing the PSE program framework for students with ID at the university, which would help tackle the administrative and executive challenges that the framework faces. The KSU respondents touched on the necessity of imposing administrative and organizational measures that are compatible with the proposed framework.

Ali, a director, stated:

We originally did not have clarity about the laws and regulations that preserve the rights of people with disabilities, especially with regard to education at the post-secondary stage. Therefore, it is necessary to develop a legislative framework that we put forth clearly, so we have to know what exactly the administrative procedures should resolve and what rights they should defend. Besides, the administrative procedures should show who is responsible in the case of a deficiency in this aspect and show what actions to take.

Therefore, decision-makers and leaders should establish and implement a supportive legislative basis for creating more access to PSE programs for people with ID that guarantees their rights and calls upon all IHEIs to provide them with the services and support they need (Almutairi & Kawai, 2019). It is critical for PSE programs to ensure compliance with international laws that protect the rights of people with ID, but Saudi Arabia should enact also its own legislation that protects such people (Almutairi et al., 2020b).

The administrators, employees, and faculty members also reported the need to improve the university infrastructure, which would contribute to the program's success and its implementation. Amal, a faculty member, reiterated this by saying "There is a strong infrastructure at the university now, and it needs a little organization and the unification of efforts to facilitate the integrated coordination among the various departments in the university and ensure the program's success."

Almutairi et al. (2020a) found that a total of 200 participants, 61% of whom were faculty members and 39% of whom were administrators at KSU, somewhat agreed that the university infrastructure needed to be changed to accommodate students with ID. Additionally, Al-Ajmi (2016), a professor at KSU, stated that there is a need to improve the digital infrastructure at KSU to improve access for students with disabilities. The infrastructures of several higher institutions may not be ideal for students with ID because they usually lack any discernible order, which impedes the complete participation of persons with disabilities in education and training, thus leading to poor educational outcomes (O'Conner et al., 2012).

The KSU participants mentioned restructuring and organizing human cadres would facilitate the improvement of the university's infrastructure. Additionally, they suggested that efforts are required to ensure the program's success. In other words, there is a need for concentrating and integrating efforts to harness the currently available capabilities and make the program implementation successful. For instance, the program supervisors should be highly qualified in terms of having experience managing students with ID. Additionally, the courses should be designed carefully to meet the nature of the students and their studies. The faculty also should be qualified and well-trained to deliver the best learning experience to students. In this context, the parents of students with ID demanded adaptation at the university and strengthening the capacities of the faculty and others working at educational institutions.

Therefore, the faculty and administrators must pay particular attention to the needs of students with ID to provide them with the instruction and support required to facilitate better educational outcomes for them. In other words, the faculty have to develop a deep knowledge of the conditions of students with ID. This was confirmed by a study conducted by Lombardi (2010), who addressed the faculty's perception of students with ID. The author's findings were similar to those of the study by O'Conner et al. (2012), who reported that the faculty and staff should be aware of students' conditions and follow up on their progress and attendance. In many cases, students with ID require support and specialized services from special educators, who must be keen to identify learners who require support.

Additionally, devoting resources to the program is indispensable to implementing the program. According to the interviewees, the university has some resources for students with ID in the Disability Services Center (e.g., technical equipment), but lacks others (e.g., comprehensive programs to guide the education of students with ID). Among the most important resources to be provided are suitable places for students (this may require adaptations to be made to the classrooms), auxiliary materials for the teaching process, the necessary books and prints, and the necessary tools. Most of these resources are already available at KSU. The rest could be covered by governmental organizations and charities. Additional fundraising activities could help in this regard. Ashjan, an employee, stated:

Although our university is financially independent and has its own resources to fund the program, we still need to persuade relevant governmental or private organizations to obtain a sufficient budget to fund the program to ensure access to the outcomes we seek to achieve with students with ID.

Papay and Bambara (2011) and Grigal et al. (2013) pointed out that, despite the variances in the PSE program models for students with ID, essential similarities exist among

them, such as the provision of a multiplicity of resources and support for their access to the IHEIs.

The interviewees added that all kinds of support should be directed to these students with ID to facilitate their integration into society and enhance their autonomy. Haifa, a faculty member, stated:

The goal here is to integrate students with ID in the educational process and the job market, as well as in social life, and I believe that integration in the educational process is the most important step in achieving this. The support should be comprehensive [and should involve] specialists in ID and specialists in inclusion, awareness, and counseling.

According to the interviewed academics, the types of support that should be provided when implementing the program are:

- Psychological support: whether for the students or their families, by assigning psychological counselors for this purpose.
- Social support: for both the families of students with ID and the students with or without disabilities, by conducting awareness and educational campaigns that encourage their acceptance and help overcome obstacles to their integration.
- Informational support: providing detailed information about the program to students with ID and their families to fill gaps, address difficulties, and enhance their chances of success.
- Career support: helping students with ID to secure careers that suit their abilities.

The proposed framework should formulate program goals, choose content, and define its relationship to the life experiences and the readiness of the faculty and students of the

program. Hart et al. (2010) highlighted that to get the best out of the PSE programs for students with ID, the designers of such programs need to take into account the number of students with ID, the number of regular students, the space of dorms, the availability of services, and the options offered by the university. It is also essential to consult specialists, teachers, and professionals to collect feedback regarding best practices and maximize the program's benefit. Joint workshops and meetings could be arranged for specialists, teachers, and students with ID.

Within the design of a PSE program for students with ID, the program's value must be defined as a part of its framework and should be in line with the mission, vision, objectives, and philosophy of the IHEIs. Grigal and Hart (2010), Baker et al. (2018), and Fewox (2018) have stressed the importance of taking into consideration the students' needs and the program's mission, goals, philosophy, beliefs, and values during the design phase. All of this could be accomplished by first defining the PSE program's mission in line with the mission of the college or university where the program takes place (Baker et al., 2018; Papay & Griffin, 2013). However, IHEIs may not consider the inclusion of students with ID as part of their mission. One of the most important decisions that colleges or universities should make is to embrace and support PSE programs for students with ID by setting clear goals, communication, and political guidelines (Plotner & Marshall, 2014). Additionally, the mission statement and strategic plans of these IHEIs should be reviewed to identify how they can provide access for youth with ID on their campuses. For example, if the college's mission statement appreciates diversity, the inclusion of these students in the college community will be supported to achieve this mission.

Hart et al. (2004) conducted a national survey of 25 PSE options supporting post-secondary youth with ID as an empirical basis for further research into these model services. They found that, while most programs offer some combination of "life skills" training,

community-based training, and job training, some innovative service models, like inclusive programs, focus primarily on inclusive PSE services for students with ID. Neubert et al. (2004) surveyed teachers from 11 public schools that serve students with ID aged 18–21 in 13 postsecondary settings. The collected data focused on access to college resources, employment training, social activities, and college campuses. The study indicated that, despite the students with ID being successfully engaged in employment training, their access to college courses and extracurricular activities was limited.

Finally, parents' involvement should be considered during the design process, as stated by some of the KSU participants. This was also confirmed by Grigal and Neubert (2004) and Martinez et al. (2012), who mentioned that parents' involvement is a fundamental component of PSE programs for students with ID, because they advocate for their children based on laws, support them financially, encourage them to complete the program requirements, and provide transportation to and from classes (Kleinert et al., 2012). The participants indicated that program leaders should also consider the college and the families' conditions to ensure that the required materials are provided and facilitate their supporting roles. Similar conclusions were reached by Cook et al. (2015), who stated that involving the families in the design and development of the programs for students with ID increases their likelihood to enroll in the college.

More importantly, students with ID have desires, goals, aspirations, and concerns regarding their post-high school life, just like their peers without disabilities. For example, these students with ID want a university experience through which they can learn and practice new things, make friends, acquire skills, obtain paid jobs, and be financially independent (Papay & Bambara, 2011; Papay & Griffin, 2013; Yamamoto & Black, 2013). The desires and goals of their parents are similar to those of the parents of students without disabilities. They

believe that they cannot be with their children forever and thus want them to be given access to the university, acquire multiple skills, and obtain employment and independence (Papay & Griffin, 2013; Hart et al., 2010). Stolar (2016) mentioned that students with ID who attended two-year college expressed to their parents their desire to remain in college because they had quite positive experiences there. Saudi students with ID in high schools and their parents expressed their desire to have PSE options in their nation (Alrusaiyes, 2014). Thus, taking the needs of these students' parents into account, addressing their concerns, and discussing other issues of interest should be primary considerations in the PSE program's design phase (Neubert et al., 2001; Grigal et al., 2001).

Raising Awareness. Most KSU participants agreed that the most important thing they could do for students with ID is to help them integrate into the classroom like their peers without disabilities. Some argued that this could be achieved by educating university students without disabilities about the rights of people with disabilities and encouraging them to accept and change their negative perceptions about students with ID. Amal, a faculty member, said:

For me, the most important thing that must be applied is awareness activities, especially for teaching staff members and students, as it will emphasize the importance of accepting this category of students and correct their negative preconceptions. The support provided to students varies according to the type of program offered by the university. If the program aims at social development, it is necessary to participate in planning and developing activities that help develop students' social skills. If the program is academic, the support will be in academic aspects. If the program is a vocational one, the focus will be on professional skills, as well as skills relevant to the job market.

On the other hand, academics also recognized the need to organize training for the teaching cadres at the universities to develop their skills in relation to the program's components and familiarize them with its dimensions, as professional teaching staff can facilitate the implementation of the program. In the same context, the academics also stressed the significance of preparing educatory resources for parents regarding the program. Gader, a faculty member, said:

There is a need to prepare a special guide to educate parents about the program in which the objectives and the working mechanism are clearly stated. Additionally, there is a need to prepare a specialized cadre to work and provide educational classes specifically for students' parents.

The parents of students with ID that were interviewed in this study were extremely worried about their children's safety at the university. Papay and Griffin (2013) and Carroll et al. (2008) indicated that the main reason for parents' reluctance to enroll their children with ID in college is their fear for their safety, despite the fact that universities aim to provide safety for all students—the most prominent form of which is housing safety. Therefore, conducting such orientations and providing program guides can effectively address their concern and educate them.

In contrast, raising the awareness of the students with ID about the program and the university experience before their enrollment into the program is also crucial, given that some of them expressed reluctance toward joining universities due to society's negative views on disability. This challenge could be handled by providing specialized training to students with ID to broaden their understanding of the social norms and communication practices. Research conducted by Griffin et al. (2012) showed that students with ID (especially female students) become less hesitant about moving to college after being briefed regarding a post-secondary

program for students with ID. This demonstrates the significance of introducing the program to students with ID and their families.

The interviewees also highlighted the importance of demonstrating the value of the PSE program for students with ID to other community members. This entails launching social campaigns to raise public awareness and promote the integration of students with ID into all levels of society, such as universities, workplaces, and the community. Additionally, it is also important to help these students become active and productive members of society. Ashraf, a faculty member, stated: “we aspire to create a productive human being who has their own life, future, and rights and enjoys all the advantages that any normal person enjoys. We want to prevent discrimination against people with ID and help them obtain their rights.”

Professional Committee. The KSU participants called for the establishment of a professional committee in the proposed framework to manage the affairs of students with ID and support them even after graduation to get jobs and become engaged in society, which could address the challenges related to employers who refuse to employ students with ID by fostering a culture of employing people with ID who have the ability to work. This could be done by offering incentives for companies that employ individuals with ID and reducing the tax burden on them. This means that the task of integrating people with ID into society is entrusted to all state institutions. Maha, a faculty member, said:

We should help the students get employment opportunities after graduation. I am one of the people who believes that the university’s mission is not limited to teaching, but includes taking care of them after graduation, monitoring them, and following their work. We now have a new department—a postgraduate department—to train students and help them get jobs.

One main goal of the PSE programs designed for students with ID is to expand the equality of their job prospects. According to Izzo and Shuman (2013) and Handsome (2018), PSE education programs promote the goals of PSE by offering career and work skills training. The PSE programs also provide internship opportunities for students with ID. Additionally, Papay and Bambara (2011) surveyed a total of 52 PSE program coordinators in 87 programs for students with ID. They found that the purpose of 90% of PSE programs was employment or opportunities for vocational training.

