Doctoral Dissertation

Effectiveness of In-on-in Professional Development in Inclusive Education for Inclusive Kindergarten Principals in Indonesia

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We hereby recommend that the dissertation by Mr. SUHENDRI entitled "Effectiveness of In-on-in Professional Development in Inclusive Education for Inclusive Kindergarten Principals in Indonesia" be accepted in partial fulfillment of the requirements for the degree of DOCTOR OF PHILOSOPHY IN EDUCATION.

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ABSTRACT

Over recent years, inclusive education in Indonesia has been developing rapidly. Unfortunately, the implementation of inclusive education at kindergartens, which are the basic formal education center, is often neglected. One reason for this is the attitudes of kindergarten principals' attitudes toward inclusive education. Kindergarten principals still think that implementing inclusive education is difficult. To create positive attitudes, combining professional development with inclusive education is key. However, the traditional method of professional development, where the participants only sit and watch a presentation, does not significantly improve participants' attitudes, skills, or knowledge.

The current study introduced a new model of professional development in inclusive education. The model included in-field implementation and coaching intervention programs in the middle of the professional development process. With a total of 120 participants who were recruited from the 23 provinces of Indonesia, this study applied a mixed method of quasi-experiment design to determine the difference in principals' attitudes before and after joining the traditional model and a new model of professional development by using the ITAIE (Indonesian Teachers' Attitudes Toward Inclusive Education) scale. The control and experiment classes were implemented to gain an accurate finding of the analysis.

Besides the pre-test and post-test results, a questionnaire with 37 items was used as the instrument to measure the effectiveness of the program. Paired t-test and independent t-test were applied to determine the significant difference in kindergarten principals' attitudes toward inclusive education. Furthermore, a three-way ANOVA was used to determine the interaction effect among the three independent variables of principals' age, domicile, and experience in professional development about inclusive education, and with principals' attitudes toward inclusive education as a dependent variable.

An ANCOVA was used to measure the new professional development model's effectiveness. A questionnaire analysis was also applied to support the finding of the effectiveness analysis. Finally, a descriptive analysis using the R tool was presented to determine kindergarten principals' priority contents of professional development in inclusive education.

The analysis shows a significant difference in attitudes toward inclusive education between participants of the traditional (control) and the new model (experiment) of professional development. The participants' attitudes toward inclusive education before and after the professional development in the control class remained moderate. At the same time, in the experiment class, the participants' attitudes changed from moderate to positive after joining the new professional development program model. However, it was also found that there was no interaction effect among principals' attitudes toward inclusive education and their age, domicile, and experience in professional development regarding inclusive education.

Furthermore, by applying the questionnaire analysis, 89.2% of participants strongly agreed and agreed that the new model has been effective for professional development. The rest claimed that theory-based learning has been ineffective in improving their attitudes toward inclusive education. In addition, the result from an ANCOVA shows that the new model effectively improved principals' skills and knowledge in inclusive education. The descriptive analysis using the R tool revealed that inclusive education should be the top priority content of professional development in inclusive education, followed by an assessment as the second priority, and then a learning plan, coaching, and leadership. Surprisingly, evaluation learning was chosen as the last priority of professional development content. These findings were supported by the qualitative data gathered during the interview analysis.

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LIST OF ABBREVIATIONS

ADHD	: Attention Deficit Hyperactivity Disorder
FGD	: Focus Group Discussion
FOI	: Fidelity of Implementation
GP	: *Guru Pembelajar* (Learning Teachers)
Ha	: alternate hypothesis
HKI	: Hellen Keller International
Ho	: a null hypothesis
HSD	: Honest Significant Difference
IDEC	: International Development and Cooperation
IEP	: Individualized Education Plan
Ikatan IN-NS TK	: *Ikatan Instruktur dan Narasumber TK* (Indonesian Instructors Association for Kindergarten Teachers)
IKIP	: Institut Keguruan dan Ilmu Pendidikan (Institute of Teaching and Education)
INSET	: In-Service Teacher Training
ITAIE	: Indonesian Teachers' Attitudes toward Inclusive Education
Kemdikbud	: *Kementerian Pendidikan dan Kebudayaan* (Ministry of Education and Culture)
KMIH	: *Keluarga Muslim Indonesia Hiroshima* (Indonesian Moslems Community in Hiroshima)
KMO	**:** Kaiser-Meyer-Olkin
LCD	: Liquid Crystal Display
LH	: Lesson Hours
MMJ	: Mihara Mosque Japan

M.Pd	: *Magister Pendidikan* (Master of Education)
PCA	: Principal Components Analysis
PET	: Physical Education Teachers
PD	: Professional Development
PDIE	: Professional Development in Inclusive Education
PPIH	: *Persatuan Pelajar Indonesia Hiroshima* (Indonesian Students Association in Hiroshima)
PPPPTK	: *Pusat Pengembangan dan Pemberdayaan Pendidik dan Tenaga Kependidikan* (Center of development and empowerment for teachers and education personnel)
PPPPTK TK & PLB	: *Pusat Pengembangan dan Pemberdayaan Pendidik dan Tenaga Kependidikan Taman Kanak-Kanak dan Pendidikan Luar Biasa* (Center of development and empowerment for kindergarten and special needs school's teachers and education personnel)
ProDEP	: Professional Development for Education Personnel
REDI	: Research-based Developmentally Informed
RQ	: Research Question
S.Pd	: *Sarjana Pendidikan* (Bachelor in Education)
SPSS	: Statistical Product and Service Solutions
TA	: Thematic Analysis
TK	: *Taman Kanak-kanak* (Kindergarten)
TNA	: Training Need Analysis
UDL	: Universal Design for Learning
UN	: United Nations
UNESCO	: United Nations Educational, Scientific and Cultural Organization

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CHAPTER I

INTRODUCTION

Study Background

In the Indonesian constitution (1945), article 31 paragraph (1) clearly states that "Every citizen has the right to education." This statement is in line with the Salamanca Statement, which is a commitment to "Education for All" (UNESCO, 1994), and the United Nations: Sustainable Development Goal 4, which is "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (UN, 2020).

To fulfill this constitutional mandate, the government of Indonesia continues to develop the education in Indonesia. Schools with a significant number of teachers have been built in almost every province. In 2018, there were at least 217,586 schools with teachers reaching 2,718,861 (Ministry of Education and Culture Data Statistics, 2019). However, since kindergartens are not considered formal schools that children must attend in Indonesia, they are unfortunately not counted in these statistics. The Central Bureau of Statistics of Indonesia (2019) states that there were 85,499 kindergartens in Indonesia in 2016, which is a considerable number to provide the most basic education for children.

For decades, kindergartens have had a significant influence in the world of education in Indonesia. Learning in early childhood is a calculated foundation for children's education. Many studies have found that children attending kindergartens receive positive benefits for their academics and behavior (Brownell et al., 2015; Carnes & Albrecht, 2012; Clark & Kirk, 2000). These studies have also suggested that a full-day kindergarten program can maximize the benefits for children's academic, social, and emotional life.

As stated in the national education system law, No. 20 of 2003, every citizen of Indonesia has the same right to obtain a quality education. It is also stated that citizens with physical, emotional, mental, intellectual, and social disorders, citizens in remote and

underdeveloped areas, and those with special talents, are also entitled to an education, primarily through special services. Hartati (2017) suggests that children with special needs in Indonesia can attend early childhood education in kindergarten through inclusive education.

Inclusive education can be described as a system where special-needs children are integrated into formal education services (Ishartiwi, 2010; Regulation of Ministry of Education No. 70, 2009). However, until the end of 2009, inclusive education was still rare in Indonesia. In 2009, the Indonesian government finally issued the Regulation of the Minister of National Education of Indonesia No. 70, which addressed the inclusive education system. In this regulation, the Indonesian government emphasized that every province in Indonesia should have inclusive schools, with at least one in every district. This number may not be sufficient, but it is the beginning of inclusive education development in Indonesia.

Currently, the government is working to guarantee the right to a suitable education for children all children, regardless of their skills or needs through inclusive education. Modifications are made for all children, not only those with special needs, to foster and preserve a welcoming environment and an appreciation for diversity. Despite its challenges, numerous studies have claimed that an inclusive education system has significantly benefited all school members (Ajuwon, 2008; De Boer et al., 2010; Fisher et al., 2002; Kreimeyer et al., 2000; LeRoy & Simpson, 1996).

The Problems Underlying the Study

In Indonesia, 70% of children with special needs lack access to education (Kemdikbud, 2017; Purba, 2019). Indonesian special schools that serve these children both are underfunded and more expensive than conventional schools (Olyvia, 2017). This number is alarming when compared to the number of children with special needs in Indonesia who still have not received an education.

While the Indonesian government keeps building awareness of the benefits of inclusive education, many mainstream schools in Indonesia, including kindergartens (which are considered the basis of children's' learning), do not allow students with special needs in their school environment (Olyvia, 2017). Furthermore, special kindergartens to educate children with special needs are only found in integrated special schools with a limited number (Budiyanto, 2017; Rahma & Dara, 2017). As a result, many young special needs children remain at home, without receiving either an education or the correct identification about and treatment of their disabilities.

Another issue is the number of inclusive schools in Indonesia. Rahmawati (2018) claims that inclusive education in Indonesia has only received broad implementation in primary and secondary schools. According to Sansrisna (2016), the percentage of primary schools that implemented inclusive education in 2012 was only 0.002% of the total primary schools in Indonesia. In addition, only 0.46% of existing secondary schools offer inclusivity-based education.

Finally, the existence of inclusive education in kindergarten has been denied or biased. According to Souto-Manning et al. (2018), inclusive education in early childhood education has faced challenges in celebrating diversity. Furthermore, like in the United States, social justice in early childhood education creates issues with implementing inclusive education (Goodwin et al., 2012).

Based on filed observations, many kindergarten teachers in Indonesia want to apply inclusive education in their schools. Unfortunately, the idea of changing a regular kindergarten into an inclusive kindergarten is limited by the both teachers' and principals' skills and knowledge about inclusivity (Hartati, 2017). Teachers also need to equip themselves with a positive attitude toward inclusive education to promote inclusive schools

(Das & Desai, 2013; Smith & Tyler, 2011). As with teachers, principals need to prepare themselves with positive attitudes toward inclusive education.

Another factor for a successful inclusive education is the principal's role, skills, and mindset. According to McLeskey and Waldron (2015) and Ainscow and Sandill (2010), leadership is one of the keys to developing an effective and inclusive school. McLeskey and Waldron's research in elementary schools reveals that active and strong leadership is the first must-have for effective inclusive education. Furthermore, besides broad leadership abilities and respect for his colleagues, a qualified principal for inclusive education must also be aware of the need for professional development in his school environment (Hoppey & McLeskey, 2013).

In fact, because they lack professional development, principals' attitudes and knowledge about inclusive education continue to operate as obstacles to its implementation (Slee, 2010). According to Slee, professional development programs struggle to prepare teachers for the process of adopting inclusive education. Sadly, the majority of studies show that professional development that is "sit and get" has had less of an impact on raising educators' competencies (McLeskey & Waldron, 2002; Nishimura, 2014; Tate, 2012). A new model of professional development should be applied to maximize benefits received from improvements in principals'. However, very little research has examined this issue.

Therefore, the current study will explore the principals' attitudes as well as the knowledge and skills needed to support a diverse range of learners in inclusive kindergarten through an intervention of "in-on-in" professional development in inclusive education. The current study will also examine the effectiveness of this emerging type of professional development.

Research Aim and Objectives

The main purpose of the current study is to develop a new, effective model of professional development in inclusive education. It aims to investigate the effectiveness of the intervention program for in-on-in professional development regarding inclusive education for principals of kindergartens in Indonesia. The limited empirical studies regarding the implementation of inclusive kindergartens lead the current study to state some points of its objectives. Since the current study will be more focused on the role of the principals in inclusive kindergartens, the specific objectives will be as follows:

- To investigate the kindergarten principals' attitudes before and after the professional development in inclusive education using the intervention program.
- To investigate the kindergarten principals' attitudes before and after the professional development in inclusive education without the intervention program.
- To under the differences in attitudes between kindergarten principals who receive the intervention program and those who do not.
- To determine the effectiveness of an in-on-in professional development program in inclusive education for kindergarten principals to actualize inclusive kindergarten in Indonesia.
- To demonstrate the contents of professional development for kindergarten principals in promoting inclusive education.

Research Questions

The analysis of the instrument test based on the Indonesian context, questionnaire, and interviews will be used to answer the following research questions:

1. What are kindergarten principals' attitudes toward inclusive education before and after participating in the intervention program of in-on-in professional development in inclusive education?

2. What are kindergarten principals' attitudes toward inclusive education before and after participating in the traditional professional development in inclusive education?
3. How do attitudes toward inclusive education differ between principals who partake in professional development with and without the intervention program?
4. How effective is the in-on-in program in shaping principals' competencies so that they can apply inclusive education in their schools?
5. What contents are needed in professional development for kindergarten principals to allow them to foster inclusive education?

Hypotheses

- The attitudes toward implementing inclusive education in kindergartens are believed to be different before and after professional development intervention regarding inclusive education (RQ1 & RQ2). Most studies have revealed the ability of professional development to increase educators' positive attitudes toward inclusive education (Bryant et al., 2001; Nishimura, 2014; Robinson & Carrington, 2002; Shady et al., 2013). However, the traditional method of professional development seems ineffective at improving participants' competencies (Artman et al., 2020; Shurr et al., 2014; Sykes, 1996; Utami & Prestridge, 2018; Visser et al., 2014).
- The strong assumption is that there is a difference in attitudes between principals who participate professional development that uses new strategies and professional development that uses traditional strategies.(RQ3).

  According to Sparks (2002), the result of professional development that includes opportunities for teachers and principals to practice and reflect, is directly related to the teacher or principal's work, and is carried out during the school day will be different than the results of conventional professional development. Furthermore,

professional development that emphasizes learning practices is more beneficial for teachers in terms of increasing positive attitudes toward the learning process in schools (Desimone et al., 2002)

- The proposed in-on-in professional development for inclusive education effectively equips kindergarten principals with the skills necessary to promote inclusive kindergartens in Indonesia (RQ4).

  It is strongly believed that this new method of professional development in inclusive education can improve principals' knowledge and skills in implementing high-quality inclusive kindergartens. Some studies mention that professional development, which includes different strategies, effectively improves educators' competencies (Causton-Theoharis et al., 2010; Domitrovich et al., 2009; Sari, 2007).

- The content of the professional development program that will support kindergarten principals in actualizing inclusive kindergartens includes: mastering the concept of inclusive education, assessment, evaluation, learning plan, and leadership, as well as receiving expert coaching for in-field implementation (RQ5).

  Schuelka (2018) listed some key factors to help successfully implement inclusive education, such as a clear concept of inclusive education, a well-designed learning plan, and evaluation. According to Nishimura (2014), the curriculum, assessment, strategies, collaboration, and behavior management are listed to equip educators with the ability to implement inclusive education. In the principal role, leadership can be included as the improvement content. Leadership is mentioned by McLeskey and Waldron (2015) as a critical factor in making a school become an effective inclusive school. PPPPTK TK & PLB, a national training center for kindergarten and special school teachers, (2019) inserts field practice with an expert mentor in the training

content to help the training participants immediately implement the training results with the support of that expert.

Significance of Study

The results of this study are expected to contribute to theory, methodology, practice, and the development of education in Indonesia. Theoretical contributions will provide an expanded understanding of attitudes, skills, and knowledge for inclusive education and fill the gap in international studies regarding professional development in inclusive education for kindergarten principals.

Regarding methodology, there has been limited previous research about professional development as an intervention, especially focusing on inclusive education for kindergarten principals. The current study uses a different strategy for collecting data by conducting a pre-test and post-test. The selected participants of the study were asked to join in-on-in training for 10 (ten) days. Two groups conducted different instructional strategies during the professional development. This model was developed and adapted from Professional Development for Education Personnel/ProDEP Australia and the PPPPTK TK & PLB Indonesia partnership training program. This new methodology, combined with the newly developed model of professional development, will contribute to the data collection studies in education, especially in the area of inclusive education.

In practice, it is hoped that the current study results will change kindergarten principals' attitudes toward inclusive education, improve the quality of principals' competencies, and supply principals with the skills and knowledge necessary to provide inclusive education. Once this is done, the new ways of teaching will create inclusive atmospheres in schools. As a national training provider for kindergarten teachers and principals, PPPPTK TK and PLB can also adapt the in-on-in inclusive professional development for future training.

The current study also offers two significant effects for the development of Indonesia. First, it will decrease the number of special needs children in Indonesia without access to education, as the number of inclusive schools, particularly kindergartens, will rapidly increase. Second, Indonesia will have a new, better, and more effective professional development for inclusive educators that can assess and evaluate participants' previous knowledge, helping them to deliver the latest experience, implement inclusive education, and evaluate the results.

Operational Definitions

The guide the understanding of the rest of this study, specific terms are defined and explained below.

In-on-in. In Indonesia, the in-on-in model of professional development is similar to continuous professional development. The model is called in-on-in because it has three steps (Basuki et al., 2022): face-to-face training (in), followed by practical in-field experience (on), and ending with an assessment (in) (Basuki et al., 2022).

Professional development. Professional development is the foundation for making a change (Fishman et al., 2003). In the current study, professional development refers to changing educators' method of teaching, attitudes, and students' achievement in the classroom (Guskey, 2002).

Inclusive education. Ruijs and Peetsma (2009) define inclusive education as *"...educating children with special educational needs in regular schools, instead of in special schools."*

This definition is almost the same in the Indonesia context, where it is considered to be special needs students learning together with regular students in one mainstream school setting (Regulation of Ministry of Education No. 70, 2009). Furthermore, the Regulation of the State Minister for Women Empowerment and Child Protection of the Republic of

Indonesia No.10 (2011) defines inclusive education as regular education tailored to the needs of students with a learning disorder or who have the potential intelligence and unique talents to succeed in a regular school in a systemic unity.

Kindergarten. The definitions of kindergarten vary in every country; it is sometimes called early childhood education or nursery school. In Indonesia, *Taman Kanak-kanak*, or kindergarten, is formal early childhood education for children aged four to six years old (Indonesian Government Regulation No. 27, 1990). This definition is used in this study.

Principals. In the current study, a principal is defined as a functional staff teacher who leads a school and manages all available resources so they can be utilized to their fullest and so that set goals can be achieved (Rachmawati, 2013). Principals are also defined as kindergarten teachers, meaning that they are educators who must learn about child development (Howes & Hamilton, 1993).

Special needs students. Desiningrum (2017) explains that special needs children can be interpreted simply as children who have learning and cognitive disabilities that can make it difficult for them to succeed in school alongside other children. Regarding the term disability, Desiningrum (2017) states that children with special needs have limitations in one or more impaired physical and psychological abilities, such as autism and ADHD. Meanwhile, according to the Ministry of Women's Empowerment and Child Protection of the Republic of Indonesia (2013), children with special needs face restrictions or twice exceptional in their physical, mental-intellectual, social, and emotional development relative to children who are the same age.

Attitude. Generally, attitude means someone's perspective. In this study, attitude refers to a person's evaluative judgment of any stimulus object, including abstract concepts, certain concrete situations, and a dimension of favorability (Haddock & Maio, 2008).

CHAPTER II

LITERATURE REVIEW

The Indonesian Education System

In Indonesia, the Ministry of Education and Culture is the official institution that manages education. This organization serves as the source for all educational policies. The district/city education office, an extension of this organization, oversees regional level education policies in each district and city. In general, the Ministry of Education and Culture, Indonesia, categorizes five formal schools in Indonesia, as seen in Table 2.1. Unfortunately, since kindergartens are not classified as a 12-year compulsory education program, these numbers do not include kindergartens and inclusive schools, and inclusive schools are still in the development process.

Indonesia has followed a centralistic educational system in terms of its educational system, meaning that power and control of the educational system's organization are concentrated in a central authority (Merriam, 2012). Consequently, general education, including inclusive education programs, is equal in Indonesia. Concerning curriculum design, for example, all decisions are made from the top, regardless of their applicability to students' lives and surroundings (Parmono et al., 2008).

Attempts have been made to allow local input into the educational system despite its current top-down nature. More independence from the federal government and municipal governments was made possible by Law No. 5 of 1973. Additionally, Law 22 of 1999 indicates that the central government is partially responsible for education (Ministry of Education, 2012).

Table 2.1

Overview of Indonesian Education, Year: 2017/2018

Level and Type of School	Schools	New Entrants	Students	Repeaters	Drop Outs
Special School	2,157	26,763	128,150	3,352	522
Public	563	11,144	50,544	1,283	201
Private	1,594	17,619	77,966	2,069	321
Primary School	148,244	4,257,224	25,486,506	370,116	32,127
Public	131,974	3,662,152	22,153,241	334,631	27,059
Private	16,270	595,072	3,333,265	35,485	5,068
Junior Secondary School	38,960	3,354,222	10,125,724	28,470	51,190
Public	23,227	2,488,212	7,540,555	18,868	59,022
Private	15,733	866,010	2,585,169	9,602	22,168
General Senior Secondary	13,495	1,613,979	4,783,645	9,360	31,123
Public	6,732	1,182,687	3,495,570	5,472	16,415
Private	6,763	431,292	1,288,075	3,888	14,708
Vocational Senior Secondary	13,710	1,721,547	4,904,031	13,665	73,388
Public	3,519	747,387	2,110,751	6,536	22,276
Private	10,191	974,160	2,793,280	7,129	51,112

Source: Central Data and Statistics, Ministry of Education and Culture, Indonesia, 2019

However, the implementation of decentralization has not progressed well. Consequently, the students' positions and roles tend to be used as objects of study, not as main actors. They rarely have the opportunity to develop creativity and interest following their talent (Parmono et al., 2008). Wahyudiono (2011) claims that the centralization of education has led to a variety of phenomena, such as:

- Totalitarianism of education
- Uniformity in management, planning, management, and evaluation
- Model development to school and learning
- The consistency of the pattern of cultivation

- The weakening of the regional culture
- Robotic human qualities, without initiative and creativity

The absence of decentralization law implementation also impacts Indonesia's general education system. Sakti (2007) notes that certain places still have inadequate infrastructure and educational amenities. While other areas have mostly been left undeveloped, the government is more eager to develop education on the island of Java. Sakti then uses the example of how students from neighboring islands have frequently relocated to Java to attend reputable universities with superior facilities and resources. According to Lestari (2012), this centralistic phenomenon stops students from exercising their freedom to think critically, develop creative solutions to problems independently, work and live in groups, and develop effective interpersonal skills.

It is firmly believed that the implementation of inclusive education is impacted by this centralistic educational system (Strogilos, 2012). Leaders in inclusive education typically adhere to the government's recommendations for inclusive environments. Therefore, leaders must engage in professional development to enhance their abilities and spark their creativity when leading their schools. Unfortunately, this has not been discussed in academic studies. In Indonesia, most studies on inclusive education are still primarily concerned with how well the inclusive system is understood and how it is being implemented in light of Ministry of Education Law No. 70 from 2009. Even though this problem will not be discussed in the current research, the system is discussed in the professional development materials which are part of the intervention.

Overview of the Indonesian curriculum. The government of Indonesia through the Ministry of Education has been developing a better education system in Indonesia; it has changed 11 curricula. The current curriculum is Independent Curriculum (*Kurikulum*

Merdeka). Overall, the history of the Indonesian curriculum after the freedom in 1945 is divided into three major eras (Manurung, 2019):

1. Old Era

   In this Era, the Indonesian education curriculum changed three times:

   1. 1947 Curriculum, also known as the lesson plans curriculum.

      At this time, the curriculum was still influenced by the Dutch and Japanese colonial education systems, so it simply continued the curriculum that had been used before. It had two main priorities: a list of subjects and teaching hours, and an outline of teaching.

   2. 1952 Curriculum, also known as the unraveled study plan 1952

      In this year, the education and teaching system changed to be more in line with the wishes and ideals of the Indonesian people at that time, namely by establishing a Teaching Research Committee to change the curriculum at all levels of education from one oriented to colonial interests to one focused on the needs of an independent nation.

   3. 1964 Curriculum, also known as lesson plans 1964

      In accordance with MPRS decision NO. II/MPRS/1960, which was formulated considering Indonesian socialist citizens as a part of Indonesian socialism, focused on the goal of national development to create a just and prosperous society based on Pancasila. The learning process in this curriculum was centered developing morals, intelligence, emotional/artistic skills, and physical wellness.

2. New Era

   1. 1968 Curriculum

The 1968 curriculum is an update of the 1964 curriculum; it changed the structure of the educational curriculum to foster the spirit of Pancasila, basic knowledge, and special skills.

2. 1975 Curriculum

   The 1975 curriculum was an effort to realize the development strategy under the New Order government using the Five-Year Development Program and the Five-Year Development Plan.

3. 1984 Curriculum

   The 1984 curriculum highlighted students as learning subjects, leading them to study various process skills through the "Active Student Learning Way." This curriculum was oriented toward instructional goals and was based on the view that providing learning experiences to students the limited study time available in schools must be truly functional and effective.

4. 1994 Curriculum

   The teaching objectives of this curriculum were more oriented toward subject matter and problem-solving skills.

3. Reformation Era

   The current era in Indonesia is called the reformation era; it began after the 1998 tragedy, where the Indonesian president was forced to resign by university students based on allegations of corruption, collusion, and nepotism. In this era, four curricula have been introduced in the Indonesian education system.

   1. Curriculum 2004 (Competency-Based Curriculum)

      This is called the Competency-Based Curriculum because schools are given the authority to compile the desired syllabi tailored to the school's needs. Curriculum 2004 emphasizes the achievement of student competencies both

individually and classically, i.e., results-oriented learning outcomes and diversity.

2. Education Unit Level Curriculum

   This curriculum, started in 2006, is an integral part of the Content Standards, and its development is given to the school to suit its own needs. Therefore, teachers have the authority to freely develop a curriculum by considering students' characteristics and the environment in their respective schools.

3. Curriculum 2013

   A number of elements, such as the process of globalization, numerous environmental issues, technological and informational advancements, the growth of the creative and cultural industries, and global trends, influenced the development of the 2013 curriculum.

4. Independent Curriculum (2022)

   The Independent Learning Curriculum is a diversified intra-curricular learning program with customized learning materials designed to give students enough time to hone their competencies.

Although there have been many curriculum changes, Indonesia has experienced a learning crisis for quite a long time. Many Indonesian children cannot apply basic mathematical concepts (numeracy) or complete simple reading tasks (literacy), even though these are basic skills that every student must possess. One of the characteristics of the Independent Curriculum is its focus on these essential skills.

The independent curriculum is the work of the new minister of education, Mr. Nadiem Makarim, and was implemented during the era of President Jokowi. The independent curriculum is designed to help students will develop in accordance with their potential, providing them with critical, high-quality, expressive, practical, varied, and progressive

learning (Sumarsih et al., 2022). In inclusive education, the independent curriculum will provide the best service for all children as long as the principals and teachers have positive attitudes, skills, and knowledge regarding inclusive education.

Inclusive Education

Inclusive education from international perspectives. According to Garnida (2015), the history of inclusive education began in Scandinavian nations (Denmark, Norway, Sweden). He asserts that US President Kennedy sent special education specialists to Scandinavia in the 1960s to study mainstreaming and least restrictive environments, which were appropriate for application in the United States. The Ed. Act. 1991, which changed the educational model for children with special needs from segregative to integrative, established inclusive education in England.

The need for inclusive education is becoming increasingly obvious, particularly since the Bangkok World Conference on Education in 1990 and the 1989 UN Convention on the Rights of the Child declared "education for all" (Garnida, 2015). All conference participants are obligated by the implications of this statement to ensure that all children, including those with special needs, receive quality educational services. In 1994, a convention on education was organized in Salamanca, Spain, as a follow-up to the Bangkok Declaration. This event ignited a desire for inclusive education and created "the Salamanca statement on inclusive education" (Wulandari, 2014).

Following the Salamanca Declaration, the world began to recognize inclusion as one of the practical answers to the issues faced by children with special needs. According to Abosi and Koay (2008), inclusive education allows typical students and students with special needs to study and learn together without prejudice. They continue by stating that inclusive schools must be conscious of the many needs of students, including those with special needs. Missionaries established inclusive education in undeveloped nations by instructing those with

unique needs (Abosi & Koay, 2008). These missionaries asserted that efforts have been made locally and internationally to identify an efficient instruction system for those with impairments. According to Lim and Tan (1999), it took time for Singapore to move from total segregation of special education services to full integration. Other Asian nations, like Malaysia, are experiencing a similar journey toward inclusive education (Jelas, 2000). Sopiani (2014) provides the following historical overview of inclusive education:

- Around 1960, integration education (particularly for blind persons) started to be used in a number of nations.
- The term "inclusion education" was first used and implemented in Canada around 1980. It then gained popularity in the US and other nations.
- In 1994, The Salamanca Statement, or The World Statement on Special Needs Education, which was a worldwide policy text, used "inclusive education" for the first time.

Some nations assert that adopting inclusive education will benefit them. For instance, inclusive education was first introduced in the USA in the 1990s to give students with special needs a sense of inclusion in regular classrooms (Fisher et al., 2002). Every child in Nigeria, including those with special needs, has equal access to education thanks to inclusive education (Ajuwon, 2008). Another example is from Australia, where inclusive education raises academic achievement for all children (Van Kraayenoord, 2007).

According to Jelas (2000), in developing nations like Malaysia, inclusive education helps children with special needs develop their social skills. However, other research contends that implementing inclusive education can lead to some issues. Research performed in the Netherlands by Monchy et al. (2004) found that inclusive schooling has a detrimental impact on the social needs of children who exhibit “problem behaviors” because their typical

peers exclude them. Rose and Monda-Amaya provided yet another illustration (2012) by contending that bullies are more likely to target children with special needs who attend inclusive schools.

Furthermore, Abosi and Koay (2008) contend that, even while some children with severe disabilities can disrupt the inclusive classroom, they will not always gain from an inclusive system. Instead of an inclusive school, they recommend that children with severe disabilities be enrolled in a special school. It has been determined that the many national perspectives on the subject of inclusive education indicate that this type of education is in a developmental stage. This makes the ability of principals and teachers to deliver high-quality inclusive education essential.

Overview of inclusive education in Indonesia. Some academics in Indonesia have a slightly different interpretation of what inclusive education means. Fitria (2012) defined inclusive education as a system in which all students with special needs are accommodated at regular schools close to their homes and are provided with various support services tailored to their needs and specific educational requirements. According to Rudiyati (2011), inclusive education occurs when schools can accommodate all children without making distinctions based on the children's physical condition, intellectuality, social condition, emotional state, linguistic background, ethnic background, cultural background, or any other condition. According to Wathoni (2013) inclusive education is an educational service system that requires children with special needs to attend the schools that are geographically nearest to them and learn in a regular classroom with peers of the same age.

Developing inclusive education in Indonesia has been a lengthy process thus far. Integrating blind students into high schools in Indonesia started as an individual initiative in the 1960s and marked the beginning of the country's progress toward inclusive education

(Wulandari, 2014). Wulandari (2014) and Firdaus (2010) provide the following timeline to demonstrate the development of inclusive education in Indonesia:

- From 1978 to 1986, an Integrated Education project was held for blind children with technical aid from HKI (Hellen Keller International).
- In 1999, the government presented the concept of inclusive education to the public through a series of seminars and workshops, with the University of Oslo providing aid in the form of technical expertise.
- The government of the Republic of Indonesia has been working on an inclusive education program since 2000. This program is a continuation of an integrated education program that was first introduced in Indonesia in the 1980s but later became underdeveloped. It did not re-emerge until 2000, when it began to be re-developed by following world trends and utilizing inclusive education.
- In 2002, pilot schools opened their doors for the first time in several different cities. This was done in accordance with the prevalent pattern exhibited by the requirements of global development pertaining to inclusive education in Indonesia.
- In 2004, a national convention was conducted to produce the Bandung Declaration, which stated that Indonesia was committed to inclusive education.
- In 2005, the city of Bukittinggi hosted an international symposium that resulted in the production of Bukittinggi Recommendations, which emphasized the necessity of developing inclusive education programs. In addition, inclusive education should ensure that all children receive a high-quality education, good care, and support in the battle for children's rights when they face learning challenges. Garnida (2015), Izzaucon (2014), and Wathoni (2013) state that the following constitutes the

juridical underpinning of inclusive education in Indonesia: 1945 Constitution (amendment) article 31:

a) Paragraph (1): Every citizen has the right to education.

b) Paragraph (2): Every citizen is obliged to attend basic education, and the government is obliged to finance it.

- Law No. 20 of 2003 concerning article 5 of the national education system:

  a) Paragraph (1): Every citizen has the same right to obtain a quality education.

  b) Paragraph (2): Citizens who have physical, emotional, intellectual, or social disorders have the right to receive special education.

  c) Paragraph (3): Citizens in remote or underdeveloped areas and remote indigenous peoples have the right to receive special service education

  d) Paragraph (4): Citizens with potential intelligence and special talents are entitled to special education.

- Law No. 23 of 2002 concerning child protection.

  a) Article 48: The government must provide a primary education of at least 9 (nine) years for all children.

  b) Article 49: The state, government, family, and parents must provide the broadest opportunity for children to obtain an education.

- Law No. 4 of 1997 concerning persons with disabilities.

  Article 5: Every person with a disability has equal rights and opportunities in all aspects of life and livelihood.

- Minister of Education Regulation No. 70 of 2009 concerning inclusive education for students with abnormalities, potential intelligence, or unique talents.

- Circular of the Directorate General of Primary and Secondary Education Ministry of Education No.380 / C.C6 / MN / 2003 20 January 2003: “Every district/city is

required to organize and develop education in at least 4 (four) schools consisting of Elementary, Middle School, High School, and Vocational School."

- Bandung Declaration: "Indonesia toward inclusive education" dated August 8-14, 2004:

  a) Ensure that every child with special needs has the opportunity to access all parts of life, including education, health care, social welfare, and other aspects of security so that these children can grow up to be dependable members of future generations.

  b) Ensure that every child with special needs is treated as a dignified individual and receives humane treatment, a quality education, and is educated in accordance with the potential and needs of the community, without discriminatory treatment that harms the existence of life in any way, including physically, psychologically, economically, sociologically, politically, or culturally.

  c) Organize and develop management in order to establish a supportive atmosphere for children with disabilities that will allow those children to improve to the fullest extent of their individual ability.

  d) Remove as many barriers as possible in order to give children who have impairments the opportunity to engage in spontaneous and planned interactions with anybody, at any time, and in whatever setting they want.

  e) Ongoing promotion and socialization of inclusive education services through various channels, including the mass media, scientific forums, educational and training opportunities, and others.

  f) Adhere to a plan of action and secure funds in order to ensure that all children with special needs have access to quality education services, health care, recreation, and welfare programs, regardless of whether the accessibility is physical or non-physical.

g) Inclusive education is sustained by collaborative efforts that are mutually beneficial and fruitful among the government, educational institutions, associated institutions, businesses and industry, parents, and the community as a whole.

Furthermore, Garnida (2015) asserts that there are three philosophical grounds for the implementation of inclusive education in Indonesia. These foundations are as follows:

- The Indonesian people have adopted the Garuda as their national emblem, and they adhere to the idea that there is strength in unity despite the country's many different ethnic groups.
- The beliefs of religion, particularly Islam, which is the religion practiced by the vast majority of Indonesian citizens, affirm the following:

  a) humans are born in a state of holiness;

  b) the nobility of a person is considered not from the physical but taqwa (obedience to God);

  c) humans are created differently to create mutual friendship.
- According to the all-encompassing conception of human rights, every individual possesses the inherent right to a respectable standard of life, the right to education and health care, and appropriate employment.

According to Rudiyati (2011), there are at least six models of how children with special needs are placed in inclusive environments in Indonesia. These models are based on the theory that Vaughn, Bos, and Schumm developed at the Directorate of Special Schools Development (2007). That would be:

- Full inclusion means that children with special needs learn alongside typical classmates during the whole school day using the same curriculum.
- Class meets regularly with cluster instruction, which allows children with special needs to learn with other students in an exclusive group.

- Regular courses with a pull-out system, in which children with special needs learn together with other students, and occasionally they are taken out of the class to the counseling room to study and receive advice from expert teachers.
- Special classrooms with some integration, in which special teachers teach children who have special needs in separate rooms, and at other times, they are integrated into normal classes and study alongside ordinary students there.
- Full special class refers to a setting within a regular school where specially trained instructors educate children with special needs in specially designed classrooms.

In spite of significant progress, there are still a few obstacles to fully inclusive education in Indonesia. According to Fitria (2012), when many students with special needs are in a class, teachers are constrained in their abilities to use the method, meaning that their ability to convey subject matter to all students varies.

Furthermore, the Indonesian government pays minimal attention to the professional development of teachers in inclusive schools, making it difficult for educators to expand their skills and expertise (Rudiyati, 2011). Meanwhile, according to Rudiyati, the facilities in Indonesian ordinary schools for children with special needs, such as media and learning materials, are insufficient. She asserts that there are certain educational institutions that do not provide students who are blind with either Braille textbooks or talking books.

In addition, Garnida (2015) states that inclusive schools demand significantly more funding than conventional schools, which is highly challenging to acquire in Indonesia. This is a problem since inclusive schools are more difficult to support. He raises the point because inclusive schools may need to support special facilities, learning media, salaries for specialists and special teachers, and even for the evaluation process for special needs students, which is different from the evaluation process for regular students. All of the aforementioned factors lead to the conclusion that inclusive education is still evolving in

Indonesia, as it is across the rest of the globe. However, the attitudes, skills, and knowledge of principals and teachers are the most crucial among these factors; these professionals may acquire these skills by engaging in efficient, professional development.

Inclusive kindergartens in Indonesia. The Indonesian government mandates that all children must attend school for a total of nine years, beginning with primary education and continuing through secondary education; since this is a government mandate, the government is also responsible for implementing the program.

Kindergarten in Indonesia is not included in the country's mandatory education system, despite being an important aspect of early childhood education. Early childhood education is a coaching effort for children from birth to six. It consists of delivering educational stimuli to children to develop their physical and spiritual needs and prepare them for higher education (Law No. 20 concerning National Education System Article 1 Paragraph 14, 2003). In Indonesia, children can participate in one of two official early childhood education types: kindergarten or *Raudhatul Athfal* (religious school for early childhood). In Indonesia, the term "kindergarten" most commonly refers to an institution and educational setting for children between the ages of four and six who are beginning their journey through formal education (Solehuddin et al., 2007).

According to the Competency-Based Curriculum implemented in 2004, the purpose of education in kindergarten is to assist children in developing their many different psychological and physical potentials. These potentials include the development of moral and religious values as well as social, emotional, cognitive, language, physical/motoric, independence, and artistic abilities (Maryatun, 2008). Unfortunately, there are some children whose parents opt for them to remain at home prior to starting primary school for a variety of reasons, including financial difficulties and a lack of sufficient knowledge about the

advantages of attending kindergarten (Halimah & Kawuryan, 2010). Some of families having trouble getting into the kindergarten that is located in their vicinity.

According to the statistics provided by the Ministry of Education and Culture, most of Indonesia's provinces have seen a significant and stead expansion of the number of kindergartens located there (see Table 2.2). This trend is most noticeable in the regions of Java, such as East Java, Central Java, and West Java. In Indonesia, there were around 70,917 kindergartens spread across each of the country's 34 provinces during the 2011/2012 school year; that number increased to approximately 15,000 in the 2015/2016 school year.

The increase in schools is consistent with the rising number of children entering kindergarten; Table 2.3 shows that the number of children attending kindergarten has increased from around 3.6 million in 2011/2012 to 4.4 million in 2015/2016. Both figures show that society generally acknowledges kindergartens as an acceptable learning place for children. An increase in the number of students enrolled in kindergarten may indicate that there is a demand for kindergartens in Indonesia. Children with particular educational needs can live on Indonesia's more populous and larger islands, such as Java, Sumatra, and Kalimantan, as well as on some of the country's more remote islands, such as Sulawesi and Papua.