On the other hand, the students with ID and their parents in the current study also revealed the students' desire for self-realization, obtaining a job and money, and securing their future. Providing appropriate university education for students with ID will enhance their integration into society, as confirmed by parents and other participants in this study. Helping this group of students enroll in the university will reduce the financial burden resulting from their unemployment, as they can work after graduating and forge decent lives for themselves.

Cooperation. All interviewees emphasized the importance of cooperation at all levels, including between the academic staff and the university administration and the university, government agencies, and civil bodies. The participants also stressed the necessity of partnership with the Ministry of Labor to increase students' chances of joining the labor market. Gadah, a faculty member, commented on this point:

There must be a partnership and integration between the Ministry of Labor and the developers of such a program. Likewise, the Human Resources Development Fund exists to support and empower people with ID enrolled in the program to work in the private sector. As for inside the university, the Special Needs Services Unit and the Student Affairs Department should cooperate so that students with disabilities can participate in the social activities that the university holds.

Haitham, a director, eloquently explained the types of cooperation and partnerships that should be established:

First, a partnership with secondary schools to support these students' transition to post-secondary education through transitional programs. Second, a partnership between the university and all families to raise the students' families' awareness and allow them to see the programs and services that the university provides for these students. Third, a partnership with private-sector institutions to support the budget for these students' programs. Fourth, a partnership with charitable societies to raise the community's and families' awareness of the rights of students with intellectual disability to higher and continuing education.

Some interviewees mentioned the roles of the Ministries of Health and Education. Fares, an employee, stated that "It is significant to establish partnerships with the Ministry of Education and Ministry of Health to coordinate the efforts and ensure the program's proper design." Accordingly, partnerships are essential for this program, and governmental, educational, and societal bodies should be involved in them.

Grigal et al. (2011) emphasized that the leaders and decision-makers have a vital and effective role to play at the state and local levels in providing education and disability services. Therefore, a great opportunity for students with ID to access PSE can be created through cooperation among multiple agencies to build foundational networks, develop basic infrastructure, search for resources, options, and opportunities available to these students in their regions, and establish the necessary contacts to facilitate the process of successfully offering PSE experiences to these students. Thus, moving to college is a collaborative team effort. It requires close collaboration among the school, family members, and agencies to

design proper PSE programs for such students (Flowers et al., 2018; Kelley & Westling, 2019; Mock & Love, 2012).

Obviously, the hypothesis concerning the solutions suggested by the Saudi participants will help address the challenges facing implementing the proposed framework was accepted in the current study as discussed in the section on the solutions to overcome the challenges of implementing PSE programs. On the other hand, the challenges faced by implementing the proposed framework for the PSE program can be addressed using the framework of the ICF, which has a role to play in supporting inclusive higher education for students with ID based on a biopsychosocial approach to understanding disability. The following section presents the components of the ICF model related to the proposed framework.

Body Functions and Structures. Students with ID are characterized by impairment in cognitive functions, which manifests as limited learning and adaptive behavior. They also have attention deficit and difficulty in learning and applying knowledge in the inclusive classroom.

The body functions and structures related to students with ID provide an assessment for students' functioning, needs, and systematic intervention plans. The domains related to body functions include (b1) mental functions such as (b117) intellectual functions, (b126) temperament and personality functions, (b130) energy and drive functions, (b140) attention, (b152) emotional functions, (b156) perceptual functions, (b167) language; (b3) voice and speech functions (b3), and (b7) functions related to movement and nerve muscles. Body structures include: (s1) structures of the nervous system, (s3) structures involved in voice and speech, and (s7) structures related to movement (World Health Organization, 2007).

Offering this framework at the university may help administrators, faculty, and employees understand the nature of ID, the deficiency of cognitive functions for students with ID, their abilities and needs, the educational difficulties they face, and the appropriate teaching

methods to acquire the best performance from them. Such valuable information in the framework can change negative attitudes toward these students at the university, provide support, services, accommodations, and curriculum and course requirements modifications, and use suitable evaluation and effective teaching strategies to provide an effective integration environment for them and increase their participation in the university.

Administrators, employees, and faculty members at KSU stated that students with ID lack higher cognitive abilities such as time-management skills, assignment management, and the ability to communicate with other students and faculty. Thus, the program team would need to facilitate the improvement of these skills.

Activity and Participation. The activity and participation domains in this classification are related to different educational settings and life situations for these students with ID, which include (d1) learning and applying knowledge, (d2) general tasks and demands, (d3) communications, (d4) mobility, (d5) self-care, (d6) domestic life, (d7) interpersonal interactions and relationships, (d8) major life areas, and (d9) community, social, and civic life (World Health Organization, 2002).

Activity is the ability of students with ID to autonomously perform and implement tasks and activities in the educational settings, while participation is intended to participate in life situations such as interpersonal interactions and relationships and community, social, and civic life (World Health Organization, 2002).

In general, these students face difficulties in carrying out the tasks and activities required and thus display a lack of participation both in and outside the educational environment. The administrators, employees, and faculty members in the current study indicated challenges related to the integration of these students into the university could plague the implementation of the proposed framework, as it may be difficult for academic staff and

students without disabilities to know how to deal with students with ID, which may affect the participation of such students. In addition to negative attitudes toward students with ID from others at the university, the belief that these students have behavioral problems or are unable to participate in school activities may also prevail, which would further limit their participation in the university. Therefore, these students usually face social and environmental challenges that impede the implementation of activities designed for them and their social participation in educational settings. Therefore, administrators, employees, and faculty members at KSU must strive to remove these social and environmental barriers in a way that supports the social participation of students with ID.

The ICF classification framework provides important strategies for removing these social and environmental barriers, dealing with the effects of disability and restrictions on activities and participation for these students in educational settings, and creating opportunities for participation and building relationships between students with ID and other students at the university (Okyere et al., 2019).

These administrators, employees, and faculty members at KSU can deal with the potential effects of the disability, activity, and participation restrictions for these students by referring to the individual outcomes related to the student's functioning profiles, modifying the physical environments and classroom activities to support their participation and relationship building with others, and setting policies and provisions for working with these facilities for such students at the university (Okyere et al., 2019).

Contextual Factors. Contextual factors are related to an individual's life background and living. These factors contain two components—environmental factors and personal factors—that can act as facilitators or barriers to an individual's performance. These contextual factors have a critical role in determining students' specific needs and improving their

capabilities and performance in inclusive settings (World Health Organization, 2002). Therefore, the understanding of the administrators, employees, and faculty members at KSU of the influence of these contextual factors enhances the success of the program at the university.

Environmental factors. Environmental factors include the surroundings in which people live, such as their physical, social, or attitudinal environment. There are five domains of environmental factors: (e1) Products and technology, (e2) Natural environment and human-made changes to Environment, (e3) Support and Relationships, (e4) Attitudes, (e5) Services, systems and policies (World Health Organization, 2002).

The administrators, employees, and faculty members at KSU indicated no executive or procedural guidance to detail the adaptations, accommodations, and services provided to students with disabilities at KSU. Therefore, working on the ICF classification framework can facilitate the development of clear legislation, regulations, and policies at KSU regarding permitting access to university to these students, enhancing the inclusive environment, and ensuring their participation at the university. All these can be achieved by helping others understand the concept of ID and its definition. More importantly, the definition of ID, the description of its nature, the capabilities of these students, their needs, support services, modifications, and adaptations provided should be included in the current university regulations and legislation to familiarize faculty members with them and to ensure the success of these students at the university.

Moreover, other contextual influences related to the environmental factors that were mentioned previously, such as negative attitudes toward students with ID or them feeling unaccepted by others at the university, are all undeniable factors that negatively affect the integration of students with ID. Therefore, if the stakeholders and decision-makers understand

the impact of contextual factors on the integration and participation of students at the university, it leads them to devise strategies that ensure the inclusion and participation of these students. Its features are based on access, equity, and support (Okyere et al., 2019).

Personal factors. Personal factors are the features that distinguish an individual and are not related to health status. These factors include: age, gender, motivation, intellectual level, and patterns of coexistence. These personal factors influence an individual's performance. Appropriate educational strategies, such as accommodations, modifications of curricula and educational practices, and IEPs are utilized to meet the individual needs and personal factors of students with ID at the university. Therefore, faculty members should be aware of appropriate teaching methods for these students and use a multi-sensory approach in teaching and break down educational tasks into simple parts (World Health Organization, 2002).

The administrators, employees, and faculty members at KSU indicated that the provision of adequate assistive devices for students with ID, the accurate identification and execution of needed adaptations, and the faculty members' lack of adequate knowledge about teaching and adapting to students with ID are potential challenges to the implementation of the proposed framework at the university. Therefore, the faculty members were required to have specialized training provided by the qualified program team to handle the challenges that they may face with respect to teaching and communicating with students with ID.

Therefore, the university's program team should offer an individualized support program to these students based on their individual needs, provide consistent services in university-wide collaboration, and train faculty members for the education and evaluation of these students. Therefore, working on the ICF classification framework enables stakeholders and the program team to realize the importance of each student's personal factors, meet their needs, understand their different characteristics, deal with issues that negatively affect their

behavior, abilities, and performance at the university, and harness all available services and resources to ensure their participation at the university.

5.6 Summary

The proposed framework was designed at KSU in Saudi Arabia by amalgamating the designs of three PSE programs for students with ID in the US. Four benchmarks were developed for the design of the proposed framework: philosophical and theoretical stances, program's main components, the learning outcomes for students with ID, and program evaluation. After that, the views of administrators, employees, and faculty members at KSU regarding including these benchmarks were surveyed. The applicability of the proposed framework within the Saudi context was verified based on the survey of and interviews with administrators, employees, and faculty members at KSU, in addition to interviews with Saudi students with ID and their parents. The results were presented along several themes: validity of the proposed framework in the Saudi context, institutional values, the benefits of implementing the program, social acceptance of the program, participants' support for the program, the need for the PSE program in the Saudi context, timeliness of starting the program, available essential human and financial resources, program funding, organizational expertise and capacity, and transformability. The challenges of implementing PSE programs for students with ID at a Saudi Arabian university were explored through multiple themes, including social, material, human, administrative, and executive challenges, and challenges related to program design and planning. These challenges in the current study were addressed through the perspectives of Saudi university directors, administrative staff, and faculty members at KSU and the Saudi students with ID and their parents. The identified solutions were strategic planning, raising awareness, establishing a professional committee, and cooperation.

CHAPTER 6: CONCLUSION

The purpose of this multiple case study was to propose a framework design, including its components, organization, and evaluation, for a post-secondary education (PSE) program for students with intellectual disability (ID) in a university in Saudi Arabia. To do so, the experiences of program directors, faculty, and staff in transitional and PSE programs for students with ID in two- or four-year post-secondary institutions in the United States (US) were considered, in addition to exploring the applicability of the proposed framework at KSU, challenges facing its implementation, and suggested solutions by surveying and interviewing Saudi university administrators, employees, and faculty members and interviewing students with ID and their parents in Saudi Arabia. This chapter briefly describes the study findings, implications, and limitations as well as recommendations for future research.

6.1 Summary of Findings

The current study conducted semi-structured interviews with program directors, faculty, and staff in three transitional and PSE programs for students with ID in two- or four-year post-secondary institutions in the US, in addition to interviewing administrators, employees, and faculty members at KSU as well as students with ID and their parents in Saudi Arabia.

The total number of American participants was 22, including nine program directors, five program staff, and eight faculty members in three PSE programs for students with ID. In addition, seven observations were conducted by four assistant researchers who are doctoral students at universities that offer PSE programs for students with ID. Documentation obtained from the three PSE programs, in addition to their websites, was reviewed as another instrument in the current study. There were 13 Saudi participants: four administrators, two employees, and seven faculty members at KSU as well as six students with ID and six of their parents. Surveys

and interviews were conducted to collect data from administrators, employees, and faculty members; students with ID and their parents were interviewed. An analysis of all the data collection instruments was conducted to answer the research questions, which were initially designed to create the proposed PSE program infrastructure framework for Saudi Arabia.

6.1.2 PSE Program Design for Students with ID

The design of PSE programs for students with ID in the US was described by the American university directors, administrative staff, and faculty members. The design of the three selected PSE programs relied on a framework that included their missions, visions, objectives, philosophies, and main components (academic, professional, and residential). Moreover, the design integrated general internal and external evaluations of the programs. The expected outcomes for students with ID in these PSE programs were personal development, academic development, career development, and gainful employment.

6.1.3 Proposing a Framework for a PSE Program

Three PSE programs in the US were synthesized to set benchmarks for the proposed framework design for a PSE program for university students with ID in Saudi Arabia, as follows:

The first benchmark—the philosophical and theoretical stance—guides the institution in designing a PSE program based on its vision, mission, objectives, and other philosophical aspects. The second benchmark, the program’s main components, includes academic, professional, and residential aspects. These components are in line with the institution’s philosophy. The third benchmark, learning outcomes for students with ID in the PSE program, are the desired outcomes planned in the PSE program based on the previous two benchmarks. The last benchmark is program evaluation. The PSE program defines at an early stage the method by which the program as a whole will be evaluated, by identifying who the evaluators

will be, when the program will be evaluated (e.g., weekly, monthly, annually), and what type of evaluations will be performed to ensure that the program is on the right track.

6.1.4 Applicability of the proposed framework for the PSE program in a university

The applicability of the proposed framework for the PSE program in a university in Saudi Arabia was verified based on surveys and interviews with administrators, employees, and faculty members at KSU, in addition to interviewing Saudi students with ID and their parents. The results showed that most interviewees agreed on the importance and applicability of a PSE program for students with ID and indicated their interest in it. In fact, students with ID and their parents showed a desire for such a program as soon as possible to provide them with access to university to learn, make friends, and get jobs.

The KSU participants thought the program should be designed to meet the needs of Saudi students with ID by having an academic and professional focus; offering courses related to their personal, academic, or career goals; and granting them access to on-campus inclusive housing. They also agreed the program could be applicable to KSU, given the university's capabilities and experience serving students with disabilities.

The KSU participants considered that a timeframe of between one and three years would be required for KSU to start the program and that a mixed program model would be the most appropriate for students with ID. Moreover, they agreed that credit courses would suit the needs and abilities of such students.

According to the KSU participants, students with ID admitted to the university should be between 18 and 23 years old. Additionally, 33.6% thought that between four and six students with ID should be enrolled in the PSE program, and 51.6% of participants agreed that the length of the program should differ from student to student. Furthermore, the participants said that students with mild ID should be admitted to study in the program. Regarding appropriate colleges and majors for students with ID to study, 58.6% of the participants said that all majors

could be allowed based on individual student abilities and strengths, and 52.3% said that students with ID should take between one and three courses per semester.

Regarding the credentials that students with ID should earn, 49.2% of the participants agreed that diplomas should be awarded. The participants were asked about the support KSU would provide for students with ID once enrolled in inclusive university classes; 43.8% responded that a new support program would cooperate with agencies and sectors in Saudi Arabia. The skills students would be expected to acquire the implementation of the program. included course registration (chosen by 48.4%), accommodation requests (65.6%), class attendance (50.8%), course requirement submission (50.8%), participation in on-campus activities and organizations (82.8%), scheduling meetings with the program team (52.3%), self-determination (69.5%), self-advocacy (71.1%), and independent living (85.2%).

The KSU participants were also asked about the percentage of funding of the total budget directed to all Disability Services Centers and Programs at KSU that could be expected to be provided to implement the PSE program for students with ID. The majority (52.3%) of the participants chose “10–Less than 30%.” The (34.4%) of the participants also identified the Budgets and Quality Assurance Department as the body responsible for funding the program. Most participants (53.9%) identified the Humanities College as the college that should host the program.

6.1.5 Challenges of Implementing PSE Programs

The types of challenges identified by the Saudi university directors, employees, and faculty members at KSU, in addition to the Saudi students with ID and their parents, were social, material, and human challenges; administrative and executive challenges; and program design and planning challenges.

6.1.6 Solutions to Overcome the Challenges of Implementing PSE programs

Strategic planning, awareness raising, professional committees, and cooperation were the solutions suggested by the Saudi university directors, administrative staff, and faculty members at KSU as well as by the Saudi students with ID and their parents.

6.1.7 Relationship to Theory of Student Involvement, Program Theory, and ICF

This multiple case study was based on the theory of student involvement and the program theory, in addition to the ICF model. The study's purpose was to design a PSE program for students with ID that include its components, organization, evaluation, and inclusivity practices.

The theory of student involvement stresses the importance of involving students with ID in all academic and extracurricular activities at the IHEIs and having them invest their time and energy in interacting with administrators, faculty, staff, and other students as much as possible. Therefore, such students' learning, and personal development improves according to their degree of involvement in the college experience (Astin, 1984).

This theory guided the current study in the design of the proposed framework for a PSE program for students with ID at a university in Saudi Arabia. I investigated the design of PSE programs for students with ID in the US and the inclusivity practices of these programs. Students with ID were involved in all university activities to the fullest extent possible in all three selected programs. Student success in the programs is associated with fulfilling the program requirements, one of which is participating in both on- and off-campus activities. Therefore, these students' personal, academic, and career skills are developed in these programs, as noted in Astin's (1984) theory.

I designed the proposed program based on the inclusivity practices of the three programs and the theory of student involvement, which ultimately increases the level of student involvement in all components of a program. Involving the students with ID in all academic, professional, and residential aspects of the university campus was intended to make the college

experience more effective for them. The proposed program requires these students to be involved both in and out of class and both on and off-campus, in interacting with others to register for the courses in which they are interested every semester, in requesting any needed accommodations from the program staff and faculty members, in participating in activities and organizations on campus, and in attending all scheduled meetings with the program team and discussing their concerns and needs.

The current study also used program theory, which played a fundamental role in designing the proposed program by shaping its framework, components, organizations, and evaluation. Program theory helped describe the strategic plan for designing the program, including its components and operation, and predicting its expected results, as well as the program requirements that must be met to achieve the desired effects (Sidani & Sechrest, 1999).

Program theory relies on three basic components: program activities or inputs, desired outcomes or outputs, and processes undertaken to achieve the desired outcomes of the program (whether immediate, intermediate, or long-term outcomes; Sedani & Sechrest, 1999). The proposed program inputs include identifying the knowledge of administrators, employees, and faculty members at the university, students with ID, and their parents regarding integrating students with ID into the university; contacting experts in PSE programs for students with ID to design the proposed program; determining program space; identifying program staff with expertise in offering such programs; seeking allies and decision makers within the university implementing the program to support and advocate for the program; determining program funding, resources, materials, technology, and peer mentors; and building cooperation on- and off-campus with partners (whether governmental or private centers, or agencies for internships, training, or employment for students with ID) to support the program.

To make these inputs work, a few main activities should be undertaken by the university during the reconnaissance phase of the proposed program, such as program design; program applicability, funding, and resources; program preparation; and program implementation.

The expected outputs of the proposed program in the reconnaissance phase will be to obtain knowledge and explore the current research in PSE programs for students with ID that correspond to KSU policies and regulations and Saudi culture. The program's plan, strategies, content, and evaluation methods will be developed during the design phase. Next, Saudi stakeholders' opinions and concerns regarding adapting the program according to both the stakeholders and Saudi culture will be explored to verify the applicability of the proposed program at KSU. The operation process of the program as well as its financial support, university administration support, and training will be determined to plan the program funding and resources. The program's preparation will be performed while developing the program procedures, educating and training students without disabilities, increasing awareness of the program throughout the university and community, exploring the attitudes of university students with and without disabilities concerning integrating students with ID into the university, and building both on- and off-campus partnerships. Lastly, the implementation procedures will be performed.

The program outcomes are organized into three categories: immediate, intermediate, and long-term outcomes.

The immediate outcomes will be the development of extensive knowledge about PSE programs for students with ID within the program team, which will improve the team's ability to address program obstacles during the design and implementation of the program, increase stakeholder awareness of the program, and foster positive expectations of the program from university administrators, other stakeholders, and university students. Moreover, such

knowledge will contribute to a community understanding of the program and cooperation through partnerships.

The intermediate outcomes will be developing the program team’s advanced knowledge and ability to work within the program and address issues, in addition to identifying various methods to acquire more facilities and partnerships for the program, achieving diversity in the university, involving stakeholders and experts in the program, reducing negative attitudes

Figure 6.1

Proposed Framework for the PSE Program Based on Program Theory

Inputs	Activities	Outputs	Outcomes		
			Immediate outcomes	Intermediate outcomes	long term-outcomes
Knowledge Planning Experts Staff Funding Recourses Metatrails Space Cooperation Partners Allies Technology Peer mentors Decision makers Expertise	Reconnaissance phase of the proposed program Program design Program applicability Funding & Resources Program preparation Program Implementation	Knowledge and explore the current resescah in PSE programs for students with ID that fit with KSU policies and regulations, and Saudi culture etc. Program plan, strategies, content, and evaluation. Explore the Saudi stakeholders' opinions and concerns, improve the program according to the stakeholders and Saudi culture Operation process, financial support, administration university support, training Development procedures for the program, education and training students without disabilities, increase awareness on the program at the university and community, explore attitudes of university students, in and out partnerships Implementation procedures	Students with ID access the university Extensive knowledge on PSE programs for students with ID, Program team ability and skills to deal with obstacles Increase stakeholder's awareness Positive expectations from university administration and stakeholders And university students Community understanding Partnerships cooperation	Advanced knowledge and ability to work in the program and deal with issues. Discoveries to make more facilities and partnerships. University diversity Involvement of Stakeholders and experts Reducing negative attitudes toward ID a program representator to interduces the program to colleges, schools, and out the university events.	Students with ID have more PSE options in Saudi colleges and university

toward students with ID, and building partnerships through cooperation with a program representative who will introduce the program to colleges, schools, and off-campus events.

Finally, the program's long-term outcomes will include more options for students with ID in Saudi colleges and universities. Figure 6.1 presents the proposed framework for the PSE program based on the program theory.

Lastly, the ICF framework, which is based on a biopsychosocial approach to understanding the concepts of disability, has a role to play in addressing the challenges of implementing the proposed framework at a university. The ICF framework includes the following components: body functions and structures, activities and participation, and contextual factors, which include environmental and personal factors.

Understanding the characteristic of ID and deficiencies in cognitive functions and adaptive behavior by the body functions and structures composed of the ICF helps university administrators, faculty, and staff understand the capabilities and needs of these students and the educational difficulties they face. They can then involve them in the university and provide adequate support, services, and facilities; modify curriculum and course requirements; and use appropriate evaluation and effective teaching strategies to provide an effective environment for them. Moreover, they can remove barriers that hinder the participation of students with ID in the university, such as negative attitudes toward these students.

Students with ID have difficulty carrying out required tasks and activities and lack participation in or outside the educational environment. One challenge in implementing the proposed framework for the PSE program is the integration of these students into the university, as students without disabilities and faculty members may not know how to deal with them, which may affect the success of the students' participation in the university. Furthermore, another challenge is that negative attitudes towards these students with ID can prevent these students from participating on campus. Consequently, students with ID often face

social and environmental challenges that prevent them from carrying out activities and participating socially in educational settings. Therefore, it is the role of administrators, employees, and faculty members at the university to remove such social and environmental barriers to support the social participation of students with ID. The ICF framework provides important strategies for doing so and for modifying physical environments and classroom activities to deal with the effects of disability and restrictions on such students' activities and participation in educational settings.

Contextual factors are related to an individual's background and life. These factors have two components—environmental and personal—which can act as facilitators or obstacles to an individual's performance. These contextual factors play a critical role in determining students' special needs and improving their capabilities and performance in inclusive settings. Therefore, an understanding of such contextual factors by university administrators, staff, and faculty enhances the program's success.

Environmental factors include aspects of people's lives, whether physical, social, or behavioral. Therefore, the use of the ICF framework can lead to the development of clear legislation, regulations, and policies in the university regarding how students with ID are permitted to enter the university, enhancing an inclusive environment, and ensuring their participation in the university. All this can be achieved by helping others at the university the characteristics and limitations of a disability.