Table 2.2

Number of Kindergartens in Indonesia

Province	Schools				
	2011/2012	**2012/2013**	**2013/2014**	**2014/2015**	**2015/2016**
Aceh	1,507	1,566	1,784	1,983	2,184
Sumatera Utara	1,551	2,046	1,984	2,254	2,309
Sumatera Barat	1,971	1804	1,962	2,068	2,357
Riau	1,499	1,484	1,413	1,759	2,070
Jambi	1,002	385	991	1,005	1,189
Sumatera Selatan	1,199	1,287	1,279	1,589	1,761
Bengkulu	528	570	772	894	948
Lampung	2,098	2,416	2,304	2,603	2,701
Kepulauan Babel	286	301	318	346	346
Kepulauan Riau	473	471	499	496	596
DKI Jakarta	1,857	1,252	1,416	1,477	2,295
Jawa Barat	5,999	5,738	6,973	7,420	8,119
Jawa Tengah	12,935	14,003	13,350	13,564	14,090
DI Yogyakarta	2,135	2,138	2,002	2,121	2,136
Jawa Timur	16,471	16,562	16,040	16,724	18,163
Banten	1,611	1,573	1,639	1,784	2,023
Bali	1,296	1,374	1,397	1,448	1,593
Nusa Tenggara Barat	1,265	1,544	1,465	1,523	1,658
Nusa Tenggara Timur	1,147	683	1,175	1,256	1,174
Kalimantan Barat	614	529	600	699	731
Kalimantan Tengah	999	1,016	1,226	1,471	1,490
Kalimantan Selatan	2,050	2,129	2,292	2,385	2,365
Kalimantan Timur	1,054	1,104	1,459	1,337	1,253
Kalimantan Utara	-	-	-	176	169
Sulawesi Utara	1,291	1,398	1,535	1,509	1,110
Sulawesi Tengah	1,174	1,017	1,419	1,377	1,799
Sulawesi Selatan	3,323	3,471	3,726	3,853	3,954
Sulawesi Tenggara	1,142	1,314	1,381	1,476	1,719
Gorontalo	680	651	741	761	755
Sulawesi Barat	513	392	538	591	676
Maluku	403	276	276	322	465
Maluku Utara	266	289	361	373	484
Papua Barat	194	225	429	267	324
Papua	384	348	236	457	493
Total	70,917	71,356	74,982	79,368	85,499

Source: Central Data and Statistics, Ministry of Education and Culture, Indonesia, 2019

Table 2.3

Number of Kindergarten Students in Indonesia

Province	Students				
	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Aceh	79,225	85,289	93,432	99,314	105,201
Sumatera Utara	99,501	163,886	172,106	183,989	193,472
Sumatera Barat	96,806	75,715	78,196	84,712	90,097
Riau	75,615	93,599	95,624	100,838	105,282
Jambi	47,971	35,320	36,854	39,787	42,633
Sumatera Selatan	60,134	66,365	69,682	74,811	79,323
Bengkulu	25,727	29,358	30,827	35,472	38,476
Lampung	104,991	97,404	102,275	115,725	121,861
Kepulauan Babel	23,188	28,780	28,782	29,794	32,149
Kepulauan Riau	24,331	41,194	42,401	44,344	46,337
DKI Jakarta	125,469	110,193	123,143	126,538	127,756
Jawa Barat	312,202	367,224	387,757	403,107	406,495
Jawa Tengah	641,941	649,629	668,597	689,884	695,733
DI Yogyakarta	115,372	94,977	94,022	96,927	97,802
Jawa Timur	826,369	881,922	915,154	927,849	938,293
Banten	80,840	154,108	164,071	170,092	173,453
Bali	68,080	78,618	82,549	82,195	86,185
Nusa Tenggara Barat	62,063	103,428	108,601	112,002	115,762
Nusa Tenggara Timur	52,723	72,825	76,468	80,582	86,556
Kalimantan Barat	31,980	47,698	50,085	52,549	56,402
Kalimantan Tengah	47,365	51,913	54,507	57,891	62,269
Kalimantan Selatan	95,823	81,536	87,652	96,457	102,378
Kalimantan Timur	60,274	51,449	54,022	50,605	54,308
Kalimantan Utara	-	-	-	12,640	13,640
Sulawesi Utara	62,406	60,166	63,077	65,254	69,912
Sulawesi Tengah	57,649	70,606	74,136	81,418	86,762
Sulawesi Selatan	152,527	193,122	202,779	210,998	219,983
Sulawesi Tenggara	55,409	80,738	84,773	90,741	94,497
Gorontalo	33,962	26,351	27,668	28,726	30,597
Sulawesi Barat	24,209	16,372	17,191	20,678	22,312
Maluku	18,308	19,047	19,999	20,914	22,568
Maluku Utara	12,931	18,391	19,311	21,467	23,165
Papua Barat	11,079	12,622	13,254	12,901	13,821
Papua	25,971	34,084	35,788	37,024	39,952
Total	3,612,441	3,612,441	4,174,783	4,358,225	4,495,432

Source: Central Data and Statistics, Ministry of Education and Culture, Indonesia, 2019

Unfortunately, the number of kindergartens that welcome children at all ability levels has not been factored into those totals. This problem may occur as a result of two different factors:

- There are a limited number of inclusive kindergartens available, and these kindergartens are included in the category of special kindergartens (Ariastuti & Herawati, 2016).
- There is a lack of clarity surrounding inclusive education in Indonesian schools. Ariastuti and Herawati (2016) contend that the proper definition of an inclusive education system is not effectively executed from the perspective of the teacher's attitude, facilitation, or learning program. They base this assertion on the research that they conducted.

The next question that may be derived from these facts is, "How many children with special needs have been included in the kindergartens?" Unfortunately, there is no source to locate any reliable data as of yet.

Being labeled as an inclusive school is not about making all the same. Abosi and Koay (2008) provide an excellent definition of inclusive education that demonstrates how it is not limited to discussing schools only. According to them, The South African Educational System defines inclusive learning as a learning environment that promotes the full personal, academic, and professional development of all learners regardless of race, class, gender, disability, religion, cultural preference, learning style, or language.

For children with special learning requirements, inclusive kindergartens should serve as the initial educational support provided because they are a context for learning. Children who do not attend special schools have benefited by attending kindergarten, particularly full-day kindergarten programs. Dhuey (2011) includes a list of research demonstrating the positive benefits of kindergarten attendance on children. For instance, she

discusses the research conducted by Chetty et al. (2010), which revealed that children who attended high-quality kindergartens would have a better financial situation throughout their adult life.

Another study by Cascio (2009) shows that increasing access to kindergarten impacts the proportion of children who drop out of school, particularly among white students who are starting kindergarten. Another illustration is provided by Clark and Kirk (2000), who conducted a literature review and discovered that attending kindergarten for the whole day could help meet the intellectual and social requirements of children. Carnes and Albrecht (2012) conducted a study with interesting results; they cited a "no kid left behind" initiative as evidence that full-day kindergarten has enabled children to receive an education of a high standard.

It is believed that kindergartens should be able to accommodate instruction for students with ordinary and special needs when they receive these types of benefits. Unfortunately, the search of studies using the terms "inclusive kindergarten in Indonesia" yields no direct results in any of the three most popular scholarly database journals (Sage, Eric, and Google Scholar).

Professional Development in Inclusive Education

Since most research still emphasizes attitudes, the study about the knowledge and abilities in inclusive education are sometimes overlooked (Hartati, 2017). However, a lack of knowledge and abilities on the part of educators in terms of comprehending what inclusive education is and teaching all students in inclusive schools is one of the most significant challenges that must be overcome in order to implement inclusive education (Florian & Linklater, 2010). According to research conducted by Van Laarhoven and colleagues (2007), despite the significance of instructors' perspectives on the value of inclusive education,

having the capability to provide inclusive classroom settings is more important for instructors.

It is essential for teachers and principals to participate in ongoing professional development to expand their attitudes, capabilities, and understanding of inclusive education at all levels, including kindergarten. This requirement is of the utmost importance in a country like Indonesia, where social inclusion is still in its formative stages. Professional development, sometimes referred to as teacher training, is the process through which educators acquire knowledge regarding students from various backgrounds. This continuing education guarantees that they are able to effectively interact with all of their students in regular classes without experiencing difficulties (Avramidis & Norwich, 2002).

It is envisaged that, by participating in professional development, principals of inclusive kindergartens would increase their knowledge and abilities in leadership and working with students with special needs because principals also serve as teachers in kindergartens. According to Buysse and Hollingsworth (2009), the increasing number of inclusive early childhood programs highlights the requirement for special early education educators to participate in ongoing professional development. They also asserted that improving teaching and intervention practices would be supported by implementing a high-quality inclusive program because improved teaching practices would result from designing professional development specifically for early childhood education educators.

Although there is a slight difference between professional development for teachers and principals, the model of the development applied is the same. According to Nishimura (2014), successful professional development has been cited in a number of different studies as being beneficial to many of the parties involved in inclusive education. He discusses 17 papers that illustrate a coaching professional development approach and uses a variety of examples. He claims that coaching allows educators to work together and share ideas, thereby

improving their capacity to fulfill the varied requirements of all students. Most research studies point out the benefits of professional development in improving inclusive education.

Nishimura (2014) also uses the early research conducted by Miller et al. (1991) (n = 6); that study demonstrates that coaching professional development boosted instructors' abilities and performance. Another example is found in Sari (2007) (n=122 participants). She used an in-service teacher training program as the intervention in her research, and the findings demonstrated how the teachers' knowledge and attitudes toward deafness changed as a consequence of participating in the program.

Scholars present many methods for professional development to close the knowledge and skill gap among educators working in inclusive environments. The purpose of the survey that Loreman (2001) conducted was to discover what kind of professional development model instructors require. The findings indicate that teachers require in-class assistance for their professional development as provided by specialists and colleagues, which may be combined with professional development that takes place within the school. In accordance with Loreman's findings, Lisdiana et al. (2018) proposed that educators participate in in-service learning to enhance their capabilities in inclusive education. In addition to this, the same study noted that in-service professional development and pre-service teacher professional development could be integrated. In addition, Nishimura (2014) asserted that a model of coaching professional development demonstrated success in a several studies.

However, many studies continue to indicate that professional development in inclusive education resulted in little or no growth in the abilities and knowledge of teachers. For instance, Galovi et al. (2014) concluded that there were no substantial differences between instructors who received professional development and those who do not.

In another study by Lee et al. (2009), the authors report that the intervention in professional development was unsuccessful. Studying students with inadequate English

literacy (n=38), Lee et al. (2009) used fidelity of implementation (FOI) as an intervention for professional development. They concluded that professional development for teachers had less of an influence on students' scientific accomplishment outcomes. They asserted that the ineffectiveness of this professional development intervention might be attributed to three distinct factors: a failure of the program itself, a failure of the intervention's execution, and a "measurement failure."

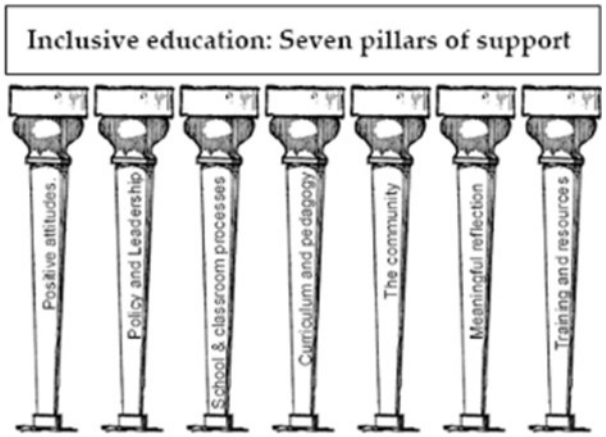
Regarding the traditional model of professional development, a number of studies have cast doubt on the usefulness of the more traditional forms of professional development for teachers. For instance, Wayne et al. (2008) explained that professional development may have less influence on instructors and students if conducted in more typical settings and if it is delivered by many different tutors. In addition, they asserted that there is insufficient data to demonstrate how particular characteristics might positively influence professional development for student accomplishments. In addition, Yoon et al. (2007) stated that there would be no influence on student accomplishments after instructors' professional development if the teachers were unable to incorporate the new skills and information into classroom instruction.

Leadership in Inclusive Education Setting

Leadership in inclusive education. According to Loreman (2007), there are seven pillars that promote inclusive education: positive attitudes; supportive policies and leadership; school and classroom procedures based on research-based practice; flexible curriculum and pedagogy; meaningful community participation; meaningful reflection; and sufficient training and resources (see Figure 2.1). Each of these pillars uniquely contributes to the formation of a competent, inclusive education.

Figure 2.1

Seven Pillars of Support for Inclusive Education



Source: Loreman, 2007

These pillars shows that inclusive education will struggle if it is not led by the individuals in power. A pleasant environment at an inclusive school may be supported by strong leadership. However, Ryan (2006) asserted that inclusive education does not support a hierarchical conception of leadership. According to him, the idea of inclusivity contradicts the paradigm of leadership as discussed; it comprises a skewed sense of inclusion which allows individuals to be ignored frequently because they possess unique qualities and the right to their prerogatives. He followed by saying that the ideal answer for inclusive education was leadership that was both emancipatory and includes people of varying abilities, using work by Foster (1989) and Marshall (2004) as an illustration. These two researchers found that this kind of leadership is beneficial to social justice in the classroom. In addition, Ryan cites an additional study conducted by Keys et al. (1999) that implied that leadership which is inclusive of children with varying abilities has a favorable impact on all students who attend mainstream schools.

In addition, Loreman (2007) proposed that the optimal strategy for developing a high-quality inclusive school environment was to utilize "shared leadership," in which all members of the school community collaborate to provide support for inclusion; therefore, shared

leadership allows members to be steered in the direction of accepting the inclusive approach in the school (Loreman & Deeper, 2002). In addition, Loreman demonstrates how high school principals may achieve success in inclusion at their schools by fostering a culture of compassion, generosity, and mutual respect and support for one another. Principals emphasize the importance of collaboration as the driving force behind a vibrant and welcoming school culture (Loreman, 2001).

Suhendri (2018) emphasizes that the primary key to successfully implementing inclusion is working together to provide high-quality inclusive education. This includes collaboration between teachers, principals, school staff, students, parents, the government, and the community. Florian's idea about the importance of collaboration in inclusive education is referenced in this article. It is possible that the performance of the inclusion will not go as planned if a single party does not cooperate in supporting the implementation of the inclusion.

Principals in inclusive kindergartens. According to Suhendri (2018), based on the viewpoint of Dr. Amanda Niland, there are positive aspects to including children with special needs in kindergarten classrooms. Some of these include:

- Through interactions with other students, children of all ages will develop skills in communication, socialization, playing, and thinking.
- Children who do not have impairments are allowed to develop empathy and an understanding of diversity.
- Children have a more pronounced sense of belonging.
- Children have the ability to demonstrate to adults how to coexist with variety.

However, in order to gain these benefits, an excellent collaboration directed by a good leader is necessary. The principal is the head of the school and is responsible for establishing

the culture and routine of the institution (Setiyati, 2014). Setiyati also outlines the requirements for a principal to succeed in their role as the head of an organization:

- Possessing an intellect level high enough to adequately and sensibly think about and discover answers to any difficulties that may emerge.
- Being able to maintain stable emotions despite shifts in the surrounding environment and distinguishing between personal concerns, problems in the home, and organizational issues
- Being intelligent in one's dealings with others and in one's ability to make subordinates feel comfortable, content, and pleased in their work environment.
- Having the experience and knowledge necessary to efficiently manage and mobilize personnel and the knowledge to precisely know when and to whom responsibility and authority will be handed.

Meanwhile, Wahjosumidjo (2005) highlights two important responsibilities of a principal:

- Principals act as a central and drive force for school life.
- Principals must understand the duties and functions that are necessary for the success of the school and care for the staff and the students.

In Indonesia, the majority of kindergarten principals are also responsible for teaching their students, meaning that they must fulfill the roles of both school administrators and educators. Cranston et al. (2003) urged principals to articulate the goals that their schools have set for themselves, communicate with their personnel, inspire and involve them in a collaborative approach toward reaching goals, and advertise their schools. Not only are kindergarten teachers responsible for the transmission of concepts, they are also responsible for the transformation and catalysis of values and attitudes in their students (Pontoh, 2013). Sadly, earlier research by Charlesworth et al. (1991) suggested that kindergarten teachers and

principals place more emphasis on preparing students for elementary school after they join kindergarten than on the need for children to engage in play.

Numerous studies have shown that effective leadership is essential for the establishment of high quality inclusive schools in inclusive environments. However, few studies have addressed the role of principals in inclusive kindergartens, particularly in the context of the Indonesian educational system.

Conceptual Framework of Study

The current study has provided a comprehensive and in-depth literature review regarding professional development in inclusive education for kindergarten principals. The results show that this issue has received limited attention, particularly in Indonesia. At the same time, the number of children with special needs is continuously increasing, as is their need for education, especially for young children. This research examines the issue in light of five research questions.

The first finding will uncover kindergarten principals' attitudes toward inclusive education before and after a professional development intervention regarding inclusive education (RQ1). The second finding will discover kindergarten principals' attitudes toward inclusive education without professional development intervention in inclusive education (RQ2). Following this, the study will determine if there is a significant difference in attitudes toward inclusive education between principals who receive the professional development intervention and those who do not (RQ3).

This research intervention will apply an in-on-in inclusive professional development intervention. The data gathered will reveal how effective this intervention is in shaping principals' competencies, including attitudes, skills, and knowledge, to use inclusive education in their schools (RQ4). The following study will investigate kindergarten principals' competencies to foster inclusive kindergarten education (RQ5). These research

questions be examined to provide one overall finding: the effective professional development in inclusive education and its contents for kindergarten principals to provide a better attitude toward inclusive education in Indonesia.

Figure 2.2.

Conceptual Framework of Study to Achieve Desired Expectations

CHAPTER III

RESEARCH METHODOLOGY

Introduction to Professional Development in Indonesia

A teacher is essential to building the quality of education (Pangestika & Alfarisa, 2015). As the center of learning improvement, it is crucial for teachers to improve their competencies through professional development (Hawley & Valli, 1999). Some professional developments are introduced and developed to keep teachers updated on new knowledge and skills in education.

In Indonesia, there four big professional development themes, some of which are called professional learning: on-the-spot training; seminars and workshops; self-study; and others. In this study, a newly developed professional development will be discussed to clarify the current study's intervention.

Training. Training is collaborative professional development in Indonesia. Training is defined as learning designed to acquire and improve skills outside of the applicable education system in a relatively short period of time and performed by utilizing methods that prioritize practice over theory. This definition comes from Presidential Instruction No. 15 (1974) of Indonesia, which states that training is a component of education.

In Indonesia, teacher training is usually organized by the government, the private sector, or the community. Training materials cover new strategies in learning, curriculum design, planning and assessment, use of technology in education, and anything related to the need to improve teachers' competencies. Some training is arranged in elementary, intermediate, and advanced stages (Pangestika & Alfarisa, 2015). The training levels are organized based on the difficulty level and type of competency.

According to Mulyawan (2013), experience in training is the most significant factor influencing teacher professionalism. The length of the training period varies from one week

to one month, depending on the materials learned. Specialized training is provided based on particular needs or new developments in education. Under the Ministry of Education in Indonesia, there are 14 training providers (PPPPTK), and each has its own task and function in conducting teacher training, as described below:

- PPPPTK for Building and Electricity
- PPPPTK for Language
- PPPPTK for Business and Tourism
- PPPPTK for Physical Education and Guidance and Counselling
- PPPPTK for Agriculture
- PPPPTK for Natural Sciences
- PPPPTK for Industrial Machinery and Engineering
- PPPPTK for Kindergarten and Special Needs
- PPPPTK for Arts and Culture
- PPPPTK for Mathematics
- PPPPTK for Automotive and Electronics
- PPPPTK for Civics and Social Sciences
- Institution for Development and Empowerment of Educators and Educational Personnel in the field of Marine Fisheries Information and Communication Technology
- Institution for the Development and Empowerment of Principals

Seminar and Workshop. In addition to training, professional development can include seminars, conferences, or workshops (Desimone, 2011). There is a difference between a seminar and a workshop. A seminar can focus on discussing a problem in a scientific forum or scientific meetings on a small scale where participants are experts in one field (Muamala,

2018). Meanwhile, A workshop is conducted to produce valuable products for learning, competency improvement, and career development (Muamala, 2018).

Teachers tend to attend seminars and workshops because the meetings are short and the material discussed is specific. According to Pangestika and Alfarisa (2015), a seminar provides an opportunity for teachers to interact scientifically with colleagues about topics related to the latest improvements in educational quality. Workshops can be conducted to prepare learning, curriculum analysis, syllabus development, and writing lesson plans.

Self-Study. Some teachers choose to complete self-study to upgrade their competencies. Desimone (2011) states that professional development is attached to individual teachers' activities, with most teachers reading books and journals or completing online learning. Other activities that exist in their classrooms can include co-teaching, mentoring, reflecting on lessons, group discussions of student work, a book club, a teacher network, or a study group (Desimone, 2011).

Teachers complete self-study for many reasons, including limited time, financial issues, and limited seats at free trainings. Schools should therefore provide access to information related to improving teachers' abilities, such as in magazines, journals, the internet, and other media related to information in education (Pramono, 2012).

Several schools have initiated to activities to facilitate discussion for their teachers. These discussions are held regularly with topics following the problems experienced at school. Through regular meetings, teachers are expected to solve the issues they face that are related to the learning process at school or improving their competence and career development.

Other professional developments. Some other professional developments for teachers in Indonesia are related to online training, focus group discussion (FGD), coaching, completing courses, and continuing their education at a higher level. However, these kinds of

professional development represent only a small portion of teachers' professional development in Indonesia.

Online professional development is the answer for helping teachers to fit professional development into their busy schedules (Dede et al., 2009). In Indonesia, online training was merged with on-the-spot training in 2017 with the program GP (*Guru Pembelajar*/Learning Teachers), but the program was unsuccessful for several reasons, including the teachers' lack of technological understanding and limited internet access in some areas of Indonesia. While FGD and coaching are familiar among teachers, taking a course and schooling to higher levels are complicated as they require fees that are expensive in comparison to an Indonesian teacher's salary.

Overview of In-on-in Professional Development (PD) as the Study Intervention

A compelling statement regarding professional development in education was made by Dede et al. (2009). They stated that, although it is necessary to build the capacity for teacher improvement, it is also necessary to ensure that time, effort, and scarce resources are expended only on quality programs that teach with and about best practices.

In-on-in professional development was introduced in 2009 to filter out potential principals in Indonesia (Yoelyoelyoel, 2016). At that time, this professional development pattern was presented because the existing training patterns were monotonous and gave results that were not as expected. According to Yoelyoelyoel (2016), in-on-in designs for professional development provide new hope for the emergence of a training pattern that is more challenging and stimulates the passion of the prospective principals to think idealistically.

In-on-in professional development is a new model of professional development that combines training and coaching. Wardana (2008) suggests that training has a dominant influence on teacher performance. Meanwhile, many studies have revealed that coaching

gives satisfactory results as a professional development model for teachers in inclusive schools (Nishimura, 2014).

The “in-on-in” in the model’s name comes from its three steps. The first "in" refers to on-the-spot training, where teachers learn from experts related to their professional needs in education. The "on" occurs when participants implement what they learned at their training at their schools. The second "in" refers to teachers completing a follow up training to report the activities they completed at their schools and get expert feedback. In the current study, the last "in" was be adjusted to be a focus group discussion (FGD) to gain a more profound meaning from the evaluation meaning, and so that participants can learn best practices from each other.

In the current study, during the first "in," all participants are placed in one training location, either in a local educational district agency or a kindergarten, for five days to receive and learn the five intervention modules. After that, they are "on" at their schools and have three days to implement what they have learned at their school while the researcher will coach, assist, and observe them randomly; during this time, the researcher completes a procedural integrity observation during the process. In the last two days of the program, the participants will gather again "in" their training spot to report and share what they have done and evaluate the program with the researcher and other participants using a focus group discussion (FGD).

At the end of the current study, the in-on-in professional development is considered to have been implemented as a practical training professional development in Indonesia and to answer the outcomes of every professional development design, which are:

- Do teachers learn?
- Do they change their practices?
- Most importantly, does student achievement increase as a result? (Desimone, 2011).

Research Design

The current study used a mixed-method of quasi-experiment pre-post-test comparison group with non-equivalent groups design by applying a model of in-on-in professional development as the intervention. The current study applied quantitative and qualitative data to collect more comprehensive findings. A mixed-method is believed to give complete results for the research problem since it combines quantitative and qualitative approaches (Creswell, 2014), while experimental designs are usually used to measure the effectiveness of a program (Gribbons & Herman, 1997).

Gribbons and Herman (1997) emphasize that a quasi-experiment aims to investigate the comparison of one or more experimental groups with one or more treatment conditions and compare the result with one or more control groups without treatment without random assignment. Using a pre-test and post-test quasi-experimental design, the control and experimental groups were identified as baseline (pre-intervention) to identify their similarity in characteristics (White & Sabarwal, 2014). In selecting the participants to be placed in experiment and control classes, a non-equivalent group design was applied because the current study seeks the confounding variables that affected the impact of the treatment program (Thomas, 2020).

Both quantitative and qualitative approaches used different instruments to collect data. Once obtained, the data were analyzed separately. Finally, the results from quantitative and qualitative findings were compared. A side-by-side comparison was used in the current study by reporting the quantitative results, followed by discussing the qualitative findings to see whether they confirmed the quantitative statistical results (Creswell, 2014). This method hoped to gain trusted data about using the developed professional development model to improve kindergarten principals' skills and knowledge about inclusive education.

The quantitative method covered RQ1, RQ2, and RQ3 using The Indonesian Teachers' Attitudes Toward Inclusive Education (ITAIE) scale developed by Ediyanto (2020). To answer RQ4 and RQ5, a separate questionnaire was used to measure the intervention's effectiveness and determine the priority learning content principals needed to implement inclusive education in kindergartens. The qualitative method was also utilized to support the findings using a semi-structured interview.

The steps of the study were as follows. The study was conducted in three stages: a pre-test, an in-on-in professional development in inclusive education (PDIE) as the intervention, and a post-test. After having a fixed and approved proposal research design, the research's first stage began. Using statistical analysis, the quantitative method gathered initial data on principals' attitudes toward inclusive education and revealed the generalities of the sample study participants.

Upon obtaining ethical approval, 120 kindergarten principals from four large islands in Indonesia, including Sumatera (western part), Java (western part), Kalimantan (central part), and eastern parts of Indonesia, were asked to join the professional development for ten days; some participants from each island joined the study. Initially, every islands would be divided into two groups, namely the control and experimental groups, where every group included fifteen participants (half of the class). However, because of the COVID-19 pandemic, the class was held online, with 60 participants in each class.

The experiment and control group were asked to complete a pre-test survey of the ITAIE instrument. The instrument contains a six-point Likert scale ranging from Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), to Strongly Agree (5). The instrument was adapted based on principals' role in kindergartens, recent development, and inclusive education policy in Indonesia (Kurniawati et al., 2012). Using the ITAIE scale, principals'

attitude was determined and analyzed as a dependent variable (Nishimura, 2014). Higher scores indicate more positive attitudes.

In the second stage, quantitative research was used to support the results of the previous data. A ten-day in-on-in professional development for inclusive education was applied for the experiment class as the intervention. The control class completed conventional professional development. The researcher and some experts in inclusive education in Indonesia provided training modules that include indicators of intervention in leadership and management attributes toward inclusive education. The modules were Concept of Inclusive Education, Identification and Assessment of Special Needs Children in Kindergarten, Planning, and Instructions of Learning, Adaptive Learning, Evaluation in Inclusive Setting, and Leadership and Consultation in Inclusive Kindergarten (PPPPTK TK & PLB, 2019).

The last stage of the research examined the post-test of the ITAIE instrument given at the end of the intervention program for both the control and experiment classes. The experimental class completed a series of questionnaires to gather information about the effectiveness of the intervention program. At this stage, there were five to ten participants in each class whom the researcher would interview. The interview hoped to gain a deeper understanding of and data about what competencies kindergarten principals need to promote high-quality inclusive kindergartens. The research design can be seen in Table 3.1.

Table 3.1

Study Model

Groups	Pre-test	Treatment	Post-test
Experimental group	O1	X	O2
Control group	O3	C	O4

Table description:

X : Intervention Professional Development Program

C : No treatment

O1 : Pre-test for the experimental group

O2 : Post-test for the experimental group

O3 : Pre-test for the control group

O4 : Post-test for the control group

Source: Sugiyono, 2017

As Table 3.1 shows, the difference between O1 and O2 was assumed to be the effect of the change from treatment (X), namely, the in-on-in professional development in inclusive education. At the same time, O4 was the effect of changes in the control class with the conventional program (C). The study was conducted with a pre-test since the current study showed how the size of the differences between the control and experimental groups were (Sugiyono, 2017).

Study setting. Indonesia consists of five large islands: Sumatra, Java, Papua, Sulawesi, and Kalimantan. The current study included three large islands (Bandung in Java, Lampung in Sumatra, and Banjarbaru in Kalimantan) and one small outer island (Ambon in Maluku) in the first plan. The current study was conducted for 10 (ten) days.

Bandung was selected as representative of Java island because the Indonesian National Center for Development and Empowerment of Teachers and other Educational Personnel of Kindergarten and Special Education (PPPPTK TK & PLB) is located there. This center primarily conducted professional development for teachers and principals in

kindergarten and special schools. All data, including the number of schools, teachers, principals, backgrounds of kindergartens, and special schools, were also present here. Bandung was also selected out of respect for inclusive Indonesian history, as a national declaration of inclusive education in Indonesia was held in Bandung in 2004.

However, all classes were held online due to the global COVID-19 pandemic. All participants joined the class using the Zoom platform for learning media. However, the in-field implementation with expert coaching was done offline or hybrid (offline and online) for the experiment class. Participants directly implemented what they got into actual class practice.

Study participants. Using a purposive sample technique, 120 general kindergarten principals were asked to participate in the current study. A purposive sample was applied in the current study since this method allowed the researcher to select participants based on their reliability and competency related to the current study (Tongco, 2007).

Participants in this study were 120 Indonesian kindergarten principals. They represented Java, Sumatra, Kalimantan, and the eastern part of Indonesia; they also had diverse demographic characteristics, such as gender, age, years of teaching, and cultural background. Other criteria included:

- Their kindergartens were registered in the data of local education authorities and PPPPTK TK and PLB (Indonesian National Center for Development and Empowerment of Teachers and other Educational Personnel of Kindergarten and Special Education),
- Their school had at least one student with special needs,
- Principals acted as teachers and were actively involved in teaching and learning activities.

- These 120 participants were divided into two classes. The experimental class had 20 participants, and the control class had the same number.

Trainers. The two classes had different trainers. Trainers were selected based on their experience and expertise in inclusive education at the kindergarten level. They were:

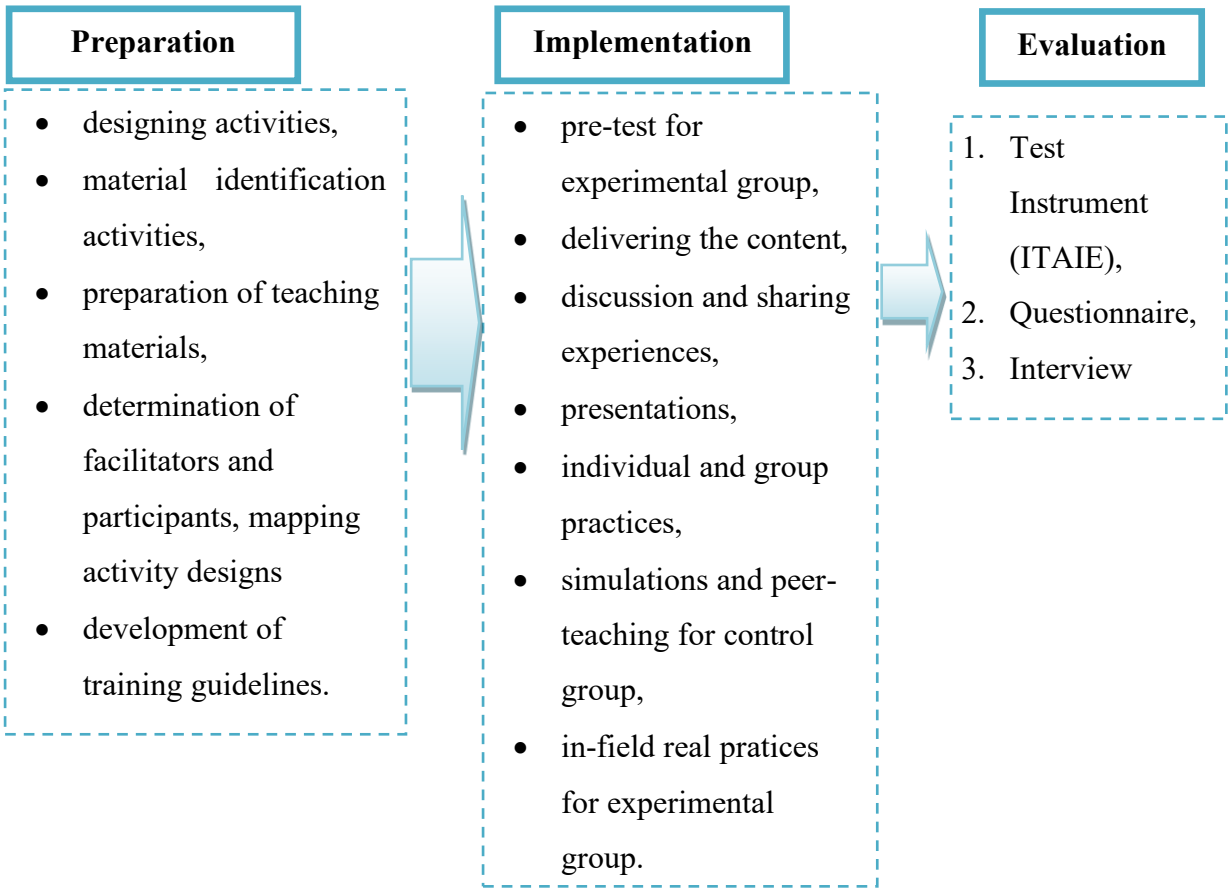
1. Dede Supriyanto, S.Pd, M.Pd.
    - Teacher Trainer of PPPPTK TK and PLB, Bandung
    - Master of Education specializing in Kindergarten Education
    - Alumni of Australian Teacher Training of Inclusive Education for Kindergarten
2. Adhimah Wachid, S.Pd
    - Teacher at Negeri Idaman Kindergarten, Banjarbaru
    - Member of Banjarbaru Inclusive Education Team
    - Alumni of Australian Teacher Training of Inclusive Education for Kindergarten
3. Atik Rakhmawati, S.Pd, M.Pd
    - Principal of TK Mardisiwi 01 Kota Batu, East Java.
    - Alumni of Australian Teacher Training of Inclusive Education for Kindergarten

Learning Strategy. The training was conducted over 10 days and consisting of five to six hours daily. The learning strategy in this training was carried out by providing input regarding material, exercises, and practices as well as conducting learning simulations to improve the quality of the learning process for early childhood learning services in inclusive education.

Program Description. Figure 3.1 shows the stages of the training activity.

Figure 3.1

Steps of Program Implementation



- The preparation phase included designing activities, material identification activities, preparation of teaching materials, determination of facilitators and participants, mapping activity designs, and developing training guidelines.
- The implementation phase included delivering content, discussion, sharing experiences, presentations, individual and group practices, simulations and peer-teaching, and in-field real practices.
- The evaluation phase was conducted to measure the effectiveness and relevance of implementing training activities.

Table 3.2

Program Structure for Control Class

Content	LH*
General	
1. Ministry of Education and Culture Policy on Inclusive Education	2
Main	
1. Concept of Inclusive Education	2
2. Identification and Assessment of Special Needs Children in Kindergarten	4
3. Planning and Instructions of Learning in Inclusive Education	4
4. Leadership and Consultation in Inclusive Education	4
5. Evaluation in Inclusive Education Setting	4
6. Peer teaching	10
Support Lesson	
1 Pre-test	1
2 Post-test	1
3 Questionnaires	4
4 Focus Group Discussion	1
5 Interview	
*Lesson Hours Total	38

Source: PPPPTK TK & PLB, 2019

Program Structure. The program structure for the control and experiment classes can be seen in Table 3.2 and Table 3.3. The structured program met the training need analysis (TNA) done by PPPPTK TK & PLB.

Table 3.3

Program Structure for Experimental Class

	Content	LH*
General		
1.	Ministry of Education and Culture Policy on Inclusive Education	2
Main		
1.	Concept of Inclusive Education	2
2.	Identification and Assessment of Special Needs Children in Kindergarten	4
3.	Planning and Instructions of Learning in Inclusive Education	4
4.	Leadership and Consultation in Inclusive Education	4
5.	Evaluation in Inclusive Education Setting	4
6.	Implementation of In-Field Coaching	10
Support Lesson		
1	Pre-test	1
2	Post-test	1
3	Questionnaires	1
4	Focus Group Discussion	4
5	Interview	1
Lesson Hours Total		38

*1 Lesson Hours (LH) = 45 Minutes

Source: PPPPTK TK & PLB, 2019

Material Syllabus. As the guide for the trainers, the material syllabus was composed and is described in Table 3.4.

Table 3.4

Material Syllabus of General Content

No	Indicators of Competency	Content	Sub Main Material	Method	Learning tools
1.	Understanding the Policy on Inclusive Education	Ministry of Education and Culture Policy on Inclusive Education	▪ New Regulations for Inclusive Education ▪ Government's role in inclusive education	Lecture and Discussion	Laptop, LCD Projector,
2.	Understanding the concept of Inclusive Education	Concept of Inclusive Education	▪ Definition of Inclusive Education ▪ History of Inclusive Education ▪ Why Inclusive Education ▪ Benefits and Challenges of the implementation of inclusive education	Lecture, Discussion Working Group Presentation	Laptop/LCD Projector Whiteboard Paperwork Module
3.	Ability to identify and assess special needs students in kindergarten	Identification and Assessment of Special Needs Children in Kindergarten	▪ The concept of identifying children with special needs ▪ The concept of assessment of children with special needs in kindergarten ▪ The practice of identifying and assessing kindergarten	Lectures, Questions, and Answers, Brainstorming, Presentations, group work, simulations	Laptop/LCD Projector Whiteboard Paperwork Module
4.	Skillfully arranging learning plan in inclusive classes	Planning and Instructions for Learning in Inclusive Education	▪ The Concept of Planning and Instructions for Learning in Inclusive Education ▪ The practice of preparing plans and learning instructions in inclusive class settings	Lectures, Questions, and Answers, Brainstorming, Presentations, group work, simulations	Laptop/LCD Projector Whiteboard Paperwork Module
5.	Ability for Leadership and Consultation in Inclusive Education	Leadership and Consultation in Inclusive Education	▪ Concept of Leadership and Consultation in Inclusive Education ▪ Consultation practices	Lectures, Questions and Answers, Brainstorming, Presentations, group work	Laptop/LCD Projector Whiteboard Paperwork Module
6.	Ability to complete a learning evaluation of inclusive education settings	Evaluation Assessment of Children with Special Needs in Inclusive Education	▪ The concept of evaluation in Children with Special Needs ▪ Evaluation practices in children with special needs	Lectures, Questions, and Answers, Brainstorming, Presentations, group work, simulations	Laptop/LCD Projector Whiteboard Paperwork Module

Source: PPPPTK TK & PLB, 2019

Table 3.5

Timetable for Control Class

Hours/Day	Wednesday	Thursday	Friday	Saturday	Sunday
	01/20/2021	01/21/2021	01/22/2021	01/23/2021	01/24/2021
13:30-14:15	OC	B1	B2	B3	B4
14:15-15:00	C1	B1	B2	B3	B4
15:00-15:30	**Break**				
15:30-16:15	A1	B2	B3	B4	B5
16:15-17:00	A1	B2	B3	B4	B5
Hours/Day	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
	01/25/2021	01/26/2021	01/27/2021	01/28/2021	01/29/2021
13:30-14:15	B5	B6	B6	B7	C2
14:15-15:00	B5	B6	B6	B7	C3
15:00-15:30	**Break**				
15:30-16:15	B6	B6	B6	B7	C4
16:15-17:00	B6	B6	B6	B7	CC

OC: Opening Ceremony

CC: Closing Ceremony

A1: Ministry of Education and Culture Policy on Inclusive Education

B1: Concept of Inclusive Education

B2: Identification and Assessment of Special Needs Children in Kindergarten

B3: Planning and Instructions of Learning in Inclusive Education

B4: Leadership and Consultation in Inclusive Education

B5: Evaluation in Inclusive Education Setting

B6: Peer Teaching

B7: Focus Group Discussion

C1: Pre-test

C2: Post-test

C3: Questionnaires

C4: Interview

Time Schedule. The control and experiment class schedules are shown in Table 3.5 and Table 3.6.