Moreover, other contextual influences are related to the aforementioned environmental factors, such as negative attitudes toward students with ID. Therefore, the understanding of stakeholders and decision makers regarding the impact of contextual factors on the integration and participation of students with ID in the university leads to the introduction of strategies that ensure the latter.

Personal factors are features that distinguish an individual that are not related to health status and affect an individual's performance. Appropriate educational strategies such as adapted facilities, curricula, and educational practices and IEPs are used to meet the individual needs and personal factors of university students with ID. Therefore, administrators and faculty members must be aware of appropriate teaching methods for these students and harness all services and resources to ensure their participation in the university.

6.2 Implications

The exploration of the design of PSE programs for other types of disabilities is still as limited as PSE programs for students with ID. There is a great need to explore the design, nature, and operation of these programs from other researchers interested in the field of PSE programs.

Hence, this dissertation might add value to the field of PSE for students with ID by helping other universities inside and outside Saudi Arabia learn from the frameworks of different programs in a different culture (the US) and attempt to find an appropriate PSE program that is a good fit with the education system and culture.

Moreover, during this period, Saudi Arabia has been witnessing a unique renaissance represented by Vision 2030, which calls for an investment in students with disabilities to provide them with all the support and services they require at all educational levels. Funding initiatives by the Ministry of Education or KSU exist for studies or practices that can help develop education in Saudi Arabia. Therefore, producing this dissertation is an opportunity to invest in the Saudi context.

Concerning KSU, the university finances many research studies annually, and the research is presented at scientific conferences. External agreements are signed to develop university education for students with and without disabilities. Such opportunities demonstrate that this dissertation is unique in Saudi history.

Therefore, the current study has implications for all stakeholders, as it aims to help students with ID in Saudi Arabia access colleges and universities.

6.2.1 Implications for Students

This study provided students with ID with the opportunity to access higher education institutions by raising community members' awareness concerning these students' abilities to learn in college and university and their right to obtain paid jobs later. Understanding the abilities and needs of students with ID helps to determine the appropriate PSE programs for these students at the college or university, where the gap between these students, university members, and other community stakeholders decreases. In turn, the students' skills, whether personal or professional, self-determination, self-esteem, or independent living, will improve, as was found in the three selected PSE programs in this study.

6.2.2 Implications for Parents

Parents of students with ID have the same hopes and worries as those of students without disabilities. They worry about their children's future after high school, which gives rise to conflicting feelings. Not knowing their children's future is a cause of anxiety. Their situation is complex, as there are limited PSE programs for their children in Saudi Arabia. Therefore, this study provided parents with hope for their children's future by accessing college and university. Since Saudi laws and regulations support all educational stages, there is no concern about excluding them from studying in higher education institutions. The PSE program proposed in the current study provided the possibility of their children accessing college in Saudi Arabia in the coming years thanks to the interest of university administrators, faculty, and staff in supporting the implementation of such a program for students with ID.

6.2.3 Implications for Program Administrators, Faculty, and Staff

The current study focused on the views of university administrators, faculty, and staff concerning PSE programs for students with ID in the US and Saudi Arabia. Therefore, the main

implications of the study concern them. The study guided university stakeholders with a roadmap in designing, developing, and implementing a PSE program for students with ID using the resources and support available at their university and updating, developing, and evaluating them periodically and systematically.

This study also has implications for faculty regarding the importance of universal design when teaching all university students either with or without disabilities, including ID, in which the use of various teaching methods suitable for different groups of students helps meet individual learners' needs.

Improving stakeholders' understanding of the abilities and needs of students with ID and the critical need to build a program team, increasing awareness at the university level toward students with ID, and building partnerships both on- and off-campus will help make the program successful and effective for these students. PSE programs for students with ID require strong support and motivation from the university administration for all university members to commit to working within the programs officially and cooperatively.

6.2.4 Implications for Community Partners

This study offers insights into the role of the Saudi community, individuals, organizations, and centers, whether governmental or private, in supporting such programs for students with ID. If these programs be designed without ensuring sufficient support from community partners, then these programs will face challenges during the implementation phase, such as lack of internships in the community partners as a part of students' completion of the program, which can be provided through community partnerships. Understanding the significant contribution of community partners to a program's success is critical; cooperative partnerships with the PSE program team are required to facilitate the college experience of students with ID.

6.2.5 Implications for Transition Planning in High Education

Providing the opportunity for students with ID to access college means pre-preparation procedures starting in high school are necessary to facilitate the transition process to college for these students. High schools and colleges or universities must understand that only they can make the students' transition successful. College picks up where high school leaves off in supporting students with ID educationally, socially, and professionally. The current study presents lessons from the three PSE programs to provide support and services for students with ID. These lessons can guide colleges and high schools in establishing continuous coordination and cooperation that is flexible and effective.

6.3 Limitations of the Current Study

The current study has some limitations. First, the selection of US cases was limited to two- or four-year PSE programs for students with ID that focused on academic skills in the same way as other skills, in addition to offering a non-degree certificate to students with mild or moderate ID. The data in the observations were exclusively reported by the research assistants, based on their own views, background, knowledge, and experience.

With respect to the data in Saudi Arabia, the results were limited to those from one university: KSU. Another limitation was the exclusion of the "neutral" or "I don't know" options in responses to the survey; a small number of Saudi respondents commented that this option was needed to respond to some of the survey questions. Regarding the data from the PSE program's proposed framework, there was a limited ability to apply the proposed framework because of the lengthy administrative procedures at KSU. In addition, there has been limited research on PSE programs for students with ID in the Saudi and Arab literature that could help in the proposed framework design for the PSE program. As mentioned in the first and second chapters, there are similarities between the US and Saudi Arabia with respect to their education systems and special education programs, services, and regulations. The PSE programs for students with ID in the current study were limited to the US; therefore, it may be

difficult to generalize the results of this study to other countries. Cultural differences between the two countries the US and Saudi Arabia should be viewed in their broad and different aspects. However, it is possible to learn from the experience of PSE programs in the US and beneficial to transfer that knowledge to Saudi culture.

Finally, the study was limited to Saudi students with ID and their parents regarding their perspective concerning the implementation of a PSE program for students with ID in Saudi Arabia. Some parents did not provide basic information about concepts of parental involvement or the accommodations provided to their children in high school. Some of these parents finished college while working after high school. It was difficult for them to understand some interview questions until they were simplified for them. In addition, some of the students with ID lacked communication and expressive language skills.

6.4 Recommendations for Future Research

The findings of the current study provide an informative reference on PSE levels and practices contributing to PSE students' success with ID. The current study's implications are of interest to IHEIs working on PSE programs, policymakers, practitioners, and researchers. As Saudi Arabia applies a nationwide reformation plan to improve all aspects of the country, including the education system, there will be an opportunity for those with ID to access college or university. This can be achieved by conducting more research on a wide range of PSE programs for students with ID for one-year and three-year programs, or different durations depending on the capabilities of these students in colleges and universities. This could help to produce the big picture of these programs and aid in the adoption of the most appropriate approach for the Saudi university system and regulations. Research is needed to explore the background of program staff in these PSE programs to determine how their backgrounds play a role in program design and practices. Additionally, examining the effectiveness of group

interviews for PSE program directors will produce extensive information on these program designs.

There is also a need to develop admission requirements standards for students with ID in PSE programs that are appropriate for the Saudi university system and regulations and to explore PSE for students with ID in Saudi Arabia in various research topics to enrich the Saudi literature. Moreover, research should be conducted to discover the existing Saudi agencies, centers, and companies that could train students with ID during their internship experiences.

Research in Saudi Arabia should be directed toward conducting more studies on the needs, desires, and concerns of families regarding the higher education of their children with ID. In addition, further studies should be conducted with a large number of students with ID in Saudi Arabia to identify their desires, interests, strengths, and weaknesses and incorporate this information into PSE program design.

It is also important to explore the opinions of students without disabilities and of those with other types of disabilities at the university regarding the inclusion of students with ID. More importantly, since Saudi universities already cooperate and partner with overseas universities in various fields, including special education, joint research can be conducted between Saudi universities and universities with higher education experience of people with disabilities, including people with ID. In addition, grants should be provided for some Saudi consultants and faculty members interested in the field of PSE for students with ID to closely explore PSE programs and bridge the multiple research and cultural gaps between Saudi Arabia and other countries, in addition to providing a clear understanding of the nature of these programs and how they work.

6.5 Summary

The purpose of this multiple case study was to propose a framework design for a prospective PSE program for students with ID, including its components, organization, and

evaluation methods at a university in Saudi Arabia, based on the experiences of program directors, faculty, and staff in transition and PSE programs for students with ID in two- or four-year post-secondary institutions in the US. It also explored the applicability of the proposed framework at KSU, the challenges facing its implementation, and the proposed solutions by surveying and interviewing administrators, employees, and faculty members at KSU and interviewing students with ID and their parents in Saudi Arabia.

Semi-structured interviews were conducted with program directors, faculty members, and staff in three transitional and PSE programs for students with ID in two- or four-year post-secondary institutions in the US as well as with administrators, employees, and faculty members at KSU, students with ID, and their parents in Saudi Arabia. Observations and document reviews of the three selected PSE programs were also conducted. An analysis of all the data collection instruments was conducted to understand PSE programs for students with ID design in the US, which led to the proposal of a theoretical framework for a PSE program in a university in Saudi Arabia. Then, the applicability of the proposed framework at KSU, the challenges of implementing it in Saudi Arabia, and the suggested solutions were identified. This study has implications for students with ID and their parents, university administrators, employees, and faculty members, and community partners and transition planning team members at high schools. Finally, we hope that this study will inspire other researchers and stakeholders to continue working on this subject and develop and implement more university programs for students with ID in universities in Saudi Arabia and elsewhere. We further hope that this study will aid students with ID, protect their equal right to access education, help meet their higher education needs, and motivate others to do the same.

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APPENDIX A
WORKSHEET 2

Worksheet 2

The Themes (Research Questions) of the Multi-case Study

Theme	Description
1	How are post-secondary education programs for students with ID designed in transition and PSE programs for students with ID at two-year or four-year post-secondary institutions in the US from the perspectives of the American university directors, administrative staff, and faculty members?
2	How to design a proposed framework for a post-secondary education program for students with ID in a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, and faculty members?
3	How to verify the applicability of a proposed framework for the post-secondary education program for students with ID at a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, faculty members, people with ID, and their families?
4	What are the potential challenges facing the implementation of the proposed framework for the post-secondary education program for students with ID in a university in Saudi Arabia from the perspectives of the Saudi university directors, administrative staff, and faculty members? What are the suggested solutions to overcome the potential challenges facing the implementation of the proposed framework for the post-secondary education program in a university in Saudi Arabia from the perspectives of the Saudi
5	university directors, administrative staff, and faculty members?

Source: Stake, 2006, p.43

Note. These themes indicate primary information about the questions the researchers seek to explore.