Table 3.6

Timetable for Experimental Class

Hours/Day	Wednesday	Thursday	Friday	Saturday	Sunday
	01/20/2021	01/21/2021	01/22/2021	01/23/2021	01/24/2021
13:30-14:15	OC	B1	B2	B3	B4
14:15-15:00	C1	B1	B2	B3	B4
15:00-15:30	**Break**				
15:30-16:15	A1	B2	B3	B4	B5
16:15-17:00	A1	B2	B3	B4	B5
Hours/Day	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
	01/25/2021	01/26/2021	01/27/2021	01/28/2021	01/29/2021
07:30-08:15	-	B6	B6	-	-
08:15-09:00	-	B6	B6	-	-
09:00-09:30	**Break**				
09:30-10:15	-	B6	B6	-	-
10:15-11:00	-	B6	B6	-	-
13:30-14:15	B5	-	-	B7	C2
14:15-15:00	B5	-	-	B7	C3
15:00-15:30	**Break**	-	-		
15:30-16:15	B6 (planning)	-	-	B7	C4
16:15-17:00	B6 (planning)	-	-	B7	CC

OC: Opening Ceremony

CC: Closing Ceremony

A1: Ministry of Education and Culture Policy on Inclusive Education

B1: Concept of Inclusive Education

B2: Identification and Assessment of Special Needs Children in Kindergarten

B3: Planning and Instructions of Learning in Inclusive Education

B4: Leadership and Consultation in Inclusive Education

B5: Evaluation in Inclusive Education Setting

B6: Infield Implementation

B7: Focus Group Discussion

C1: Pre-test

C2: Post-test

C3: Questionnaires

C4: Interview

Research Instruments

As defined by Sutedi (2011), research instruments are tools to gather or give diverse data needed in research operations. In the current study, three kinds of instruments were used to support the data collection.

Attitude test instrument. The test is a series of questions, exercises, and other tools to measure individuals' or groups' skills, intelligence, knowledge, abilities, or talents (Arikunto, 2010). The ITAIE scale – The Indonesian Teachers' Attitudes Toward Inclusive Education scale was applied with its specific purpose. This test instrument was applied to answer RQs 1–3.

The Indonesian Teachers' Attitudes toward Inclusive Education (ITAIE) were originally developed and adapted for the Indonesian context by Ediyanto (2020) in his Ph.D. dissertation. The ITAIE scale was developed based on seven previously existing instruments (SACIE-R by Forlin et al., 2011; ATTAs-mm by Gregory & Noto, 2012; TATIS by Cullen et al., 2010; MTAI by Stoiber et al., 1998; TAIS by Monsen et al., 2015; MATIES by Mahat. It was then further developed based on the existing condition of inclusive education in Indonesia, which was determined via an analysis of legislation from the Indonesian government and interviews with teachers (Ediyanto, 2020).

The ITAIE scale underwent two separate field tests during its development. The first experiment included 499 teachers while the second had 1,206 teachers. After being determined to be a valid and trustworthy instrument, the ITAIE Scale was utilized as the final step in the development process. This allowed the attitudes held by 683 teachers in Indonesia to be measured (Ediyanto, 2020).

In the current study, the ITAIE test was conducted twice. First, it was used to measure the initial experiment and knowledge of participants' attitudes toward inclusive education before joining the professional development. The second use had two purposes: measuring

the participants' changing attitudes toward inclusive education after the intervention and identifying any differences between the control and experimental groups.

Pre-test and post-test. Different attitude tests and pre- and post-tests were used to determine whether the in-on-in intervention program could improve the competence of kindergarten principals for inclusive education. This increase could be seen in the changes between the pre-test (conducted before professional development) and post-test (after professional development) results, in both the control and experimental classes.

In addition, pre-test and post-test were applied to determine whether the in-on-in intervention program was effectively used in professional development regarding inclusive education for kindergarten principals. This effectiveness analysis was combined with the results of the questionnaire that participants completed.

Questionnaire. According to Arikunto (2012), a questionnaire is divided into open and closed questionnaires. An open questionnaire allows participants to answer the questions in their own words, and a closed questionnaire is used when the answers have been given and participants choose them. The current study applied two kinds of questionnaires.

In this study, the first questionnaire used a closed Likert Scale with the ratings Strongly Agree, Agree, Neutral, Disagree, to Strongly Disagree. Eight themes were introduced, and every theme was questioned in random numbers of a questionnaire. The questionnaire aimed to see how effective the use of in-on-in professional development was in shaping principals' competencies, including their attitudes, skills, and knowledge, to apply inclusive education in their schools (RQ4).

In addition, a single item on a closed questionnaire was used to determine participants' priority of including inclusive education training contents. This question concerned the kindergarten principal's competencies to foster high-quality inclusive education in kindergarten (RQ5).

Interview. According to Cresswell (2014), an interview in the qualitative method occurs between the researcher and participants and gathers participants' views and opinions. A semi-structured interview format containing open-ended questions was used in the current study. This format allowed the researcher to gain critical information from participants by asking about a pre-defined chain of issues (Longhurst, 2003).

The interviews were addressed to around 10 participants to support the findings of each research question. Since the participants were from Indonesia, the interviews were conducted in Bahasa to ensure the questions more natural and easy to understand. When necessary, the researcher used probes to clarify the answers and gain relevant responses (Neuman, 2019).

The steps for conducting the semi-structured interview were:

- Introduced the purpose and topic of the interview
- Made a list of issues and questions to ask about each topic
- Considered the suggested probes and prompts
- Made a closing comment (Wilson, 2013).

Data Collection Procedures

The following research design was used as a guide.

Preparation phase. This phase included developing learning modules for the intervention process and research instruments, including pre- and post-test instruments, interview questions, and questionnaires to determine participants' responses to professional development outcomes.

Intervention phase. The implementation of this process is described below:

- Selected the study participants by applying a purposive sample technique.
- Distributed the participants into two class groups: experiment and control classes. The experiment class included kindergarten principals who participated in the intervention

while the control class was kindergarten principals who participated in conventional professional development.

- Conducted a pre-test both for the control and experiment classes.
- Conducted the intervention using the in-on-in professional development in the experiment class and conventional professional development in the control class.
- Conducted a post-test on the experiment class and the control class.
- Disseminated questionnaires to determine participants' responses about professional development.

Finalizing phase. This phase included three steps.

- Analyzed the data from the pre-test and post-test results and tested the hypotheses.
- Compared the results of the pre- and post-tests in the experimental and the control classes to understand the differences caused by the treatment applied.
- Discussed research results based on the formulation of the problem and summarized the study results.

Validity and Reliability of Instrument Test

ITAIE instrument test. The current study utilized quantitative methods with a survey for data collection. The survey was cross-sectional as it collected data at one point in time (Creswell, 2014). The current study used The Indonesia Teachers Attitudes toward Inclusive Education (ITAIE) instrument test to measure the teachers' attitudes before and after the intervention.

Adaptation of ITAIE instrument test. As the previous instrument was used for general teachers, especially elementary school teachers, the adapted instrument was used to ensure that it was applicable to kindergarten principals. The adaptation process was conducted as follows (Borsa et al., 2012):

1. Instrument translation into the new language.

The ITAIE instrument was first developed based on seven existing instruments in English. Ediyanto (2020) merged and developed those instruments into one instrument based on the Indonesian condition and had been made it into Indonesian language. Three trials were done with 2,388 Indonesian teachers. Consequently, the instrument translation for the current study was no longer needed.

2. Synthesis of the translated versions

   The semantic, idiomatic, conceptual, linguistic, and contextual differences were compared to clarify the real meaning of the instrument.

3. Evaluation of the synthesized version by the experts

   The author of the instrument and kindergarten teacher trainers were involved in this process to ensure the instrument's eligibility. The structure, layout, instrument instructions and terms of expressions were generalized by different populations. This examination determined that no additions or deletions were necessary for this instrument.

4. Evaluation by the target population

   In this process, all pilot study participants (n = 358) were asked to verify if the ITAIE instrument was understandable to them. Since the instrument was delivered in person, they could ask for clarification if there was something they did not understand, and explanations were made on the spot.

5. Back-translation

   According to Borsa et al. (2012), back translation clarifies whether the translated version of something reflects the true meaning of the original version. The original instrument was developed in English and then translated by Ediyanto (2020) into Bahasa Indonesia. The back-translation process from Bahasa to English was done to check for any errors that might have occurred.

6. Pilot study

The pilot study was conducted to measure the validity and reliability of the test instrument. The pilot study had a total of 358 participants from across Indonesia, with 238 kindergarten teachers and 120 kindergarten principals. The characteristics of the pilot study's participants are reported in Table 3.7.

During the pilot research, teachers and principals were asked to complete the ITAIE scale. This scale had 22 different items regarding attitudes toward inclusive education and was based on the pre-existing inclusive education development and policy in Indonesia. The selected criteria from across all components reflected a broad principle of inclusion, according to which certain students who have special education needs should be included in typically regular classrooms.

Validity test. To obtain accurate data, before the research instrument was used, it was necessary to consider and evaluate the validity of the research instrument. Both concurrent validity and construct validity were measured through statistical analyses using SPSS 23 software.

Regarding the construction of the ITAIE scale, its 22 items were analyzed by using principal components analysis (PCA). Principal component analysis (PCA) was applied in the current study since the data contained a vast number of variables, each of which was connected with other variables. Furthermore, PCA decreased the dimensionality of datasets, improving their interpretability while lowering the amount of information lost (Jolliffe & Cadima, 2016). This was accomplished by generating additional variables that are uncorrelated with one another and that successively maximize variance. From the analysis, the Kaiser–Meyer–Olkin (KMO) measure verified the sampling adequacy for the analysis, KMO = 0.862. Bartlett's test of sphericity x^2 (231) = 2062.322, $p<0.05$, indicated that correlations between items were sufficiently large for PCA.

Table 3.7

Demographics of Pilot Study Participants

Category	Frequency	Percentage
Gender		
Male	13	3.6
Female	345	96.4
Age		
less than 31 years old	29	8.1
31 – 40 years old	121	33.8
41 – 50 years old	141	39.4
over 50 years old	67	18.7
Type of School		
Inclusive Schools	82	22.9
Special Schools	20	5.6
General Schools	256	71.5
Last Education		
Bachelor	348	97.2
Master	10	2.8
Teaching Experience		
1 – 10 years	83	23.2
11 – 20 years	175	48.9
21 – 30 years	80	22.3
More than 30 years	20	5.6
Have experience in joining professional development regarding inclusive education		
Yes	94	26.3
No	264	73.7
Have experience interacting with students who have special education needs		
Yes	243	67.9
No	115	32.1

Source: Research data result, 2021

An analysis was conducted to acquire eigenvalues for each constituent of the data. The analysis indicated five distinct components, each with an eigenvalue greater than 1, which collectively accounted for 53.205 percent of the variance. The first component accounted for 16.227% of the variance (eigenvalue = 3.570), the second component accounted for 11.151% of the variance (eigenvalue = 2.451), the third component accounted for 9.816% of the variance (eigenvalue = 2.160), the fourth component accounted for 8.511%

Table 3.8

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	2062.322
	df	231
	Sig.	.000

Source: Research data result from the pilot study, 2021

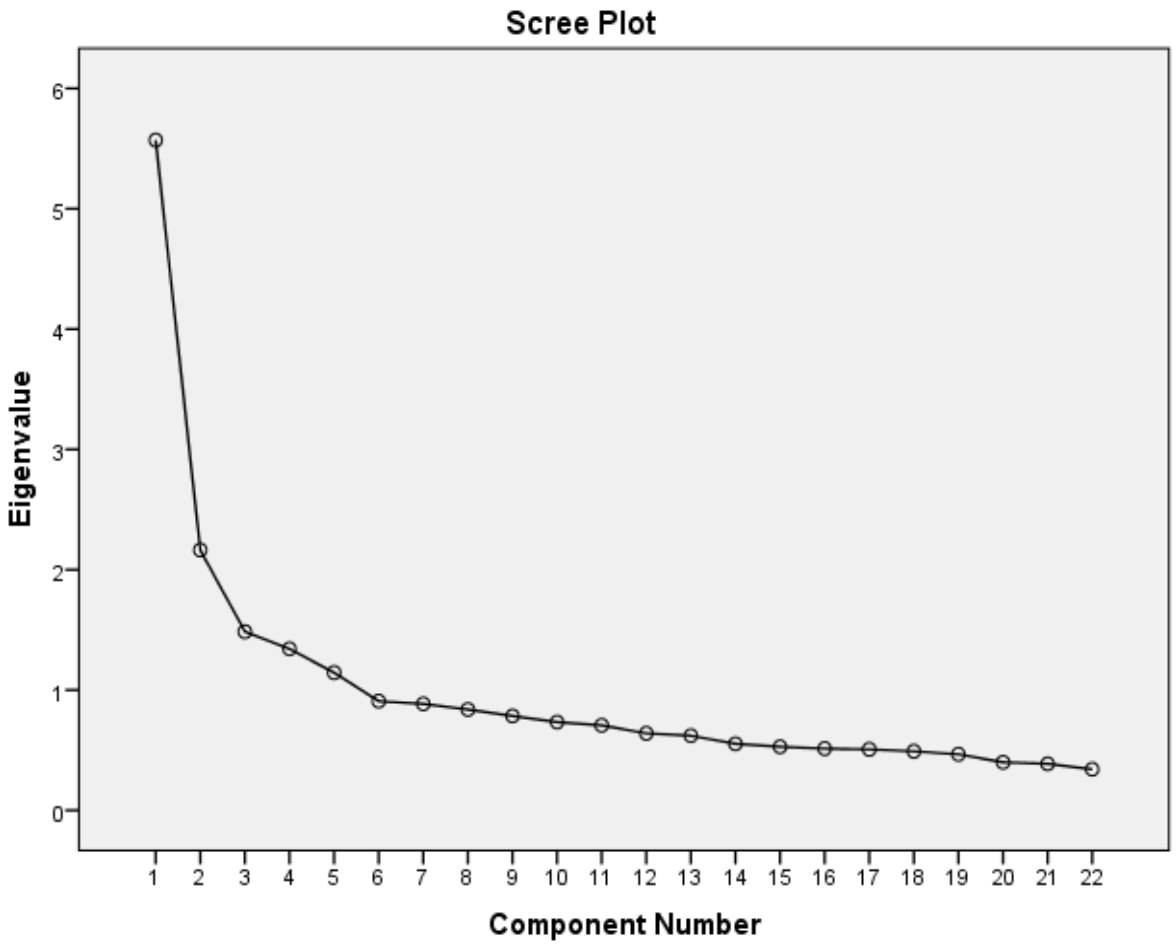
of the variance (eigenvalue = 1.872), and the fifth component accounted for 7.499% of the variance (eigenvalue = 1.650).

The analysis further revealed that there were eight items (items no.18, 13, 22, 20, 21, 12, and 10) in the first component, together with all four items (items no. 8, 7, 9, and 6), loaded on the second component, all the four items (items no 2, 1, 3, and 5) loaded on the third component, all the three items (items no 19, 16, and 4) loaded on the fourth component, and all the three items (items no. 15, 14, and 17) loaded on the fifth component.

These five components refer to three basic elements of attitude, namely cognitive, affective, and behavioral, of the ITAIE scale (Ediyanto, 2020). The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The second cognitive element was loaded in component one (items no.18, 13, 22, 20, 21, 12, and 10)

The affective component was also divided into two elements. The first element was teachers' concerns about teaching diverse students in inclusive classrooms. This first affective element is referred to as component four (items no. 19, 16, and 4). The second element was teachers' response to teaching in an inclusive classroom setting, loaded in component five (items no. 15, 14, and 17). The last element was the behavioral element,

Figure 3.2
Scree Plot for ITAIE Scale



Source: Research data result of the pilot study, 2021

which examined teachers' professional responsibilities for implementing inclusive education. The behavioral element is referred to as component two (item no. 8, 7, 9, and 6).

Reliability Test. The test instrument is said to have reliability if it can be measured steadily, meaning that even though the test is often used on the same sample for a short period, it will produce the same data. Reliability is needed to support the validity of a test instrument (Arikunto, 2012). A test may be reliable but invalid; however, a valid test is usually reliable. In quantitative research, the reliability of a tool is described statistically using correlation calculations by finding coefficients that range between 0 and 1. If the coefficient is close to 1, the instrument tool has high reliability.

Table 3.9

Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization.

	Component				
	1	2	3	4	5
Item no.18	.782	.121	.024	-.136	-.016
Item no.11	.677	.112	.060	.200	-.199
Item no.13	.653	.199	.170	-.123	.278
Item no.22	.634	.236	.152	.013	-.010
Item no.20	.584	.133	-.004	.186	-.273
Item no.21	.572	.035	.179	.240	.137
Item no.12	.560	.026	.193	.250	.080
Item no.10	.557	.343	.000	.027	.046
Item no.8	.177	.790	.064	.101	.008
Item no.7	.149	.742	.050	.093	.004
Item no.9	.279	.646	.188	.016	.163
Item no.6	.320	.516	.192	.157	-.222
Item no.2	.067	.118	.833	-.037	.085
Item no.1	.088	.027	.700	.081	.037
Item no.3	.308	.167	.622	.169	-.127
Item no.5	.109	.103	.473	.399	.063
Item no.19	.101	.057	.083	.707	.073
Item no.16	.104	.078	.026	.706	.145
Item no.4	.054	.326	.336	.481	.067
Item no.15	-.022	-.068	-.069	.018	.767
Item no.14	.045	.067	.187	.273	.692
Item no.17	-.016	.397	.014	.316	.478

Source: Research data result of the pilot study, 2021

The reliability test in the current study was carried out using SPSS 23 software through Cronbach's alpha statistical test. Based on these tests, information was obtained that the items tested had high reliability, with a Cronbach's alpha value of 0.741 (≥0.600). There is not much consensus on the precise standards for interpreting Cronbach's alpha (Streiner, 2003). However, in general, decision-making is based on two rules:

1) If the value of r arithmetic > r table, then the item is reliable.

2) The closer the value is to 1, the more reliable the question.

Table 3.10

Reliability Statistics for All Items

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.848	.848	22

Source: Research data result of the pilot study, 2021

Specifically, the coefficient is typically interpreted as follows:

1. $\alpha < 0.5$ indicates low reliability;
2. $0.5 < \alpha < 0.8$ indicates moderate (acceptable) reliability;
3. $\alpha > 0.8$ indicates high (excellent) dependability.