APPENDIX B

WORKSHEET 3

Worksheet 3

Case Analysis and Summary of Case 1

Synopsis	Program Description
<p><i>Site Description; Program Focus; Program Features; Skills</i></p> <p><i>Description of Students; The uniqueness of Case Situation for Program</i></p>	<ul style="list-style-type: none"> • Four-year transition and PSE program for students with ID • Nondegree program leading to Comprehensive Higher Education Certificate • Fully inclusive • R2 public research university located in western US • Academics, vocational experiences, and residential/student life • Students attend inclusive and individualized classes. • Inclusive residential hall living for students with ID • Self-determination and self-advocacy skills through student-directed person-centered planning • Academic, social, and vocational skills through inclusive college courses and individualized courses, including career preparation, campus engagement, and independent living • 17 students with ID enrolled • None engaged in paid work while attending the program • One of three programs in the state offering inclusive higher education • Partnered with an inclusive higher education group in the state and with two other schools that are a part of this cohort to make inclusive higher education available for all students with disabilities • Offers inclusive housing on campus and a four-year program; small team; students with ID responsible for own success at the university • All program communication is directed to students with ID. • University opportunity; independent living • Academic, social, and self-determination skills
<p>Findings</p>	<ul style="list-style-type: none"> • Inclusive college courses and individualized courses • All necessary support and services • Career and vocational aspects • Four-year undergraduate program because a two-year program is viewed as inadequate • Communication between program staff and families • Diversity in the university

<i>Main Components</i>	<ul style="list-style-type: none"> • Admission criteria: <ul style="list-style-type: none"> ○ 18 years or older, high school diploma, diagnosed with intellectual or developmental disability ○ Strong motivations to attend university ○ Able to live and work independently, has communication skills, shows socially acceptable behaviors, stays alone for at least 4–6 hours and preferably overnight, independent in handling/managing dietary and/or medical needs, including medication ○ Can read and complete math at a functional level (3rd/4th grade) • The four-year program, including at least two audits and three for-credit academic courses • Person-centered planning: special course taken for credit each semester to build skills in academic, social, independent living, and career domains • Work settings on- and off-campus • All majors allowed; class and extracurricular activities, less than 25% of academic inclusion, 25% social inclusion • Completing courses, vocational experiences, establishing and meeting goals, and completing surveys/assessments for modified grades • Comprehensive Higher Education Certificate awarded; not officially recognized by the IHE • On- and off-campus integrated work experiences 	
<i>Evaluation Criteria</i>	<ul style="list-style-type: none"> • Follows Think College evaluation criteria • Academic, career, campus access, self-determination, alignment with college systems and practices, coordination and cooperation, and sustainability • Continuous evaluation 	
<i>Expected Outcomes</i>	<ul style="list-style-type: none"> • Financial independence independent living • Personal development • Relevant to themes 1–12 • Community participation • Access to resources 	
Relevance to Cross-Case Analysis	<i>Themes; Potential Excerpts</i>	<ul style="list-style-type: none"> • Students with ID are the center of the communication process. • Special and inclusive classes • Focuses on academic and professional aspects • Students with ID responsible • Think College evaluation criteria

Worksheet 3

Case Analysis and Summary of Case 2

Synopsis	Program Description
<i>Site Description</i>	<ul style="list-style-type: none"> • Two-year transition and PSE university program for students with ID • Nondegree program leading to a Professional Services Certificate for completing the course of study through the Division of Continuing Education with the support of the College of Innovation and Education • Fully inclusive • Program design based on Think College principles
<i>Program Focus; Program Features</i>	<ul style="list-style-type: none"> • R1 public research university located in southeastern US • Academic and career aspects • Students can specialize in hospitality, social services, and education • Inclusive housing on- and off-campus
<i>Skills</i>	<ul style="list-style-type: none"> • Promotes independence and student-initiated decision-making and action, self-determination, and self-advocacy skills • Academic, social, and vocational skills through inclusive college courses and individualized courses, including career preparation, campus engagement, and independent living
<i>Description of Students; The uniqueness of Case Situation for Program</i>	<ul style="list-style-type: none"> • 20 students with ID enrolled • 13 students graduated since 2015 • The first university in the US that allowed students with ID to live on campus; only university in the state that allows students with ID to live on campus • The program provides information that includes advice and steps toward preparing for college and association with the program. • Offers a monthly program called Preparing for College, that prepares people with ID for the college experience • Professional Services Credential was developed through a study of the state job market, specialties in the state, and the interests of current and prospective programs' students. • Students without disabilities are also permitted to enroll in any of the courses offered in the Professional Services Credential to fulfill degree requirements as appropriate for their majors. • Students are assessed on their abilities to demonstrate desirable employment attributes according to the National Association of Colleges and Employers.

Findings	<i>Program Framework</i>	<ul style="list-style-type: none"> • 60% of students in the program have paid work. • The appreciative advising model is used to facilitate semester course planning; the model employs the intentional, collaborative practice of asking positive, open-ended questions that help students optimize their educational experience and achieve their dreams, goals, and potential. • The name of the disability center is not as negative as other program names. • The handbook outlines all aspects of the university for all stakeholders; rules on academic standing, probation, and disqualification; and unique academic probation and disqualification policy. • An academic program of study, with a career and professional development focus, and campus participation • Students discover and develop their passions and strengths, enhancing their ability to achieve long-term goals and secure paid employment. • Campus and vocational opportunities • Develop 21st-century professional and personal skills for sustainable employment, independent living, confidence, independence, and self-sufficiency. • Similar educational experience as other students: on-campus experiences and university social opportunities • Success is more than earning an “A”: It includes navigating new situations, completing complex assignments, communicating in new ways, learning from mistakes, and cultivating real-life success through attainable goals, classroom experience, resource facilitators, roommate experiences, families, close support, and a supportive environment. • Believe in the success of students and achievement of a credential • Believe in substantial benefits of the program, university diversity, and all students as a starting point for all decisions
	<i>Main Components</i>	<ul style="list-style-type: none"> • Admission criteria: <ul style="list-style-type: none"> ○ 18 years or older, high school diploma, diagnosed with intellectual or developmental disability ○ Desire to attend university ○ Not under guardianship ○ Able to make own decisions • Individualized accommodations • Integrated paid employment; career-focused • Audited and for-credit inclusive courses, special courses, internship experiences, and social inclusion • A two-year program

		<ul style="list-style-type: none"> • The vocational track was chosen by student guides course selection process • Community capstone internship • Take any university classes like other students; majors in hospitality, social services, and education • Three to four classes per semester, hold a volunteer job on campus, participate in 50% of extracurricular activities, and participate in class activities • All required services and support • Professional Services Certificate in five semesters or more • Between 25% and 50% academic inclusion
	<i>Evaluation Criteria</i>	<ul style="list-style-type: none"> • Follows Think College evaluation criteria • Academic, career, campus access, self-determination, alignment with college systems and practices, coordination and cooperation, and sustainability • Continuous evaluation • Quality indicators, benchmarks for inclusive higher education, and practices and predictors set by the National Technical Assistance Center on Transition (NTACT) and the state-managed Florida Center for Students with Unique Abilities (FCSUA)
	<i>Expected Outcomes</i>	<ul style="list-style-type: none"> • Personal and academic development • Career development for gainful employment and joining competitive workforce through integrated internships and work-based training; must participate in two work experiences, paid or unpaid, on campus • Independent college experience: must meet syllabus attendance requirements and follow university ethical standards • Expected skills determined based on NACE competencies
Relevance to Cross-Case Analysis	<i>Themes; Potential Excerpts</i>	<ul style="list-style-type: none"> • Relevant to themes 1–12 • Students with ID are the center of the communication process • Special and inclusive classes • Focuses on academic and professional aspects and experiences • Students with ID are held accountable • Think College evaluation criteria • Students can gain a certificate. <hr/>

Worksheet 3

Case Analysis and Summary of Case 3

Synopsis	Program Description
<i>Site Description</i>	<ul style="list-style-type: none"> • Four-year transition and PSE university program for students with ID • Nondegree program, but students can earn a noncredit certificate for completing the course • Fully inclusive • Program offered by the School of Continuing Education (University College)
<i>Program Focus</i>	<ul style="list-style-type: none"> • R1 private research university located in northeastern US • Personal development, social inclusion, and integrated employment
<i>Program Features; Skills</i>	<ul style="list-style-type: none"> • Inclusive housing on- and off-campus • Self-determination, self-advocacy, and independent living skills. • Academic, social, and vocational skills, career preparation, campus engagement
<i>Description of Students</i>	<ul style="list-style-type: none"> • 84 students with ID enrolled • 50% of students had paid employment while attending the program. • 75% of students found paid jobs after graduation.
<i>The uniqueness of Case Situation for Program</i>	<ul style="list-style-type: none"> • Students have earned certificates in disability studies, health and wellness, art, religion, gerontology, dance, and sound recording • University College offers a noncredit certificate to students who audit at least five courses within an area of specialty; option open for all university students, not only those enrolled in the program for students with ID • The university offers a variety of programs for students with disabilities and a program for high school students with ID. • The program team addressed the university's concerns about having students with ID. • The program offers jobs for students with ID who finish the program and those who do not want to continue. • Program to train peer mentors • The program falls under the Disability Service Center. • No specific admission requirements or qualifications; assessment of character through interviews
Findings	<ul style="list-style-type: none"> • The program focuses on married adult learners.

*Program
Framework*

- Research best practices to enhance equity and innovation, and mitigate competitive disadvantages and environmental barriers.
- Support faculty in and out of the classroom; professional development for staff members; high expectations of faculty members and academic advisors
- Universal design
- Full inclusion
- Diversity
- Creating a new context for disability; redefining the term “disability” and the related culture; spearheading the cultural shift in higher education
- National and international program
- Full support for students
- Independent living and integrated employment
- Long-term assessment practices
- Students with ID add value to the university as contributing members of the university community
- Development and delivery of course curriculum by faculty
- No segregated classrooms/no specialized courses.
- Operate on the belief that students deserve to be in the university; students with ID must have all the same options as other students.

Main Components

- A belief that 100% of students with ID can be employed
- Admission criteria:
 - All ages accepted
 - No high school diploma or grade required
 - Documented ID
 - Medicaid eligible
- Person-centered planning
- To obtain a noncredit certificate as a full-time student, audit at least five courses within the area of specialty and complete 20 courses (60 credits).
- Students select classes based on their interests; audit 5–6 core courses, take elective courses, and participate in extracurricular activities
- Audit and for-credit inclusive college courses; most are audit
- Full-time students with ID take a minimum of six university classes per academic year (either for credit or audit)
- Instructional time for full-time students 9–12 hours per week, with an additional 9–12 hours of study time with a peer or professional mentor
- All majors allowed; noncredit certificate directly related to the courses taken

	<i>Evaluation Criteria</i>	<ul style="list-style-type: none"> • The credential is a continuing education credential and open to all students at IHE; specialized credentials • Internship in the fourth year: 20 hours per week on campus and 5 hours of workshop instruction with the internship and employment coordinator • 75–100% academic inclusion; on- and off-campus inclusive housing • All essential services and support; peer mentors, residential mentors, pre-orientation, an initial counselor meeting, a comprehensive academic adjustment plan, and university outreach • External evaluation by grant evaluators; internal evaluation according to the program’s mission by program team members
	<i>Expected Outcomes</i>	<ul style="list-style-type: none"> • Follows Think College evaluation criteria (Academic, career, campus access, self-determination, alignment with college systems and practices, coordination and cooperation, and sustainability, and continuous evaluation) • Can learn in their content area • Can be a contributing member of a campus community and have good relationships with others • Can become interdependent and work with others • Can set own goals and work toward them • Can communicate about the environmental impact of their disability and its implications in the educational setting • Demonstrate continued self-advocacy and the ability to communicate their needs by using academic adjustments, acquiring knowledge, and articulating the concepts around disability and diversity
Relevance to Cross-Case Analysis	<i>Themes</i> <i>Potential Excerpts</i>	<ul style="list-style-type: none"> • Develop autonomy, self-confidence, problem-solving skills, proficiency in the field of study, and professional skills • Relevant to themes 1–12 • Four-year program • Integrated employment • Full academic inclusion, inclusive audit classes, full participation on campus, inclusive on-campus housing • Think College standards

APPENDIX C

WORKSHEET 4

Worksheet 4

Ratings of the Level of Importance of Each Case for Each Theme

Importance of Cases	Case		
	1	2	3
Original Multi-case Themes			
Program mission	M	M	M
Program vision	L	L	L
Program objectives	H	H	M
Program philosophy	H	H	H
Academic component	H	H	H
Professional component	L	L	M
Residential component	L	L	M
Personal development	H	H	H
Academic development	L	L	M
Career development and gainful employment	M	L	M
Internal evaluation	L	L	L
External evaluation	H	H	H

Notes. “H= high importance; M= medium importance; L= low importance. High importance: The subtheme appears to be one of the most useful themes for developing themes in a case. As indicated, the original themes can be augmented by additional themes even as late as the beginning of the cross-case analysis. Descriptions of each theme can be attached to this worksheet so that the basis for estimates can be readily examined” (Stake, 2006, p. 49).

APPENDIX D

WORKSHEET 5

Worksheet 5

Generating Theme-Based Assertions across Case Findings Rated Important levels

Importance of Cases	Case		
Themes Assertions	1	2	3
Program mission	M	M	M
Program vision	H	L	M
Program objectives	M	H	M
Program philosophy	H	M	M
Academic component	H	M	M
Professional component	H	L	M
Residential component	H	L	M
Personal development	M	H	L
Academic development	H	L	M
Career development and gainful employment	M	H	M
Internal evaluation	L	M	H
External evaluation	M	M	M

Notes. “H= high importance; M= medium importance; L= low importance. A high mark means that this theme has a higher importance in this case than in other cases.” (Stake, 2006, p. 51).

APPENDIX E

WORKSHEET 6

Worksheet 6

Multi-case Assertions for the Final Report

#	Assertion	Cases in Which Evidence Exists
1	The program framework is shaped by the program’s mission, vision, objectives, and philosophy.	1, 2, 3
2	The program contains three main components: academic component, professional component, and residential component.	1, 2, 3
3	Internal and external evaluation is used to assess the overall effectiveness of the program.	1, 2, 3
4	The program’s top priorities are to develop skills in students with ID and facilitate their personal development, academic development, career development, and gainful employment.	1, 2, 3

APPENDIX F

REQUEST TO USE WORKSHEETS

From: ALMUTAIRI AREEJ TALEA M <d176895@hiroshima-u.ac.jp>

Sent: Monday, March 09, 2020 7:34 AM

To: permissions@guilford.com <permissions@guilford.com>

Subject: Permission

Hello,

My name is Areej Almutairi. I am a doctoral student at Hiroshima University. I would like to obtain permission please to use worksheets published in a book titled: "Multiple Case Study Analysis" written by Dr. Robert E. Stake. I would like to use these worksheets for my dissertation only to analyze the data obtained from officials, staff, and faculty members at universities that have a post-secondary education program for students with intellectual disability.

I look forward to hearing from you

Thank you very much

Kind Regards,

Areej

APPENDIX G

CONSENT TO USE WORKSHEETS

RE: Permission



<permissions@guilford.com> permissions@guilford.com

م ٠٩:٢٣ ١٤٤١/٠٨/٢٧



إلى: ALMUTAIRI AREEJ TALEA M

Dear Areej,

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APPENDIX H

ETHICAL CLEARANCE FROM KSU IRB

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هاتف: +966 11 467 01 08
فاكس: +966 11 467 79 99

المملكة العربية السعودية
ص.ب. الرياض 2454 11451
www.ksu.edu.sa



مكتب وكيل الجامعة
للدراسات العليا والبحث العلمي

Ref No: KSU- HE-18-171

From: Deanship of Scientific Research, King Saud University (KSU), Saudi Arabia.
Research Ethics Committee, Rec-dsr@ksu.edu.sa

To: [Redacted]
Dr. [Redacted], Director

Subject: Research Project No. KSU- HE- 18-171

Project Title: "Proposed academic university program for integrating students Intellectual Disability ID".

Dear Dr. [Redacted],

The KSU researcher, Ms. Areej Almutairi, is currently a Ph.D. student in the External Joint Supervision Program (King Saud University and Hiroshima University, Japan). She intends to conduct a research study with the abovementioned title to identify the content and processes of academic programs for students with Intellectual Disabilities (ID) in some American colleges or universities, through observations, interviews with faculty members and administrators and in addition to the documents reviews, the following aims will be met:

- Understand the structure and content of the program and the admission processes.
- Understand the mechanisms of curricula design, accommodations and modifications to meet the needs of students with ID.
- Observe the behavior and communication/interaction patterns between students with and without ID and the instructors.
- Observe the learning environment context.
- Observe and grasp the views and experiences of instructors about instructions and extracurricular activities.
- Discuss with staff and review documents about the support provided to instructors and students with and without ID.
- Understand the evaluation processes, functions and outcomes of the post-secondary programs provided for students with ID.
- Grasp the views and experiences of faculty members and administrators in these programs about the post-secondary education programs for students with ID.

This research project is approved by the KSU Institutional Review Board (IRB) with the abovementioned reference number. King Saud University appreciate facilitating the research work of Ms. Almutairi in University [Redacted]

Sincerely yours,

Prof. Ahmad Salem Alameri

[Signature]

Vice Rector for Graduate Studies and Scientific Research
Chairman, Institutional Review Board (KSU)



٣/١٨/١٤٥٧
٥/٤٤-١/٣

APPENDIX I

ETHICAL CLEARANCE FROM KSU IRB

جامعة الملك سعود (034)
هاتف +966 11 4673355
فاكس +966 11 4678697

المملكة العربية السعودية
ص.ب. الرياض 2454 11451
www.ksu.edu.sa



عمادة البحث العلمي

Ref No: KSU-HE-20-312

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سعادة الباحثة / أريج بنت طالع المطيري

السلام عليكم ورحمة الله وبركاته

إشارة إلى توصية اللجنة الدائمة لأخلاقيات البحث العلمي بتفويض رؤساء اللجان الفرعية لأخلاقيات البحث العلمي لإعطاء الموافقات.

نفيدكم بموافقة اللجنة الفرعية لأخلاقيات البحوث الإنسانية والاجتماعية في جلستها السادسة والثلاثون بتاريخ ١٤٤١/١١/٣٠ هـ، الموافق ٢٠٢٠/٠٧/٢١ م على إجراء البحث الموضح بالجدول الآتي:

م	اسم	البحث	الأداة	الحالة
1	Student: Areej Almutairi	Proposed Framework of " Postsecondary Education Program for Students with Intellectual Disabilities in KSU "	Questionnaire Interview	approved

وعليه نأمل من الجهات المعنية بالجامعة تسهيل مهمة الباحث.

وتفضلوا بقبول وافر الاحترام

رئيس اللجنة الفرعية

لأخلاقيات البحوث الإنسانية
والاجتماعية

د. عبدالسلام بن وائل السليمان

- صورة إلى سكرتير اللجنة الدائمة لأخلاقيات البحث العلمي

APPENDIX J

ETHICAL CLEARANCE FROM KSU IRB

جامعة الملك سعود (034)
هاتف +966 11 4673355
فاكس +966 11 4678697

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عمادة البحث العلمي

Ref No: KSU-HE-20-343

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السلام عليكم ورحمة الله وبركاته

إشارة إلى توصية اللجنة الدائمة لأخلاقيات البحث العلمي بتفويض رؤساء اللجان الفرعية لأخلاقيات البحث العلمي لإعطاء الموافقات.

نفيدكم بموافقة اللجنة الفرعية لأخلاقيات البحوث الإنسانية والاجتماعية في جلستها الأولى لعام ١٤٤٢هـ بتاريخ ١٣/١/١٤٤٢هـ، الموافق ٢٠٢٠/٠٩/٠١م على إجراء البحث الموضح بالجدول الآتي:

م	اسم	البحث	الأداة	الحالة
1	Student: Areej Almutairi	Proposed Framework of " Postsecondary Education Program for Students with Intellectual Disabilities in KSU "	Interview of students with intellectual disability and their parents	approved

وعليه نأمل من الجهات المعنية بالجامعة تسهيل مهمة الباحث.

وتفضلوا بقبول وافر الاحترام

رئيس اللجنة الفرعية

لأخلاقيات البحوث الإنسانية
والاجتماعية

د. عبدالسلام بن وائل السليمان

- صورة إلى سكرتير اللجنة الدائمة لأخلاقيات البحث العلمي

APPENDIX K

CONSENT TO USE QUESTIONNAIRE

من: [lisa jester](#)
إرسال: الخميس, ٢٥ ذو القعدة, ١٤٤١ 02:٠١ ص
إلى: [ALMUTAIRI AREEJ TALEA M](#)
نسخة: [Meaghan](#)
الموضوع: Re: Permission, please

Hi Areej,
I am happy to hear you are looking at inclusive higher education as your dissertation topic. Positive perceptions and views of faculty are important indicators of a successfully run PSE. I would be happy to share my questionnaire with you. Do you need a clean copy of the survey?

I am copying Meaghan Bohn, my program coordinator who will follow up with you to get you anything you need.

Please feel free to reach out with any questions.

Good luck with your research.

Warm Regards,

Dr. Lisa B. Jester
Executive Director
The Florida Institute for Community Inclusion

Past President and current Member at Large
CEC Florida Division of Career Development and Transition (FDCDT)

APPENDIX L

MENTEE/STUDENT PROGRESS TRACKING FORM

Mentee/Student Progress Tracking Form



Mentee/Student Name: _____

Mentor Name: _____

ACADEMIC	Class Name:									
	Class Dates & Times:									
	Attended class?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Got to class on time?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Brought proper materials to class?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Prepared for class without prompts?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Asked appropriate questions?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Left class when class was over?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Stayed awake and alert during class?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Stayed through the entire class?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Followed majority of Mentor's prompts?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
		Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Wrote down assignment?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Homework assigned?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
		Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	What homework was assigned?									
	What chapters should be studied?									
	Test dates?									
	Projects? Due dates?									
	Mentor Comments/ Concerns:									
Action Plan & Time frame for completion:										

EMPLOYMENT	Brief description of activity:									
	Work location, dates & times:									
	Attended work?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Got to work on time?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Brought proper materials to work?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Prepared for work without prompts?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Asked appropriate questions?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Wore appropriate clothing to work?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Stayed awake and alert during work?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Stayed through the entire work shift?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Followed majority of Mentor's prompts?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Followed supervisor's instructions?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Wrote down work assignment as needed?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Was able to complete task in allotted time?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Had required skills to do the job?	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
	Mentor Comments/ Concerns:									
	Action Plan & Time frame for completion:									

Mentee/Student Progress Tracking Form

SOCIAL	Brief description of activity:				
	Date, Time & Location:				
				Skills Focused on during activity (check all that apply)	
	Activity initiated by Mentee?	Yes	No	N/A	Money skills
	Did Mentee appear to enjoy activity?	Yes	No	N/A	Ordering food
	Was Mentee appropriately dressed?	Yes	No	N/A	Navigating restaurant
	Was activity age appropriate?	Yes	No	N/A	Asking for help
	Did Mentee interact appropriately with Mentor?	Yes	No	N/A	Waiting for table
	Did Mentee interact with other participants?	Yes	No	N/A	Appropriate conversations
	Did Mentee interact appropriately with other participants?	Yes	No	N/A	Greetings
		Yes	No	N/A	Proximity to others
		Yes	No	N/A	
		Yes	No	N/A	
	Mentor Comments/ Concerns:				
Action Plan & Time frame for completion:					

COMMUNITY /DEPENDENT LIVING	Brief description of activity:				
	Date, Time & Location:				
				Skills Focused on during activity (check all that apply)	
	Was Mentee appropriately dressed?	Yes	No	N/A	Money skills
	Did Mentee interact appropriately with Mentor?	Yes	No	N/A	Ordering food
	Did Mentee interact with other participants?	Yes	No	N/A	Grocery shopping
	Did Mentee interact appropriately with other participants?	Yes	No	N/A	Navigating Store
		Yes	No	N/A	Asking for help
		Yes	No	N/A	Waiting in Line
		Yes	No	N/A	Appropriate Conversations
		Yes	No	N/A	Greetings
		Yes	No	N/A	Proximity to others
		Yes	No	N/A	
	Mentor Comments/ Concerns:				
Action Plan & Time frame for completion:					

APPENDIX M

THINK COLLEGE STANDARDS



THINK COLLEGE STANDARDS, QUALITY INDICATORS and BENCHMARKS FOR INCLUSIVE HIGHER EDUCATION

Think College at the Institute of Community Inclusion at University of Massachusetts Boston, has developed Standards, Quality Indicators and Benchmarks for Inclusive Higher Education. Institutes of higher education (IHEs) use these standards to create, expand or enhance high-quality, inclusive postsecondary education experiences to support positive outcomes for individuals with intellectual disabilities (ID). Additionally, these Standards can be used as a framework to conduct and expand research on issues related to supporting students with ID in higher education. They are aligned with the definition of a comprehensive postsecondary and transition program for students with intellectual disabilities and reflect institutional and instructional practices that support Universal Design for Learning framework as outlined in the Higher Education Opportunities Act of 2008.