(Ekolu & Quainoo, 2019)

The total Cronbach's alpha reliability of the ITAIE scales for all components was 0.848 (see table 3.10). The Cronbach's alpha reliabilities of the sub-scales for the ITAIE scale were 0.816 for the first component, 0.745 for the second component, 0.676 for the third component, 0.548 for the fourth component, and 0.544 for the fifth component of the ITAIE scale. According to Hair et al. (2010), an acceptable factor loading value is more than 0.5. The analysis showed that the ITAIE scale was valid and reliable for Indonesian kindergarten teachers.

Questionnaire. Content validity was used to measure the validity of the current study's questionnaire and to ascertain whether the questionnaire contents were appropriate and relevant to the purpose of the study (Lam et al., 2018; Parsian & Dunning, 2009). Content validity was used in the current study because the questionnaire aimed to measure each element that played a role in determining the effectiveness of professional development. Also, content validity could see how well the dimensions and aspects of a concept of the questionnaire had been described (Sekaran, 2006).

Table 3.11

Reliability Statistics for All Components

Component	Cronbach's Alpha Based on Standardized Items	N of Items
1	.816	8
2	.745	4
3	.676	4
4	.548	3
5	.544	3

Source: Research data result of the pilot study, 2021

According to DeVon et al. (2007), content validity indicates content that reflects a complete set of attributes related to the study and is usually carried out by seven or more experts. However, Lynn (1986) argues that the minimum number of experts is three people, and the maximum is ten. Slocumb and Cole (1991) suggest that, when selecting experts for content validity, there should be a diverse perspective that includes both individuals who are considered experts in the content area and individuals that are experts in instrument development.

Therefore, the specific guidelines used to select the experts included in the current study were:

- They had the expertise needed to measure the validity of the questionnaire (i.e., secretary of the national kindergarten teacher association, researcher, lecturer, and kindergarten principals as users) (Lawshe, 1975; Slocumb & Cole, 1991)
- They had been in their current position for more than one year (Lawshe, 1975; Wynd & Schaefer, 2002).
- They were familiar with the teacher training program (Lawshe, 1975).
- They had at least a bachelor's degree (Grant & Davis, 1997; Wynd & Schaefer, 2002).

With their permission, those experts and their profiles are shown in Table 3.12.

Table 3.12

Profiles of Questionnaire Content Validation Experts

No	Name (Initial)	Code	Position	Institution	Expertise
1	Dr. DG, M.Pd	A	Book Writer, Researcher, Special Needs Teacher Trainer	PPPPTK TK and PLB, Ministry of Education	Primary Education, Inclusive Education
2	SM, SS, M.Pd	B	Researcher, An experiment post-test control design user	University of Education, Indonesia	Language, Japanese Language
3	RN, M.Pd	C	Lecturer, Head of Kindergarten Teacher Instructors, Indonesia.	IKIP Siliwangi, Jawa Barat.	Kindergarten Education, Non-Formal Education, Kindergarten Teachers Training
4.	SSHN, S.Psi., M.Pd.	D	Education practitioner, Academic and Teacher Program Development Team	Binekas Playschool, Bandung	Early Childhood Education
5.	EPH, S.Pd.	E	Secretary of National Kindergarten Teachers Association	National Kindergarten Teachers Association, Jakarta	Kindergarten Education, Kindergarten Teachers Organisation, Kindergarten Teachers Training
6.	UU, S.Pd, M.Pd	F	Kindergarten Principal	TK Darma Bangsa, Lampung	Kindergarten Education
7.	IA, S.Pd	G	Kindergarten Principal	Paramount School, Palembang	Kindergarten Education

In the current study, the experts were asked to determine whether the questionnaires were valid by considering: 1) the clarity of the wording, 2) the likelihood the target audience would be able to answer the questions, and 3) the layout and style (Parsian & Dunning, 2009). These criteria were narrowed down to a statement of whether the questionnaire was relevant or not.

The formulation to measure the validity of the questionnaire in the current study evaluated the content validity by using the Aiken's V coefficient (1985). Aiken (1985) formulated his content validity coefficient based on an evaluation by an expert panel of *n* people on an item regarding the extent to which the item represented the measured construct. The formula proposed by Aiken was as follows:

$V = \sum s / [n (c-1)]$

$s = r - lo$

Where

lo = lowest validity rating (e.g., 1)

c = highest validity rating (e.g., 5)

r = number given by the experts

The coefficient value of Aiken's V ranges from 0 to 1. Aiken (1985) suggested that the higher the value, the higher the validity of the questionnaire item. Each tested item's content validity coefficient (V value) must be greater than .69 to effectively reach a significant standard ($\alpha = .05$). The steps of validity measurement were as follows:

- The selected experts were given a questionnaire with each item containing a column that should be assessed, starting from very relevant, relevant, undecided, less relevant, and irrelevant.

Table 3.13

Right-Tail Probabilities (p) for Selected Values of the Validity Coefficient (V)

No. of Items (m) or Raters (n)	Number of Rating Categories (c)											
	2		3		4		5		6		7	
	V	p	V	p	V	p	V	p	V	p	V	P
2							1.00	0.40	1.00	0.28	1.00	.020
3							1.00	.008	1.00	.005	1.00	.003
3			1.00	.037	1.00	0.16	.92	.032	.87	.046	.89	.029
4					1.00	.004	.94	.008	.95	.004	.92	.006
4			1.00	.012	.92	.020	.88	.024	.85	.027	.83	.029
5			1.00	.004	.93	.006	.90	.007	.88	.007	.87	.007
5	1.00	.031	.90	.025	.87	.021	.80	.040	.80	.032	.77	.047
6			.92	.010	.89	.007	.88	.005	.83	.010	.83	.008
6	1.00	.016	.83	.038	.78	.050	.79	.029	.77	.036	.75	.041
7			.93	.004	.86	.007	.82	.010	.83	.006	.81	.008
7	1.00	.008	.86	.016	.76	.045	**.75**	.041	.74	.038	.74	.036
8	1.00	.004	.88	.007	.83	.007	.81	.008	.80	.007	.79	.007
8	1.00	.035	.81	.024	.75	.040	.75	.030	.72	.039	.71	.047
9	.88	.002	.89	.003	.81	.007	.81	.006	.78	.009	.78	.007
9	1.00	.020	.78	.032	.74	.036	.72	.038	.71	.039	.70	.040
10	1.00	.001	.85	.005	.80	.007	.78	.008	.76	.009	.75	.010
10	.90	.001	.75	.040	.73	.032	.70	.047	.70	.039	.68	.048

Source: Aiken, 1985.

Table 3.14

Experts Panel Evaluation

No	The average of the coefficient value of Aiken's V	Items Number	Total Items	Status
1	0.90 – 1	8, 9, 14, 20, 22, 43	6	Used
2	0.80 – 0.89	1, 2, 3, 10, 15, 21, 23, 25, 26, 27, 29, 30, 32, 37, 39, 41, 42, 44, 46	19	Used
3	0.75 – 0.79	4, 6, 7, 12, 18, 19, 28, 33, 36, 40, 45, 49	12	Used
4	0.70 – 0.74	24, 34, 35, 47	4	Removed
5	0.60 – 0.69	5, 11, 13, 16, 17, 31, 38	7	Removed
6	0.50 – 0.59	48, 50	2	Removed

Source: Questionnaire research analysis, 2020

- They encoded each value as very relevant (5), relevant (4), undecided (3), less relevant (2), irrelevant (1).
- They analyzed the assessment results of each expert with the formula Aiken's V through MS Excel 2016.
- They determined the coefficient V value of each questionnaire item and component.

An error rate for the questionnaire of the current study was set at 5% ($p < 0.05$).

From Aiken's table standard of V coefficient, the value of V for seven (7) experts with five (5) rating scales was minimal at 0.75 ($V \geq 0.75$) (see Table 3.13).

Before the validation process, the questionnaire consisted of 50 items oriented into 10 themes (Table 3.15): the effectiveness of the program, the competency-based program, the suitability of the program, administration of activity implementation, evaluation of the facilitator's performance, infrastructure supporting activities, activity material, duration of activity implementation, menu service, and the legal basis. After calculating the assessment obtained

Table 3.15

Questionnaire Before Expert Panel Validation

No	Questionnaire Indicator	Question Number	Number of Questions
1	Discover participants' responses to the implementation of in-on-in professional development in inclusive education (PDIE) as an active, innovative, creative, effective, and fun, professional development.	9, 15, 22, 27, 37, 46	6
2	Discover participants' responses to implementing the in-on-in PDIE, which is a competency based-programs on the ability of attitudes, skills, and knowledge.	1, 7, 20, 29, 43	5
3	Discover participants' responses related to the suitability of the implementation of the in-on-in PDIE in improving participants' skills and knowledge about inclusive education.	8, 39	2
4.	Discover participants' responses related to the facilitators' performance in teaching.	2, 6, 13, 18, 21, 24, 28, 30, 32, 34, 45, 49	12
5.	Discover participants' responses related to the administration of the implementation of the in-on-in PDIE.	14, 26, 33, 42	4
6.	Discover participants' responses related to the infrastructure that supports the activities in the implementation of the in-on-in PDIE.	5, 12, 16, 19, 25, 31, 35, 38, 41, 48, 50	11
7.	Discover participants' responses to the activity material used in the in-on-in PDIE.	4, 10, 36, 44	4
8.	Discover participants' responses related to the duration of the in-on-in PDIE.	3, 23	2
9.	Discover participants' responses related to the menu served in the in-on-in PDIE.	11, 17, 47	3
10.	Discover participants' responses related to the legal basis of the implementation of the in-on-in PDIE.	40	1
Total			50 items

Source: Instrument tool, 2020

Table 3.16

Questionnaire After Expert Panel Validation

No	Questionnaire Indicator	Question Number	Number of Questions
1	Discover participants' responses to the implementation of in-on-in professional development in inclusive education (PDIE) as an active, innovative, creative, effective, and fun, professional development.	8, 12, 17, 21, 27, 28, 36	7
2	Discover participants' responses to implementing the in-on-in PDIE, which is a competency based-program regarding the ability of attitudes, skills, and knowledge.	1, 6, 15, 23, 33	5
3	Discover participants' responses related to the suitability of the implementation of the in-on-in PDIE in improving participants' skills and knowledge about inclusive education.	7, 29	2
4.	Discover participants' responses related to the facilitator's performance in teaching.	2, 5, 13, 16, 22, 24, 25, 35, 37	9
5.	Discover participants' responses related to the administration of the implementation of the in-on-in PDIE	11, 20, 26, 32	4
6.	Discover participants' responses related to the infrastructure that supports the activities in the implementation of the in-on-in PDIE.	10, 14, 19, 31	4
7.	Discover participants' responses to the activity material used in the in-on-in PDIE.	4, 9, 34	3
8.	Discover participants' responses related to the duration of the in-on-in PDIE.	3, 18	2
9.	Discover participants' responses related to the legal basis of the implementation of the in-on-in PDIE.	30	1
Total			37 items

Source: Instrument tool, 2020

from the experts, it was determined that 37 items possess good content validity (V≥ 0.75), and 13 items had not reached a significant standard (V< 0.75). Therefore, 37 items were used for the final questionnaire (Table 3.16) and 13 items and 1 menu service theme were removed from the questionnaire.

Interview and a closed-item questionnaire. The interview guideline, questions, and another questionnaire were discussed with the experts and the study supervisor to see if the instruction and questions met the research question requirement.

Data Analysis

ITAIE scale. All data from the quantitative method was used to answer the first, second, and third research questions. Data analysis was applied using comparative statistics and data processing using SPSS 23. In order to determine the attitudes held by kindergarten principals, the average score (M) for each item was computed for the overall scale and each of the subscales (Atika, 2019). The range of the mean was as follows:

- A mean score higher than 3.5 (M > 3.5) was considered to indicate that kindergarten principals have a very positive attitude toward implementing inclusive education at kindergartens;
- A mean score between 1.3 and 3.5 (1.3 ≤ M ≤ 3.5) indicated a moderate attitude;
- A mean score lower than 1.3 (M <1.3) revealed a negative attitude of kindergarten principals toward implementing inclusive education at kindergartens.

A paired samples t-test was used to determine whether there were differences in the attitudes of kindergarten principals before and after the conventional and in-on-in professional development to determine whether there were any differences in the attitudes of kindergarten principals toward inclusive education. Then, a t-test with an independent sample was used to compare the attitudes of kindergarten principals who had participated the two

types of professional development to determine whether or not there was a significant difference between the two groups.

Paired samples t-test. The purpose of the paired samples t-test, which is a comparison test for samples that are correlated or paired, is to discover whether or not there are changes in the study before and after the intervention (Sugiyono, 2019; Maryanah, 2018). In the current study, the paired samples t-test was used to assess the attitudes of kindergarten principals before and after receiving professional development regarding inclusive education, including both conventional and in-on-in professional development. According to Ruxton and Neuhauser (2010) and Maryanah (2018), the significant value served as the decision-making guideline for the paired samples t-test.

- If the probability or significance value (sig. 2-tailed) was less than 0.05, then there was a significant difference between principals' attitudes in the pre-test and post-test data. This indicated an influence on the use of professional development in inclusive education for both the conventional and the in-on-in program. In other words, there was a significant difference between principals' attitudes in the pre-test and post-test data.
- On the other hand, if the significance value or (sig. 2-tailed) was more than 0.05, there was no significant difference between the principals' views in the pre-test and the post-test. Therefore, the kindergarten administrators' opinions did not change due to the professional development efforts.

The following was the theory that was proposed:

- Ha: After implementing professional development in inclusive education, there were noticeable improvements in the attitudes of school principals.
- Ha: The implementation of professional development in inclusive education did not result in any noticeable changes in the attitudes of principals.

Rationale:

- Ho was rejected if the probability or significance value (sig. 2-tailed) was less than 0.05 (<0.05), i.e., if there was a significant difference in the attitude of kindergarten principals to inclusive education between the pre-test and post-test. This calculation meant professional development was affected, either with or without intervention.
- Ho was accepted if the probability or significance value (sig. 2-tailed) was greater than 0.05 (> 0.05), i.e., if there was no significant difference in the attitude of kindergarten principals toward inclusive education between the pre-test and post-test. This calculation that professional development had no influence, regardless of whether there was an intervention.

Independent samples t-test. Independent samples t-test for different samples aimed to determine whether there was a difference in kindergarten principals' attitude if they were in the experimental or control class. The independent t-test was applied to the current study since it is an appropriate statical method to understand the difference between the two independent means of each variable (Rochon et al., 2012; Kellermann et al., 2013). The decision-making guideline in the independent samples t-test was based on the significant value and comparison of the t-*table* with the t-*statistic* (Ruxton, & Neuhäuser, 2010; Maryanah, 2018).

- If the probability value or sig. (2-tailed) was lower than 0.05 (<0.05), or if the value of the t-*statistic* was higher than the value of the t-*table* (t-*statistic* > t-*table*), it meant there was a significant difference between learning outcomes in the experimental class and the control class, indicating that the intervention made a substantial in changing kindergarten principals' attitudes.
- Conversely, if the value of probability or sig. (2-tailed) was higher than 0.05 (> 0.05), or if the value of the t-*statistic* was less than the t-*table* (t-*statistic* < t-*table*), then

there was no significant difference between learning outcomes in the experimental class and the control class. It meant there was no influence on the use of in-on-in professional development in inclusive education in changing kindergarten principals' attitudes.

The hypothesis proposed was as follows:

- Ha: There were differences in kindergarten principals' attitudes before and after using in-on-in professional development in inclusive education.
- Ho: There were no differences in kindergarten principals' attitudes before and after using in-on-in professional development in inclusive education.

Rationale:

- Ho was rejected if the probability or significance value (sig. 2-tailed) was less than 0.05 (<0.05), so there was a significant difference in the attitude of kindergarten principals to inclusive education between those getting interventions in professional development in inclusive education with those not receiving.
- Ho was accepted if the probability or significance value (sig. 2-tailed) was greater than 0.05 (> 0.05), so there was no significant difference in the attitude of kindergarten principals toward inclusive education between those getting interventions in professional development in inclusive education with those not receiving the intervention.

Three-way ANOVA. A three-way ANOVA was used to determine the interaction effect among the three independent variables of principals' age, domicile, and experience in professional development about inclusive education on a dependent variable of principals' attitudes toward inclusive education. The interaction between two independent variables was also revealed. In addition, a Tukey's HSD post-doc test was applied to find the significant

differences between groups of kindergarten principals in age, domicile, and experience in professional development in inclusive education.

Program Effectiveness. Two analyses were conducted to determine the effectiveness of professional development. Each analysis used different data to support the study's findings regarding the effectiveness of professional development.

Questionnaire analysis. Questionnaire data analysis was used to determine participants' responses to applying in-on-in professional development to change principals' attitudes toward inclusive education and improve their competencies. The questionnaire data processing technique was carried out using the following steps:

1. Added up each questionnaire answer based on several aspects
2. Arranged the frequency of answers
3. Made a frequency table
4. Calculated the frequency presentation of each answer with the following formula.

$$\mathbf{P} = \frac{f}{n} x100\%$$

Information:
P = Percentage
f = number of answers
n = number of participants

5. Interpreted the questionnaire results guided by the following table (Table 3.17).

*Pre-test and post-test analysis using ANCOVA***.** ANCOVA was used for pre- and post-test analysis. ANCOVA is a hypothesis testing formula useful for increasing research precision because the researcher adjusts the influence of other variables (Mackey & Gass, 2015). The purpose of ANCOVA was to determine the effect of treatment on the dependent variable by controlling other variables, which in the current study was the result of the post-test.

Table 3.17

Classification of Percentage Calculations

No	Percentage Interval	Participants Information
1	0%	Nobody
2	01%–25%	A small portion
3	26%–49%	Almost half
4	50%	Half
5	51%–75%	More than half
6	76%–95%	Most
7	96%–99%	Almost all
8	100%	All

Source: Sudijono, 2008

The hypothesis for this analysis was:

- Ho = There was no significant difference in the competence of kindergarten principals between principals who participated in professional development with in-on-in versus traditional professional development.
- Ha = There was a significant difference in the competence of kindergarten principals between principals who participated in professional development with in-on-in as an intervention program and principals who participated in traditional professional development.

In addition, the standards for acceptance and rejection of hypotheses were:

- Ho was accepted and Ha was rejected if the value of sig > 0.05
- Ho was rejected and Ha was accepted if the value of sig < 0.05

Descriptive analysis using the R tool. Descriptive analysis was applied to determine the most important concepts for professional development regarding inclusive education for kindergarten principals (RQ5). The R tool was used because it has been proven to be powerful and flexible for performing meta-analysis (Balduzzi et al., 2019). In the current study, descriptive analysis using R determined how principals with different domiciles, ages,

and experiences selected the contents that met their needs and enabled them to implement inclusive education.

The data from the questionnaire were stored as a new script editor on R Studio. Then, the data were imported and stored in an object called a variable. After using special formulas and functions to analyze the data, the results of the text data were then visualized in images to clarify the analysis results.

Interview Analysis. The contents of the interview recordings were transcribed. Since the original interviews were conducted in Bahasa, the transcriptions were translated into English. Thematic analysis (TA) was applied to the interview analysis to determine similar topics and organize them into themes. TA was chosen for this interview analysis because, according to Clarke et al. (2017), TA can identify, analyze, and interpret ideas in a qualitative study, as well as identify the patterns of participants' experiences, attitudes, positive psychology, and personal or social meaning around a topic (Clarke et al., 2017). The six steps of the thematic analysis were adapted based on Braun and Clarke's (2012) model.

- Familiarizing the data

  The interview recordings were transcribed and read many times to make sense of the data.

- Generating initial codes

  The key themes of the data were highlighted.

- Searching for themes

  The themes related to the research questions were understood.

- Reviewing potential themes

  The themes created were reviewed and checked in light of all data.

- Defining and naming themes

  A unique and specific name was created for each theme.

Figure 3.3 Process of Interview Analysis

Source: Braun and Clarke, 2012

- Producing the Report

  Logic and meaningful themes were used to present the data findings.

Ethical Considerations

All participants were volunteers; however, they should meet some criteria as the study participants. They were assured of their confidentiality and anonymity in the current study. Furthermore, research permits were also issued by the Ministry of Education and Culture through the PPPPTK TK and PLB and the National Association of Kindergarten Teacher Instructors, Indonesia.