Instructions: Complete the following grid by indicating a level of implementation score for each benchmark

Unit of measure: Level of implementation

- 0 = not planning to implement
- 1 = no progress
- 2 = in progress but not fully implemented
- 3 = fully implemented

STANDARD I INCLUSIVE ACADEMIC ACCESS: To facilitate quality academic access for students with intellectual disabilities, the comprehensive postsecondary education program should:

Quality Indicator 1.1 Provide access to a wide array of college course types that are attended by students without disabilities, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
I.1.A: Enrollment in noncredit-bearing, non-degree courses (such as continuing education courses) attended by students without disabilities.					
I.1.B: Auditing or participating in college courses attended by students without disabilities for which the student does not receive academic credit.					
I.1.C: Enrollment in credit bearing courses offered by the institution attended by students without disabilities, when aligned with the student's postsecondary plans.					
I.1.D: Access to existing courses rather than separate courses designed only for students with intellectual disabilities.					
I.1.E: College course access that is not limited to a pre-determined list.					
I.1.F: Participation in courses that relate to their personal, academic and career goals as established through person-centered planning.					
I.1.G: Collection of objective evaluation data on college course participation.					

Quality Indicator 1.2 Address issues that may impact college course participation, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
I.2.A: College policies regarding placement tests, ability to benefit testing and prerequisites that negatively impact college course participation access.					
I.2.B: Access to and instruction in the use of needed public or personal transportation, such as public buses, taxis, para-transit, ride-sharing with other students and other naturally occurring transportation options.					
I.2.C: Access to college Disability Services for accommodations typically provided by that office.					
I.2.D: Access to and instruction in the use of needed technology.					
I.2.E: Access to educational coaches who receive ongoing training and supervision.					
I.2.F: Access to peer support such as mentors, tutors, and campus ambassadors.					
I.2.G: Faculty training in universal design for learning principles.					

Quality Indicator 1.3 Provide students with the skills to access on-going adult learning opportunities, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
1.3A: Knowledge of the adult learning opportunities available in their community, such as college courses, community education, etc.					
1.3B: Knowledge of resources available to assist them to access or fund adult learning opportunities in their community.					

STANDARD 2 CAREER DEVELOPMENT: To facilitate career development leading to competitive employment for students with intellectual disabilities, the comprehensive postsecondary education program should:

Quality Indicator 2.1 Provide students with the supports and experiences necessary to seek and sustain competitive employment, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
2.1A: The provision of person-centered planning to identify career goals.					
2.1B: Access to job coaches and developers who receive ongoing training and supervision.					
2.1C: Participation in time-limited internships or work-based training in settings with people without disabilities.					
2.1D: Opportunity to participate in academically focused service learning experiences.					
2.1E: Participation in paid work experiences related to personal choice and career goals, such as paid internships, work-study, service learning or other paid work on or off campus.					
2.1F: Connection with community rehabilitation and other adult service providers to sustain employment.					
2.1G: The collection of objective evaluation data on student employment.					

STANDARD 3 CAMPUS MEMBERSHIP: To facilitate campus membership for students with intellectual disabilities, the comprehensive postsecondary education program should:

Quality Indicator 3.1: Provide access to and support for participation in existing social organizations, facilities and technology, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
3.1A: Campus programs, such as clubs and organizations, community service, religious life, student government, Greek system, co-curricular experiences, service learning, study abroad, student sports and entertainment events, recreational facilities and programs, etc.					
3.1B: Residence life facilities and activities, including, when desired, the off campus housing office.					
3.1B: Technology for social communication, including email, texting, cell phone, Facebook, Twitter, Skype).					
3.1C: Social activities facilitated by students without disabilities who serve as natural supports.					

STANDARD 4: SELF DETERMINATION: To facilitate the development of self-determination in students with intellectual disabilities, the comprehensive postsecondary education program should:

Quality Indicator 4.1: Ensure student involvement in and control of the establishment of personal goals that:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
4.1A: Reflect student interests and desires as indicated by person centered planning.					
4.1B: Are reviewed regularly and modified as needed to reflect changes in student interests and preferences.					
4.1C: Address accommodation and technology needs.					
4.1D: Lead to outcomes desired by the student.					
4.1E: Reflect family input when desired by the student.					

Quality Indicator 4.2: Ensure the development and promotion of self-determination skills for students with intellectual disabilities as evidenced by students:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
4.2A: Monitoring their own progress toward their personal goals.					
4.2B: Directing their choice of courses, activities, and employment experiences.					
4.2C: Involvement in course registration, accommodation requests, and payment of tuition.					
4.2D: Being involved in all aspects of employment, such as creating a resume, setting up job interviews, follow up phone calls, negotiating job change, etc.					
4.2E: Interacting directly with faculty and employers including the articulation of needed accommodations.					
4.2F: Managing personal schedules that include courses, employment, and social activities.					

Quality Indicator 4.3: Have a stated process for family involvement that reflects:					
Benchmarks	Implementation Scale				
	3	2	1	0	NOTES
4.3A: Clearly defined roles and responsibilities for parents and students.					
4.3B: A process for the provision of information to parents on resources, effective advocacy and transition planning.					
4.3C: Student control over how parents are involved with their experience					
4.3D: Adherence to the guidelines set forth by the Family Educational Rights and Privacy Act (FERPA)					

STANDARD 5: ALIGNMENT WITH COLLEGE SYSTEMS AND PRACTICES: To facilitate alignment with college systems and practices for students with intellectual disabilities, the comprehensive postsecondary education program should:

Quality Indicator 5.1: As required in the HEOA, identify outcomes or offer an educational credential (e.g., degree or certificate) established by the institution for students enrolled in the program, including assurance that:

Benchmarks	Implementation Scale				
	3	2	1	0	NOTES
5.1A: Outcomes established by the program for achievement of an educational credential are measurable.					
5.1B: Program outcomes are publicly available (e.g. brochure, website, program application).					
5.1C: Courses and internships are related to achieving and maintaining gainful employment.					
5.1D: Outcomes/credentials established by the program also addresses engagement in college community life, service opportunities, etc.					

Quality Indicator 5.2: Provide access to academic advising that:

Benchmarks	Implementation Scale				
	3	2	1	0	NOTES
5.2A: Uses person centered planning in the development of a students' course of study (curriculum structure).					
5.2B: Reflects the institution's policy for determining whether a student enrolled in the program is making satisfactory academic progress.					
5.2C: Is aligned with the educational credential established by the institution for students enrolled in the program.					

Quality Indicator 5.3: Provide access to college campus resources, including:

Benchmarks	Implementation Scale				
	3	2	1	0	NOTES
5.3A: Admissions, registration and orientation.					
5.3B: College identification cards.					
5.3C: Health and counseling centers, athletic center, information technology, career services, dining services, Greek system, clubs, student organizations, student government, etc.					
5.3D: Co-curricular activities including practicum and learning communities.					
5.3E: Support for participating in existing on and off-campus university housing owned or university-affiliated housing.					
5.3F: Orientation, training and resources for parents of incoming students.					
5.3G: Campus shuttle buses to different campuses and the community.					

STANDARD 6: COORDINATION AND COLLABORATION: To facilitate collaboration and coordination, the comprehensive postsecondary education program should:
Quality Indicator 6.1: Establish connections and relationships with key college/university departments, as evidenced by:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
6.1.A: Students with ID effectively using campus resources, such as disability services, financial aid services, course registration, academic advising, health services and career services.					
6.1.B: Program staff effectively using college infrastructure such as IT support, maintenance, etc.					
6.1.C: Program staff being aware of the governance and administrative structures of the college or university that may impact the program.					
6.1.D: Program staff participating in faculty/staff governance, or committees as part of their contribution to the college.					

Quality Indicator 6.2: Have a designated person to coordinate program-specific services of the comprehensive postsecondary education program, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
6.2.A: Scheduling and implementing interagency team meetings.					
6.2.B: Conducting person-centered planning and assuring that the results of those meetings are infused into the students' daily activities.					
6.2.C: Assuring that data collection and program evaluation activities occur.					
6.2.D: Providing outreach to families.					
6.2.E: Providing training and supervision for educational coaches, job coaches and job developers.					

STANDARD 7: SUSTAINABILITY: To facilitate sustainability, the comprehensive postsecondary education program should:

Quality Indicator 7.1: Utilize diverse sources of funding, including:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
7.1.A: Maintaining a relationship to the campus financial aid office.					
7.1.B: Ensuring that eligible students and families apply for financial aid					
7.1.C: Providing information to students on sources of funds for tuition and other costs, such as National Service grants, work-study, use of Medicaid waiver funds, vocational rehabilitation, etc.					
7.1.D: Using state funds, IDEA funds, developmental services agency funds, family funds, private and federal grant funds to provide core funding for the program.					

Quality Indicator 7.2: Have a planning and advisory team which:

Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
7.2.A: Includes representatives from the college including administrators (deans, provosts, department chair), disability services, faculty, as well as disability specific agencies, relevant community agencies, local business leaders, workforce development providers, families, and students.					
7.2.B: Supports collaboration both between the college and the program and with outside entities.					
7.2.C: Addresses program policies and practices (costs, access, partnerships) and student outcomes (data review) to ensure sustainability.					
7.2.D: Communicates regularly.					

STANDARD 8: ONGOING EVALUATION: To facilitate quality postsecondary education services for students with intellectual disabilities, the comprehensive postsecondary program should:					
Quality Indicator 8.1: Conduct evaluation on services and outcomes on a regular basis, including:					
Benchmarks	Implementation Scale				NOTES
	3	2	1	0	
8.1A: Collection of data from key stakeholders, such as students with and without disabilities, parents, faculty, disability services and other college staff.					
8.1B: Collection of student satisfaction data.					
8.1C: Collection of student exit data.					
8.1D: Collection of student follow-up data.					
8.1E: Review of all data compiled by the advisory team and other stakeholders.					
8.1F: Implementation of program changes as a result of data review.					

Grigal, M., Hart, D. & Weir, C. (2011) Think College Standards, Quality Indicators and Benchmarks for Inclusive Higher Education. Boston, MA University of Massachusetts Boston, Institute for Community Inclusion



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APPENDIX N
CHECKLIST FOR BUILDING INCLUSIVE HIGHER EDUCATION
COMMUNITIES

CHECKLIST FOR BUILDING INCLUSIVE HIGHER EDUCATION COMMUNITIES

Definition of Inclusive Higher Education (Section 1)	Inclusion is a human right. It involves belonging to a community, having access to equal opportunities, being free to choose one's own life path, being actively engaged with and alongside others, and being valued for what one brings to the interaction.		
Questions for Reflection		Yes	No
Do students with ID take the same courses in the general course catalogue as other students on campus? <i>(Check no if students take at least one course specifically designed for students with ID or choose from a limited list of courses.)</i>		✓	
Do students with ID choose their own courses, activities, jobs, and services with or without support? <i>(Check no if program staff develop student schedules and opportunities.)</i>		✓	
Are students with ID physically on the same campus as students without disabilities? <i>(Check no if program is off campus or on a separate campus.)</i>		✓	
Does enrollment of students with ID demonstrate natural proportions? <i>(Check no if enrollment of students with ID at each campus setting exceeds the national average of 0.8%.)</i>			✓
Do students with ID have access to all the activities and services available to other students? <i>(Check no if some activities and/or student services are not accessible to students with ID.)</i>		✓	
Are students with ID enrolled at the college or university? <i>(Check no if students are enrolled in a separate program located on or off campus.)</i>			✓
Are students with ID governed by the same policies as students without disabilities? <i>(Check no if separate or different policies for students with disabilities exist.)</i>		✓	
Do students with ID participate in the IHE's commencement/graduation ceremonies alongside their peers without disabilities? <i>(Check no if students do not participate in commencement/graduation ceremonies or if a separate graduation celebration is provided to students.)</i>		✓	
Do students with ID live in campus housing alongside peers without disabilities if the IHE has campus housing? <i>(Check no if students with ID do not have access to campus housing or if they are in separate housing.)</i>		✓	
Do students have a choice with respect to their academic tutors or peer mentors? <i>(Check no if students are assigned to those providing support.)</i>			✓
Do students have the opportunity to refuse supports or request a change in tutors or peer mentors? <i>(Check no if students are required to use the supports developed for them.)</i>		✓	
Definition of Inclusive Higher Education (Section 2)	Inclusion is realized when there is mutual and ongoing benefit among people of varying abilities, gender identity, culture, socio-economic status, race, and other forms of diversity, with shared eagerness to create and sustain those relationships across all aspects of higher education.		
Questions for Reflection		Yes	No
Do students with and without disabilities independently initiate social interactions with one another? <i>(Check no if prompting or structured environments or activities are needed to facilitate interactions.)</i>		✓	
Do students with and without disabilities identify each other as friends? <i>(Check no if students with and without disabilities do not use the word "friend" to describe one another.)</i>		✓	
Do students with and without disabilities connect with one another via social media or texting? <i>(Check no if students do not independently connect with one another via these channels.)</i>		✓	
Are the majority of interactions students with ID have with unpaid partners such a volunteer mentors or peers in their classes? <i>(Check no if the majority of interactions are with paid tutors, mentors, or coaches.)</i>		-	-
Do students with ID have autonomy for how they spend their day on campus? <i>(Check no if students with ID stay together in groups or follow a strict schedule monitored by program staff.)</i>		✓	
Do students with ID have daily opportunities to interact with nonpaid students without disabilities? <i>(Check no if interactions with nonpaid students are limited or occasional.)</i>		✓	
Are students with ID free to have consensual romantic relationships with other adults? <i>(Check no if rules or limits are set for students concerning their engaging in consensual relationships with other adults.)</i>		-	-

CHECKLIST FOR BUILDING INCLUSIVE HIGHER EDUCATION COMMUNITIES

Definition of Inclusive Higher Education (Section 3)	Inclusion is dependent on individual and communal perspectives, moving beyond benevolence, clinical/medical interests, or indifference to an attitude about and perception of ability that demonstrates a value placed upon difference throughout the higher education community.	
Questions for Reflection	Yes	No
Are students with ID included in campus conversations concerning diversity overall? <i>(Check no if students with ID are not involved in campus conversations concerning diversity.)</i>	✓	
Do students with ID have a voice in program and campus decisions (Ex: surveys, interviews, advisory board membership)? <i>(Check no if students with ID do not have formal opportunities to voice their opinions about program or campus decisions.)</i>	✓	
Are students with ID challenged to take academic courses based on their goals, strengths, and interests? <i>(Check no if students are primarily enrolled in activity-based courses or if academic rigor is missing from the student's schedule.)</i>	✓	
Are students active and engaged participants in the college courses they attend? <i>(Check no if students do not participate in all or most class assignments.)</i>	✓	
When college staff speak or write about students with ID attending their college through an inclusive program, do they refer to students by name and/or as college students? <i>(Check no if students are referred to only by the name of the program.)</i>	-	-
Is person-first language, such as "the student with Down syndrome," demonstrated in all written program information? <i>(Check no if program information uses disability-first language, such as "the Down syndrome student.")</i>	✓	
Do students have valued roles on campus as co-workers and peers? <i>(Check no if students do not have valued work or roles on campus. Examples of such roles: co-worker at campus recreation center or bookstore; manager of men's basketball team; member of student government; sorority sister.)</i>	✓	
Definition of Inclusive Higher Education (Section 4)	Institutions of higher education celebrate intellectual diversity in the same way that racial, gender, cultural, religious, and other forms of diversity are celebrated. They recognize that diverse learners require and inspire pedagogical innovation, and that innovation benefits all students. They place genuine value on experiences and perspectives of others, respect all forms of learning, and provide opportunities for all students to develop to their fullest potential.	
Questions for Reflection	Yes	No
Is the program integrated into an accredited two- or four-year IHE? <i>(Check no if the program is a separate entity not directly connected to an established IHE.)</i>	✓	
Is Universal Design for Learning promoted and expected on campus to meet the needs of diverse learners? <i>(Check no if UDL is not an institutionally promoted practice across campus.)</i>	✓	
Is campus administration supportive of inclusive PSE? <i>(Check no if administrative barriers deter program development or student engagement.)</i>	-	-
Is disability given the same priority on campus as other forms of diversity, such as racial, gender, cultural, or religious diversity? <i>(Check no if disability is not considered in the conversations concerning campus diversity.)</i>	✓	
Does campus administration seek out the voices of students with ID and other disabilities? <i>(Check no if there is no evidence that administration seeks out the voices of students with disabilities.)</i>	-	-
Is information available from the institution that explains the value of accepting differences? <i>(Check no if the value of diversity and human difference is not formally disseminated on campus.)</i>	✓	
Is there a system in place to make sure the campus is inclusive for all? <i>(Check no if no formal system has been established to monitor the inclusivity of the campus.)</i>		✓
Do students with disabilities have the same access to grievance procedures as students without disabilities? <i>(Check no if students with disabilities do not have access to established grievance procedures.)</i>	✓	

APPENDIX O

A survey of the views of administrators, employees, and faculty members on the proposed framework for the post-secondary education program for students with intellectual disability (ID) at King Saud University

Dear participant,

I would like to invite you to participate in a research study entitled “Proposed Framework for a Post-secondary Education Program for Students with Intellectual Disability at a University in Saudi Arabia: Program Components, Organization, and Evaluation.” Part of this study aims to gather the views of administrators, employees, and faculty members of King Saud University (KSU) on the applicability of the proposed framework for the post-secondary education program for students with intellectual disability at KSU to integrate these students with their regular peers at the university.

Your participation will add significant value to this study. I would also like to clarify some fundamental terms in this survey, as follows:

Intellectual disability: Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behavior that cover many everyday social and practical skills. It is diagnosed before the age of 18 (American Association on Intellectual and Developmental Disabilities, 2017). The severity of ID is determined by the American Psychiatric Association (2013) based on intelligence quotient (IQ): mild (IQ 70–55), moderate (IQ 55–40), severe (IQ 25–40), and profound (<25).

Post-secondary education program: The program was designed to provide education or vocational training to individuals with ID or other severe disabilities who have completed secondary education. The educational opportunities will consist of courses at two- and four-year colleges, universities, and adult education programs (Morgan, 2014; Plotner & Marshall, 2015). In the survey, the proposed framework for the post-secondary education program for students with ID is referred to as the “proposed program” for the sake of brevity.

The completion of the survey will take 10–15 minutes. No personal information will be collected in the survey. All information will be in confidential files and will be used for research purposes only.

A survey of the views of administrators, employees, and faculty members of King Saud University on the proposed framework for a post-secondary education program for students with intellectual disability (ID)

Please complete the following survey and select responses that best represent your institution.

1. I give my informed consent to participate in this survey
 - Yes
 - No
2. Gender
 - Male
 - Female
3. Your position
 - I am an administrator only.
 - I am a faculty member only.
 - I am an administrator and a faculty member.
 - I am an employee at the Disability Services Center.
 - Other
4. Does your institution have plans to create a post-secondary education program for students with intellectual disabilities (ID)?
 - Yes
 - No
5. What timeframe would KSU have to start the post-secondary education program for students with ID?
 - 1–3
 - 4–6
 - 7–9
 - More than 9
6. What type of post-secondary education program would be appropriate for the needs and abilities of students with ID in KSU?
 - Separate program (special university classes only for students with ID)
 - Mixed program (Students with ID spend half of their time in the inclusive regular university classes and the rest half in the special classes.)
 - Fully inclusive program (Students with ID learn only in the inclusive regular university classes.)
7. What type of university courses would be appropriate for the needs and abilities of students with ID in KSU?
 - Credit courses
 - Non-credit courses
 - Audit Courses
8. What should be the age range of students with ID enrolling in the proposed program?
 - 18–20
 - 21–23
 - 24–26
 - Above 26
9. How many students with ID should be enrolled in the proposed program?
 - 1–3
 - 4–6
 - 7–9
 - More than 10

10. What would be the appropriate duration of the proposed program?
- 1 year
 - 2 years
 - 3 years
 - 4 years
 - differs from student to student
11. What level of intellectual disability should be accepted in the proposed program?
- Students with mild intellectual disability
 - Students with moderate intellectual disability
 - Both
12. What colleges would be appropriate for providing majors for students with ID in KSU?
(Select all that apply)
- College of Law and Political Sciences
 - College of Languages and Translation
 - College of Tourism and Archeology
 - College of Business Administration
 - College of Sport Sciences and Physical Activity
 - College of Education
 - College of Arts
 - Community College
 - College of Applied Studies and Community Services
 - All majors can be allowed based on student abilities and strengths
13. What type of post-secondary education program credentials should be awarded to students with ID?
- No degree certificate
 - Diploma
 - Bachelor's degree
14. How many courses should students with ID take each semester in the proposed program?
- 1–3
 - 4–6
 - 7–9
 - 10–12
15. Which of the following statements best describes the support that should be provided by KSU for students with ID once they are enrolled in regular university classes?
- There will be a designated program to support students with ID.
 - The center serving students with disabilities can provide support for students with ID in regular university classes.
 - A new support program will be implemented in cooperation with Saudi agencies and the KSU sectors.
16. Which facilities should be available to students with ID once they are enrolled in regular university classes?
(Select all that apply)
- Accessible text
 - Alternative format
 - Advance material
 - E-reader
 - Laptop
 - Peer note taker
 - Professor notes

- Priority seating
- Read/write software
- Spell/grammar check
- Screen reader

17. What skills would students with ID be expected to acquire during the completion of the proposed program?

(Select all that apply)

- Course registration
- Accommodations request
- Attending classes
- Submission of course requirements
- Participation in on-campus activities and organizations
- Scheduling meetings with the program team
- Self-determination
- Self-advocacy
- Independent living

18. What is the expected percentage of funds from the total budget directed to all Disability Services Centers and Programs in KSU that can be used to implement the proposed program for students with ID in the university?

- 10%–29%
- 32%–49%
- 52%–69%
- 72%–89%
- More than 90%

19. Which KSU administration should be responsible for providing funding for proposed program?

- Deanship of Student Affairs
- Deanship of Development and Quality
- Budgets and Quality Assurance
- Financial Management

20. Which colleges do you think should host the proposed program?

- Science Colleges
- Health Colleges
- Humanities Colleges
- Community College
- Preparatory Year
- Jointly hosted by <type college name> and <type college name>

21. Why do you think the college(s) you chose would best implement the proposed program?

Please answer the following questions using the Likert scale.

Students with ID should:	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
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22. have access to enroll in college courses attended by students without

disabilities and receive academic credit.

23. have access to courses that relate to their personal, academic, or career goals.

24. spend at least 50% of their time in academically inclusive spaces.

25. spend at least 50% of their time in on-campus inclusion.

26. not receive a course grade.

27. be required to complete a minimum of 70 % of attempted courses to pass the course.

28. have access to and instruction for the use of needed technology.

29. have access to paid educational coaches.

30. have access to voluntary peer support such as peer mentors, peer tutors, and campus ambassadors.

31. have access to job coaches.

32. have access to paid work experiences in settings with people without disabilities.

33. have access to participation in nonpaid internships, service learning, and other work-related experiences with people without disabilities.

Students with intellectual disability should:	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
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34. have access to all campus social activities.

35. attend at least 75% of the classes on time.

36. direct their choice of courses, activities, and employment experience.

37. interact directly with faculty and employers, including

the articulation of needed accommodations.

38. qualify for financial aid provided by KSU.

The post-secondary education program for students with ID at KSU should:	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
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39. be designed to meet the needs of Saudi students with ID.

40. be feasible due to the university's capabilities and experience in serving students with disabilities.

41. have an academic and professional focus.

42. not require professors and instructors to change their teaching methods once students with ID enroll in their courses.

43. evaluate students with ID based on completion of course requirements, vocational experiences, goals set with program staff, and completion of surveys/assessments.

44. allow these students to access on-campus inclusive housing.

The post-secondary education program for students with ID at KSU should:	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
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45. determine the students' evaluation process by collaborating with a peer mentor, the program team, and support the residential office.

46. be subject to external and internal evaluation to improve the post-secondary education program.