The researcher had also previously passed the Research Ethics Courses (Basic and Advanced Level) organized by Hiroshima University as a part of his doctoral study. This course ensured that no dishonest or inappropriate acts, such as fabrication, falsification, or plagiarism, were conducted during the research.

CHAPTER IV

RESULTS

Introduction

Demographic information. In the current study, 120 kindergarten principals from 23 in Indonesia participated; 60 joined the control class, and 60 joined the experiment class (see Table 4.1). Most participants came from Jawa Barat (*n* = 14), as Jawa Barat is the professional development center. Eleven provinces did not send participants as most of these provinces were from the eastern part of Indonesia where there are struggles with acquiring regular internet access. However, the participants from the 23 provinces were considered adequate to represent the existence of kindergarten principals in Indonesia.

Most of the kindergarten principals who joined the professional development were from regular kindergartens (90.85%, *n* = 109), and the rest were from inclusive kindergartens (9.15%, *n* = 8). Most of the principals had 11–20 years or teaching experience; 63.3% (n = 38) for the experiment class and 65% (n = 39) for the control class.

Among the participants in the experiment class, 98.3% (n = 59) were female, and 1.7% (n = 1) were male. In the control class, 96.7% (n = 58) were female, and 3.3% (n = 2) were male. Most of them had their bachelor's degree; 78.3% (n = 47) in the experiment class and 81.7% (n = 49) in the control class. The remaining participants had master's degrees.

More than half the participants in both groups were from 41–50 years old, with 53.3% (n = 32) in the experiment class and 51.7% (n = 31) in the control class. The second-largest age range for participants was from 31–40 years old, with 23.3% (n = 23.3) in the experiment class and 30% (n = 18) in the control class.

Table 4.1

Participant Demographic Information Based on Province.

No	Province	Experiment Class		Control Class	
		Frequency	Percentage	Frequency	Percentage
1.	Aceh	6	10.0	5	8.3
2.	Sumatera Utara	4	6.7	3	5.0
3.	Sumatera Barat	2	3.3	1	1.7
4.	Jambi	4	6.7	6	10.0
5.	Sumatera Selatan	3	5.0	2	3.3
6.	Lampung	2	3.3	3	3.3
7.	Kepulauan Bangka Belitung	1	1.7	4	6.7
8.	DKI Jakarta	1	1.7	1	1.7
9.	Jawa Barat	14	23.3	12	20.0
10.	Jawa Tengah	2	3.3	1	1.7
11.	D.I. Yogyakarta	2	3.3	0	0
12.	Jawa Timur	4	6.7	5	8.3
13.	Banten	1	1.7	0	0
14.	Bali	1	1.7	3	5.0
15.	Nusa Tenggara Barat	4	6.7	4	6.7
16.	Kalimantan Barat	1	1.7	1	1.7
17.	Kalimantan Tengah	2	3.3	2	3.3
18.	Kalimantan Timur	2	3.3	1	1.7
19.	Sulawesi Utara	0	0.0	2	3.3
20.	Sulawesi Tengah	0	0.0	2	3.3
21.	Sulawesi Selatan	1	1.7	2	3.3
22.	Sulawesi Tenggara	2	3.3	0	0.0
23.	Maluku Utara	1	1.7	0	0.0
Total		60	100.0	60	100.0

Source: Results from data analysis, 2021

Most participants, 68.3% (n = 41) for the experiment class and 71.7% (n = 47) for the control class, stated that they had never had training experience in inclusive education. Meanwhile, almost all the participants reported that they had experience interacting with special needs students, 98.3% (n = 59) for the experiment class and 91.7% (n = 55) for the control class. The demographic information of participants in the current study can be seen in Table 4.2.

Table 4.2

Demographic Information of the Participants of the Current Study

Category	Experiment Class		Control Class	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Gender				
Female	59	98.3	58	96.7
Male	1	1.7	2	3.3
Age (years)				
21-30	4	6.7	3	5.0
31-40	14	23.3	18	30.0
41-50	32	53.3	31	51.7
51-60	10	16.7	8	13.3
Kind of Kindergarten				
Regular	52	86.7	57	95.0
Inclusive	8	13.3	3	5.0
Highest Educational Background				
Bachelor	47	78.3	49	81.7
Master	13	21.7	11	18.3
Teaching Experience (years)				
1-10	9	15.0	10	16.7
11-20	38	63.3	39	65.0
21-30	9	6.7	11	18.3
>30	4	6.7	0	0.0
Experience in training in inclusive education				
Never	41	68.3	43	71.7
Ever	19	31.7	17	28.3
Experience in interacting with special needs students				
Never	1	1.7	5	8.3
Ever	59	98.3	55	91.7
Total	60	100.0	60	100.0

Source: Results from data analysis, 2021

Homogeneity test. A homogeneity test is conducted to determine whether two or more sample data groups come from homogeneous populations with the same variance (Sugiyono, 2011). This test is required before carrying out other tests, such as a t-test and ANOVA.

The decision-making rules for the homogeneity test are as follows:

- If the sig. value is more than 0.05, the data distribution is homogeneous.
- If the sig. value is less than 0.05, the data distribution is not homogeneous.

Table 4.3

Result of Sig. Value of the Homogeneity Test.

Levene Statistic	df1	df2	Sig
3.077	1	118	.082

Source: Result from data analysis, 2021

From the pre-test result in both the control and experiment classes, the sig. value was more than 0.05, (0.082, Table 4.3). This shows that the data distribution was homogeneous.

Normality test. A normality test is intended to assess the distribution of data in a group of data or variables and determine whether the data are normally distributed. In the current study, the Kolmogorov–Smirnov test was applied to measure the normality of the data.

When data do not have a substantial or standard difference compared to the standard normal, they have a normal distribution. If the Kolmogorov–Smirnov or a similar test is used, the variable is considered to have a normal distribution if the significance value is greater than or equal to 0.05. However, if the significance is lower than 0.05, this indicates that the variables or data re not normally distributed.

Table 4.4 shows that, in this study, the significance was more than 0.05, meaning there was no significant difference between the data to be examined and the standard normal data. This means that the data were normally distributed.

Table 4.4

Result of the Kolmogorov Smirnov test

		Unstandardized Residual
N		120
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	15.94634653
Most Extreme Differences	Absolute	.072
	Positive	.064
	Negative	-.072
Test Statistic		.072
Asymp. Sig. (2-tailed)		.187[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: Results from data analysis, 2021

Overview of the implementation of the professional development program in inclusive education. Originally, the expectation was that the professional development for control and experiment classes would be held offline in four different places in Indonesia. Unfortunately, because of the COVID-19 pandemic, all classes were conducted online using the Zoom application. However, the in-on-in intervention was completed online and offline for the experiment class. In the online scenario, participants (n = 120) were asked to prepare for the learning program in an inclusive and offline setting and to implement the learning program they made for their students both online and offline.

The professional development took 10 days for the control and experiment classes, with between five and six hours of class a day. For the experiment class, the participants completed five days of online training, three days of implementation, and two days of focus group discussion (FGD). The control class participants joined five days of online training, three days of peer teaching, and two days of focus group discussion (FGD).

The National Training Center provided the guideline for professional development for Kindergarten and Special Needs Education Teachers (PPPPTK TK and PLB) as the official teacher training center under the Ministry of Education, Indonesia. In addition, for the committee, tutors and technical helpers were supported by National Kindergarten Tutors (Ikatan NS-IN TK, Indonesia). This cooperation among National Kindergarten Tutors (Ikatan NS-IN TK, Indonesia), National Training Center for Kindergarten and Special Needs Education Teachers (PPPPTK TK and PLB), and the researcher, allowed the online training to function well and without any significant impediments.

Quantitative Analysis

Indonesian kindergarten principals' attitudes toward inclusive education in the control group before the professional development. In the current study, kindergarten principals from more than half provinces in Indonesia (n = 60) joined the professional development in the control class. Before beginning of the professional development, in addition to a series of pre-tests, the participants were given the opportunity to answer questions on a questionnaire concerning their attitudes toward inclusive education.

To indicate the general level of the attitudes, the following will serve as the range of the mean (Atika, 2019):

- It was determined that kindergarten administrators have a highly positive attitude toward inclusive education at kindergartens if their mean score is greater than 3.5 ($M > 3.5$),
- A mean score between 1.3 and 3.5 ($1.3 \leq M \leq 3.5$) indicated a moderate attitude.
- A mean score lower than 1.3 ($M < 1.3$) revealed an unfavorable attitude of toward implementing inclusive education in kindergartens.

Table 4.5
Mean Score for the Control Group Before the Professional Development

Statistics		Value
N	Valid	60
	Missing	0
Mean		3.0098
Std. Deviation		.44670
Minimum		1.50
Maximum		4.09

Source: Results from data analysis, 2021

Before participating in the professional development opportunity, members in the control group had a mean score of 3.0, ranging from 1.3 to 3.5. Most participants seemed to have a moderate attitude toward inclusive education.

The attitudes toward inclusive education from kindergarten principals in the control group were measured based on the analysis of the eigenvalues for each component in the data. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5).
- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The second cognitive element was loaded in component one (items no.18, 13, 22, 20, 21, 12, and 10)
- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. This first affective element referred to component four (items no. 19, 16, and 4).

Table 4.6

Mean Score for the First Cognitive Element Before Professional Development in Control Class

		item1	item2	item3	item5	Overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		2.2167	2.1833	2.8000	3.6667	2.7167
Std. Deviation		.97584	.91117	1.14685	.98577	.59920
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	4.25

Source: Results from data analysis, 2021

- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no. 15, 14, and 17).
- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6).

The result of the overall mean of every category was as follows:

- In the first cognitive element, the beliefs in implementing inclusive education in the school setting, the principals' attitudes were moderate, with an overall mean of 2.7 (Table 4.6).
- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The overall mean was 2.8 (Table 4.7), which meant moderate attitude.
- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. The average attitude was 2.9 and considered moderate (Table 4.8).
- The second affective element was teachers' response to teaching in an inclusive classroom setting. The average attitude was 2.8 and considered moderate (Table 4.9).

Table 4.7

Mean Score for the Second Cognitive Element Before Professional Development in Control Class

		Item10	Item12	Item13	Item18	Item20	Item21	Item22	Overall mean
N	Valid	60	60	60	60	60	60	60	60
	Missing	0	0	0	0	0	0	0	0
Mean		3.1167	2.1167	1.7333	3.2000	3.0167	3.7833	2.9333	2.8429
Std. Deviation		1.27680	.94046	1.00620	.85964	1.15702	.88474	1.17699	.49186
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.14
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.86

Source: Results from data analysis, 2021

Table 4.8

Mean Score for the First Affective Component Element Before Professional Development in Control Class

		item19	item16	item4	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		2.7500	3.0833	3.0333	2.9556
Std. Deviation		.98506	1.02992	1.11942	.76522
Minimum		1.00	1.00	1.00	1.33
Maximum		5.00	5.00	5.00	4.67

Source: Results from data analysis, 2021

- The last element was the behavioral element. The behavioral element identified teachers' professional responsibilities in implementing inclusive education. Principals' attitudes toward the behavioral element were moderate (2.7), as shown in Table 4.10.

Table 4.9

Mean Score for the Second Affective Element Before Professional Development in Control Class

		item15	item14	Item17	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		3.1000	1.7500	3.7500	2.8667
Std. Deviation		1.03662	.98506	.75071	.59565
Minimum		1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	4.67

Source: Results from data analysis, 2021

Table 4.10

Mean Score for Behavioral Element Before Professional Development in Control Class

		item8	item7	Item9	Item6	Overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		3.5333	2.6667	3.2167	1.7500	2.7917
Std. Deviation		1.08091	1.09956	1.05913	.91364	.61266
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	4.00

Source: Results from data analysis, 2021

Table 4.11

Mean Score for Control Group After Professional Development

Statistics		Value
N	Valid	60
	Missing	0
Mean		3.1265
Std. Deviation		.42303
Minimum		2.18
Maximum		4.27

Source: Results from data analysis, 2021

After the professional development, Indonesian kindergarten principals' attitudes toward inclusive education in the control group. Based on the analysis, it was found that the principals' attitudes toward inclusive education were 3.1 (Table 4.11). A mean score between 1.3 and 3.5 indicated a moderate attitude. Furthermore, it was clear that the attitudes remained the same.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). The overall mean was 2.7 (Table 4.12), which meant moderate attitude.

Table 4.12

Mean Score for First Cognitive Element After Professional Development in Control Class

		item1	item2	item3	item5	overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		1.9500	2.1167	3.2333	3.7833	2.7708
Std. Deviation		.89110	.78312	1.01458	1.00998	.53538
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	4.00

Source: Results from data analysis, 2021

- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The overall mean was 3.0 (Table 4.13), indicating a moderate attitude.
- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. The average attitude was 3.0 and was considered moderate (Table 4.14).
- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no 15, 14, and 17). The average attitude was 2.8 (Table 4.15) and was considered moderate.
- The last element was the behavioral element. The behavioral element examines teachers' professional responsibilities in implementing inclusive education. Principals' attitudes toward the behavioral element were moderate (2.8), as shown in Table 4.16.

Table 4.13

Mean Score for Second Cognitive Element After Professional Development in Control Class

		Item10	Item12	Item13	Item18	Item20	Item 21	Item22	Overall mean
N	Valid	60	60	60	60	60	60	60	60
	Missing	0	0	0	0	0	0	0	0
Mean		3.3333	1.8667	1.5000	3.3000	3.3000	4.1667	3.5500	3.0024
Std. Deviation		.95077	.87269	.67648	.69624	.88872	.66808	.92837	.36397
Minimum		1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.86
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.86

Source: Results from data analysis, 2021

Table 4.14

Mean Score for First Affective Element After Professional Development in Control Class

		item19	item16	Item4	overall mean
	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		2.7667	3.0000	3.4000	3.0556
Std. Deviation		.92730	1.13496	.94241	.73689
Minimum		1.00	1.00	2.00	1.67
Maximum		5.00	5.00	5.00	5.00

Source: Results from data analysis, 2021

Table 4.15

Mean Score for Second Affective Element After Professional Development in Control Class

		item15	item14	item17	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		3.3833	1.4500	3.8000	2.8778
Std. Deviation		.92226	.67460	.68396	.50596
Minimum		2.00	1.00	3.00	2.00
Maximum		5.00	5.00	5.00	4.00

Source: Results from data analysis, 2021

Table 4.16

Mean Score for Behavioral Element After Professional Development in Control Class

		item8	item7	item9	item6	overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		3.5667	2.7500	3.2167	1.7333	2.8167
Std. Deviation		.96316	1.06763	1.05913	.63424	.56348
Minimum		1.00	1.00	1.00	1.00	1.50
Maximum		5.00	5.00	5.00	3.00	4.00

Source: Results from data analysis, 2021

Table 4.17

Mean Score for Experiment Group Before Professional Development

N	Valid	60
	Missing	0
Mean		2.8758
Std. Deviation		.36545
Minimum		1.95
Maximum		3.59

Source: Results from data analysis, 2021

Indonesian kindergarten principals' attitudes toward inclusive education in the experiment group before the professional development. Before participating in the professional development, principals in the experiment class scored 2.8 on their attitudes toward inclusive education. A moderate disposition was indicated by a mean score falling anywhere between 1.3 and 3.5, so the mean attitude for the experiment class before the professional development was considered moderate.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). The overall mean was 2.7 (Table 4.18), which meant moderate attitude

Table 4.18

Mean Score for First Cognitive Element Before Professional Development in Experiment Class

		item8	item7	item9	item6	overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		1.9500	2.3833	3.1500	3.6500	2.7833
Std. Deviation		.98161	1.02662	1.16190	1.13234	.66934
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		4.00	5.00	5.00	5.00	4.25

Source: Results from data analysis, 2021

- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The overall mean was 2.8 (Table 4.19), which meant moderate attitude.
- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. The average attitude was 2.9 and was considered moderate (Table 4.20).
- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no 15, 14, and 17). The average attitude was 2.8 (Table 4.21) and was considered moderate.
- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. Principals' attitudes toward the behavioral element were moderate (2.9), as shown in Table 4.22.

Table 4.19

Mean Score for Second Cognitive Element Before the Professional Development in Experiment Class

		Item10	Item12	Item13	Item18	Item20	Item 21	Item22	overall mean
N	Valid	60	60	60	60	60	60	60	60
	Missing	0	0	0	0	0	0	0	0
Mean		3.2833	2.0500	1.7333	2.9833	3.0000	3.6167	3.0500	2.8167
Std. Deviation		1.23634	1.03211	1.02290	1.04948	1.02511	1.29001	1.08025	.53003
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.43
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	3.86

Source: Results from data analysis, 2021

Table 4.20

Mean Score for First Affective Element Before the Professional Development in Experiment Class

		Item19	Item16	Item4	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		2.7500	3.0167	3.0167	2.9278
Std. Deviation		.96770	1.08130	1.03321	.70802
Minimum		1.00	1.00	1.00	1.00
Maximum		4.00	5.00	5.00	4.33

Source: Results from data analysis, 2021

Table 4.21

Mean Score for Second Affective Element Before Professional Development in Experiment Class

		Item15	Item14	Item17	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		3.1000	1.8000	3.7167	2.8722
Std. Deviation		.95136	.98806	1.02662	.53182
Minimum		1.00	1.00	1.00	1.33
Maximum		4.00	5.00	5.00	4.00

Source: Results from data analysis, 2021

Table 4.22

Mean Score for Behavioral Element Before Professional Development in Experiment Class

		Item8	Item7	Item9	Item6	Overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		3.5167	2.8833	3.4167	1.8167	2.9083
Std. Deviation		1.04948	1.05913	1.21141	1.08130	.63441
Minimum		1.00	1.00	1.00	1.00	1.50
Maximum		4.00	5.00	5.00	5.00	4.25

Source: Results from data analysis, 2021

Table 4.23

Mean Score for Experiment Class After Professional Development

N	Valid	60
	Missing	0
Mean		3.6545
Std. Deviation		.51352
Minimum		2.14
Maximum		4.77

Source: Results from data analysis, 2021

Indonesian kindergarten principals' attitudes toward inclusive education in experiment class after the professional development. Kindergarten principals' attitude toward inclusive education after professional development was 3.6. A mean score of more than 3.5 indicated a positive attitude.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). The overall mean was 3.9 (Table 4.24), meaning the attitude was positive.
- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The overall mean was 3.6 (Table 4.25), which meant the attitude was positive.

Table 4.24

Mean Score for First Cognitive Element After Professional Development in Experiment Class

		Item1	Item2	Item3	Item5	Overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		4.3667	4.1500	3.3667	3.7833	3.9167
Std. Deviation		.71228	.63313	1.08872	1.26346	.62887
Minimum		3.00	3.00	1.00	1.00	2.50
Maximum		5.00	5.00	5.00	5.00	5.00

Source: Results from data analysis, 2021

- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. The average attitude was 3.1 and considered moderate (Table 4.26).
- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no 15, 14, and 17). The average attitude was 3.7 and considered positive (Table 4.27).
- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6). Principals' attitudes toward the behavioral element were positive (3.5), as shown in Table 4.28.

Table 4.25

Mean Score for Second Cognitive Element After Professional Development in Experiment Class

		item10	item12	item13	item18	item20	item21	item22	Overall mean
N	Valid	60	60	60	60	60	60	60	60
	Missing	0	0	0	0	0	0	0	0
Mean		3.4333	4.2333	4.3000	3.1333	3.1500	4.0167	3.5167	3.6833
Std. Deviation		1.21246	.98060	1.09390	.92913	1.16190	1.03321	1.06551	.58819
Minimum		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.86
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	4.71

Source: Results from data analysis, 2021

Table 4.26

Mean Score for First Affective Element After Professional Development in Experiment Class

		Item19	Item16	Item4	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		2.9333	3.1667	3.4333	3.1778
Std. Deviation		.98921	1.16687	1.06352	.73253
Minimum		1.00	1.00	1.00	1.33
Maximum		5.00	5.00	5.00	5.00

Source: Results from data analysis, 2021

Table 4.27

Mean Score for Second Affective Element After Professional Development in Experiment Class

		Item15	Item14	Item17	Overall mean
N	Valid	60	60	60	60
	Missing	0	0	0	0
Mean		3.3000	4.2667	3.7667	3.7778
Std. Deviation		1.06246	1.07146	1.06352	.73047
Minimum		1.00	1.00	1.00	1.33
Maximum		5.00	5.00	5.00	5.00

Source: Results from data analysis, 2021

Table 4.28

Mean Score for Behavioral Element After Professional Development in Experiment Class

		Item8	Item7	Item9	Item6	Overall mean
N	Valid	60	60	60	60	60
	Missing	0	0	0	0	0
Mean		3.5833	3.0333	3.5333	4.0333	3.5458
Std. Deviation		.88857	1.11942	1.11183	.75838	.65174
Minimum		2.00	1.00	1.00	1.00	1.33
Maximum		5.00	5.00	5.00	5.00	5.00

Source: Results from data analysis, 2021

The different attitudes of kindergarten principals toward inclusive education in the control class before and after professional development. Paired samples t-test comparison tests for correlated or paired samples aims to determine whether there are differences in the study before and after the treatment (Sugiyono, 2019; Maryanah, 2018).

According to Ruxton and Neuhauser (2010) and Maryanah (2018), the significant value is the basis for the decision-making guideline in the paired samples t-test.

- If the probability or significance value (sig. 2-tailed) is less than 0.05 (<0.05), then there is a significant difference between principals' attitudes in the pre- and post-test data. This indicates an influence on the use of professional development in inclusive education both for conventional and in-on-in programs.
- On the other hand, if the probability value or sig. (2-tailed) is more than 0.05 (> 0.05), then it may be deduced that there is no significant difference between the pre- and post-test attitudes held by principals. It suggests that professional development in inclusive education does not influence improving the views of kindergarten administrators.

The paired samples t-test was used to examine the differences in the attitudes of kindergarten principals regarding inclusive education both before and after participating in professional development. The control class served as the research population. The outcome may be seen in the table below (Table 4.29)

The outcome of the probability value for the paired samples t-test was 0.144, as can be seen in the table. This shows that there was not a significant difference in the attitudes of principals in the control class before and after they participated in professional development since the significance level for the 2-tailed test was greater than 0.05 (> 0.05).

Table 4.29

Paired Samples T-Test for Control Class

	Paired Differences			
	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Pair 1 VAR00001-VAR00002	-.11212	.58639	.07570	.144

Source: Results from data analysis, 2021

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5).

  Interpretation: The value of sig (2-tailed) was 0.624. There was no significant difference in the first principals' cognitive elements before and after the professional development in the control class (sig. (2-tailed) > 0.05). See Table 4.30 and Table 4.31.

- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The second cognitive element was loaded in component one (item no.18, 13, 22, 20, 21, 12, and 10).

  Interpretation: There was a significant improvement in the second principal's cognitive element before and after the professional development in the control class (sig. (2-tailed) < 0.05) (although still moderate attitude). See Tables 4.32 and Table 4.33.

Table 4.30

Average Mean Before and After Professional Development for First Element of Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePD	2.7167	60	.59920	.07736
	meanafterPD	2.7708	60	.53538	.06912

Source: Results from data analysis, 2021

Table 4.31

Paired Samples T-Test for First Element of the Control Class

		Paired Differences					t	df	Sig (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	meanbeforePD - meanafterPD	-05417	.85258	.11007	-27441	16608	-492	59	.624

Source: Result data analysis, 2021

Table 4.32

Average Mean Before and After Professional Development for Second Element of Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePD	2.8429	60	.49186	.06350
	meanafterPD	3.0024	60	.36397	.04699

Source: Results from data analysis, 2021

Table 4.33

Paired Samples T-Test for Second Element of Control Class

		Paired Differences					t	df	Sig (2-tailed)
				Std. Error	95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Mean	Lower	Upper			
Pair 1	meanbeforePD-meanafterPD	-15952	.56479	.07291	-30542	-01362	-2.188	59	.033

Source: Results from data analysis, 2021

- The affective component was also divided into two elements. The first element concerned teachers' concerns about teaching diverse students in inclusive classrooms. This first affective element referred to component four (items no. 19, 16, and 4). Interpretation: There was no significant difference in the principals' third element before and after the professional development in the control class (sig. (2-tailed) > 0.05); see Tables 4.34 and 4.35.
- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no. 15, 14, and 17). Interpretation: There was no significant difference in the principals' second affective element before and after the professional development in the control class (sig. (2-tailed) > 0.05); see Tables 4.36 and 4.37.
- The last element was the behavioral element. The behavioral element addressed teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6). Interpretation: There was no significant difference in the principals' behavioral elements before and after the professional development in the control class (sig. (2-tailed) > 0.05); see Tables 4.38 and 4.39.

Table 4.34

Average Mean Before and After Professional Development for Third Element of Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePD	2.9556	60	.76522	.09879
	meanafterPD	3.0556	60	.73689	.09513

Source: Results from data analysis, 2021

Table 4.35

Paired Samples T-Test for Third Element of Control Class

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig (2-tailed)
Pair 1	meanbeforePD-meanafterPD	-10000	1.03480	.13359	-36732	.16732	-749	59	.457

Source: Results from data analysis, 2021

Table 4.36

Average Mean Before and After Professional Development for Fourth Element of Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePD	2.8667	60	.59565	.07690
	meanafterPD	2.8778	60	.50596	.06532

Source: Results from data analysis, 2021

Table 4.37

Paired Samples T-Test for Fourth Element of Control Class

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig (2-tailed)
Pair 1	meanbeforePD-meanbeforePD	-01111	.79539	.10268	-21658	.19436	-108	59	.914

Source: Results from data analysis, 2021

Table 4.38

Average Mean Before and After Professional Development for Fifth Element of Control Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePD	2.7917	60	.61266	.07909
	meanafterPD	2.8167	60	.56348	.07275

Source: Results from data analysis, 2021

Table 4.39

Paired Samples T-Test for Fifth Element of Control Class

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig (2-tailed)
Pair 1	VAR00001-VAR00002	-02500	.79950	.10321	-23153	.18153	-242	59	.809

Source: Results from data analysis, 2021

Table 4.40

Paired Samples T-Test for Experiment Class

	Paired Differences			
	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Pair 1 VAR00001-VAR00002	-.77879	.62601	.08082	.000

Source: Results from data analysis, 2021

The different attitudes of kindergarten principals toward inclusive education before and after professional development in the experiment class. For the experiment class, the average mean of the principal kindergarten attitudes toward inclusive education before and after professional development was also analyzed using paired samples t-test. The result can be seen below (Table 4.40). In the case of the paired samples t-test, the probability value was found to be 0.000. Because it was less than 0.05 (0.05), there was a significant difference in the attitudes held by principals in the experiment class before and after they participated in professional development.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). As shown in Table 4.42, there was a significant difference in the first principals' cognitive element before and after the professional development in the experiment class (sig. (2-tailed) < 0.05).

Table 4.41

Average Mean Before and After the Professional Development for First Element of Experiment Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePDeks	2.7833	60	.66934	.08641
	meanafterPDeks	3.9167	60	.62887	.08119

Source: Results from data analysis, 2021

Table 4.42

Paired Samples T-Test for First Element of Experiment Class

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig (2-tailed)
Pair 1	meanbeforePDeks-meanafterPDeks	-1.13333	.87147	.11251	-1.35846	.90821	-10.073	59	.000

Source: Results from data analysis, 2021

- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The second cognitive element was loaded in component one (items no.18, 13, 22, 20, 21, 12, and 10). The result showed that there was a significant difference in the second principal's cognitive element before and after the professional development in the experiment class (sig. (2-tailed) < 0.05) (Table 4.43 and Table 4.44).
- The affective component was also divided into two elements. The first element represented teachers' concerns about teaching diverse students in inclusive classrooms. This first affective element referred to component four (items no. 19, 16, and 4).

Table 4.43

Average Mean Before and After Professional Development for Second Element of Experiment Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePDeks	2.8167	60	.53003	.06843
	meanafterPDeks	3.6833	60	.58819	.07593

Source: Results from data analysis, 2021

Table 4.44

Paired Samples T-Test for Second Element of the Experiment Class

		Paired Differences					t	df	Sig (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	meanbeforePDeks-meanafterPDeks	-.86667	.75541	.09752	-1.06181	.67152	-8.887	59	.000

Source: Results from data analysis, 2021

Interpretation: There was no significant difference in the principals' first affective element (third element) before and after the professional development in the experiment class (sig. (2-tailed) > 0.05) (Table 4.46).

- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no. 15, 14, and 17). As seen in Table 4.8, there was a significant difference in the second principal's affective element before and after the professional development in the experiment class (sig. (2-tailed) < 0.05).

Table 4.45

Average Mean Before and After Professional Development for Third Element of Experiment Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePDeks	2.9278	60	.70802	.09140
	meanafterPDeks	3.1778	60	.73253	.09457

Source: Results from data analysis, 2021

Table 4.46

Average Mean Before and After Professional Development for Third Element of Experiment Class

		Paired Differences					t	df	Sig (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	meanbeforePDeks-meanbeforePDeks	-.25000	1.04625	.13507	-.52027	.02027	-1.851	59	.069

Source: Results from data analysis, 2021

Table 4.47

Average Mean Before and After Professional Development for Fourth Element of Experiment Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePDeks	2.8722	60	.53182	.06866
	meanafterPDeks	3.7778	60	.73047	.09430

Source: Results from data analysis, 2021

Table 4.48

Paired Samples T-Test for Fourth Element of Experiment Class

		Paired Differences					t	df	Sig (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	meanbeforePDeks-meanafterPDeks	-.90556	.95095	.12277	-1.15121	-.65990	-7.376	59	.000

Source: Results from data analysis, 2021

Table 4.49

Average Mean Before and After Professional Development for Fifth Element of Experiment Class

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	meanbeforePDeks	2.9083	60	.63441	.08190
	meanafterPDeks	3.5458	60	.65174	.08414

Source: Results from data analysis, 2021

Table 4.50

Paired Samples T-Test for Fifth Element of Experiment Class

		Paired Differences					t	df	Sig (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	meanbeforePDeks-meanbeforePDeks	-.63750	.89185	.11514	-.86789	-.40711	-5.537	59	.000

Source: Result data analysis, 2021

Table 4.51

Results of Levene's Test

		Levene's Test for Equality of Variances	
		F	Sig
MeansScore	Equal variances assumed Equal variances not assumed	1.157	.284

Source: Results from data analysis, 2021

- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6). As shown in Table 4.50, there was a significant difference in the principals' behavioral elements before and after the professional development in experiment class (sig. (2-tailed) < 0.05)

Levene's test for the independent samples t-test. Before the independent t-test was applied, Levene's test was measured. This analysis of variance is based on the assumption that all of the groups or samples have the same variance (Glass, 1966). The discovered variations in sample variances are unlikely to have happened based on random sampling from a population with equal variances if the p-value of Levene's test is less than some significance level (0.05).

- From table 4.51, it showed the sig. value was 0.284 (>0.05). It was concluded that the assumption of homogeneity of variance had been met, and the parametric statistical test for the independent t-test for the current study could be interpreted.

Table 4.52

Mean After Professional Development in Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Experiment Class	60	3.6545	.51352	.06630
	Control Class	60	3.1220	.41949	.05416

Source: Results from data analysis, 2021

- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6). As shown in Table 4.50, there was a significant difference in the principals' behavioral elements before and after the professional development in experiment class (sig. (2-tailed) < 0.05).

Levene's test for the independent samples t-test. Before the independent t-test was applied, Levene's test was measured. This analysis of variance is based on the assumption that all of the groups or samples have the same variance (Glass, 1966). The discovered variations in sample variances are unlikely to have happened based on random sampling from a population with equal variances if the p-value of Levene's test is less than the significance level (0.05).

Table 4.51 shows that the sig. value was 0.284 (>0.05). It was concluded that the assumption of homogeneity of variance had been met, and the parametric statistical test for the independent t-test for the current study could be interpreted.

Table 4.53

Mean Before Professional Development in Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Experiment Class	60	2.8758	.36545	.04718
	Control Class	60	3.0098	.44670	.05767

Source: Results from data analysis, 2021

Independent samples t-test. In the current study, the independent samples t-test was applied to determine whether there was a difference between attitudes toward inclusive in kindergarten teachers who joined the experimental or inclusion professional development class. An independent t-test was used since this analysis is an appropriate statical method to see the difference between two independent means of each variable (Rochon et al., 2012; Kellermann et al., 2013).

The overall mean after the professional development in the control and experiment classes can be shown in Table 4.52. For the comparison, the overall mean before the professional development is shown in Table 4.53.

Table 4.54

Results of Independent T-Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeansScore	Equal variances assumed	1.157	.284	6.221	118	.000	.53258	.08560	.36306	.70209
	Equal variances not assumed			6.221	113.481	.000	.53258	.08560	.36299	.70216

Source: Results from data analysis, 2021

The results showed a significant difference in the overall mean after professional development had been held. In the control class, the principals' attitudes toward inclusive education after professional development remained moderate, while in the experiment class, the principals' attitudes improved.

An independent t-test was carried out, the results of which were presented in Table 4.54. This analysis shed light on the substantial differences between the control and experiment classes following professional development. The probability value or sig. (2-tailed) was less than 0.05, indicating a significant difference between the learning outcomes of the experimental class and those of the control class in terms of changing kindergarten principals' attitudes.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components referred to three basic attitude elements: cognitive, affective, and behavioral.

Table 4.55

Average Mean of First Element of Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Control Class	60	2.7708	.53538	.06912
	Experiment Class	60	3.9167	.62887	.08119

Source: Results from data analysis, 2021

Table 4.56

Independent Samples T-Test for First Element of Attitude

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeansScore	Equal variances assumed	3.222	.075	-10.747	118	.000	-1.14583	.10662	-1.35699	-.93469
	Equal variances not assumed			-10.747	115.070	.000	-1.14583	.10662	-1.35703	-.93463

Source: Results from data analysis, 2021

- The first cognitive element, teachers' beliefs in implementing inclusive education in the school setting, was represented by component three (items no. 2, 1, 3, and 5). Interpretation from Table 4.56: There was a significant difference in the principals' first element of attitude (first cognitive element) between the control class and experiment class (sig. (2-tailed) < 0.05).

Table 4.57

Average Mean of Second Element of Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Control Class	60	3.0024	.36397	.04699
	Experiment Class	60	3.6833	.58819	.07593

Source: Results from data analysis, 2021

Table 4.58

Independent Samples T-Test for Second Element of Attitude

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeanScore	Equal variances assumed	9.845	.002	-7.626	118	.000	-.68095	.08930	-.85779	-.50412
	Equal variances not assumed			-7.626	98.406	.000	-.68095	.08930	-.85815	-.50375

Source: Results from data analysis, 2021

- The second cognitive element was teachers' perceptions of accepting children with special needs in a regular classroom. The second cognitive element was loaded in component one (item no.18, 13, 22, 20, 21, 12, and 10).

  Interpretation from Table 4.58: There was a significant difference in the principals' second element of attitude (second cognitive element) between the control class and experiment class (sig. (2-tailed) < 0.05).

Table 4.59

Average Mean of Third Element of Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Experiment Class	60	3.0556	.73689	.09513
	Control Class	60	3.1778	.73253	.09457

Source: Results from data analysis, 2021

Table 4.60

Independent Samples T-Test for Third Element of Attitude

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeansScore	Equal variances assumed	.355	.552	-.911	118	.364	-.12222	.13414	-.38785	.14341
	Equal variances not assumed			-.911	117.996	.364	-.12222	.13414	-.38785	.14341

Source: Result data analysis, 2021

- The affective component was also divided into two elements. The first element considered teachers' concerns about teaching diverse students in inclusive classrooms. This first affective element referred to component four (items no. 19, 16, and 4).

  Interpretation from Table 4.60: There was no significant difference in the principals' third element of attitude (first affective element) between the control class and experiment class (sig. (2-tailed) > 0.05).

Table 4.61

Average Mean of Fourth Element of Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Control Class	60	2.8778	.50596	.06532
	Experiment Class	60	3.7778	.73047	.09430

Source: Results from data analysis, 2021

Table 4.62

Independent Samples T-test for Fourth Element of Attitude

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeansScore	Equal variances assumed	2.691	.104	-7.845	118	.000	-.90000	.11472	-1.12717	-.67283
	Equal variances not assumed			-7.845	105.020	.000	-.90000	.11472	-1.12746	-.67254

Source: Results from data analysis, 2021

- The second affective element, teachers' response to teaching in an inclusive classroom setting, was loaded in component five (items no 15, 14, and 17). Interpretation from Table 4.62: There was a significant difference in the principals' fourth element of attitude (second affective element) between the control class and experiment class (sig. (2-tailed) > 0.05).

Table 4.63

Average Mean of Fifth Element of Control and Experiment Classes

	Class	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	Control Class	60	2.8167	.56348	.07275
	Experiment Class	60	3.5458	.65174	.08414

Source: Results from data analysis, 2021

Table 4.64

Independent Samples T-Test for Fifth Element of Attitude

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MeansScore	Equal variances assumed	0,62	.804	-6.556	118	.000	-.72917	.11123	-.94943	-.50891
	Equal variances not assumed			-6.556	115.587	.000	-.72917	.11123	-.94943	-.50891

Source: Results from data analysis, 2021

- The last element was the behavioral element. The behavioral element talked about teachers' professional responsibilities in implementing inclusive education. The behavioral element referred to component two (item no 8, 7, 9, and 6).

  Interpretation from Table 4.64: There was a significant difference in the principals' fifth element of attitude (behavioral element) between the control class and experiment class (sig. (2-tailed) > 0.05).

Table 4.65

Significance Levels in Three-Way ANOVA for the Effects of Principals' Ages, Domiciles, and Experience in Professional Development in Inclusive Education for Control Class

Dependent Variable: Attitudes_towards_IE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.495[a]	17	.206	1.347	.212
Intercept	270.040	1	270.040	1769.373	.000
Age	.233	2	.117	.765	.472
Domicile	.746	3	.249	1.629	.197
Experience_in_PDIE	.049	1	.049	.323	.573
Age * Domicile	1.613	4	.403	2.642	.047
Age * Experience_in_PDIE	1.001	2	.501	3.280	.047
Domicilie * Experience_in_PDIE	.004	2	.002	.014	.986
Age * Domicilie * Experience_in_PDIE	.667	3	.222	1.456	.240
Error	6.410	42	.153		
Total	531.937	60			
Corrected Total	9.905	59			

a. R Squared = .353 (Adjusted R Squared = .091)

Source: Results from data analysis, 2021

The significant effect of principals' attitude toward inclusive education among variables of age, domicile, and experience in professional development in inclusive education in the control class. A three-way ANOVA was completed on a sample of 60 participants to examine the effect of principals' ages, domicile, and personal experience in professional development regarding inclusive education on their attitudes toward inclusive education. The data analysis showed that there was no statistically significant three-way interaction among those variables, as can be seen in Table 4.65, $F(3, 42) = 1.456$, $p = .240$ ($p > 0.05$).

Table 4.66

The Tukey's HSD Post Hoc on Principals' Age Variable in Control Class

Dependent Variable: Attitudes_towards_IE

Tukey HSD

		Mean			95% Confidence Interval	
(I) Age	(J) Age	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Under 39	40 - 49	.0110	.11315	.995	-.2639	.2859
	50 Above	-.0719	.15808	.892	-.4560	.3121
40 - 49	Under 39	-.0110	.11315	.995	-.2859	.2639
	50 Above	-.0829	.14740	.841	-.4410	.2752
50 Above	Under 39	.0719	.15808	.892	-.3121	.4560
	40 - 49	.0829	.14740	.841	-.2752	.4410

Based on observed means.

The error term is Mean Square(Error) = .153.

Source: Results from data analysis, 2021

However, there was a significant two-way interaction effect of principals' attitudes among age and domicile, $F(4, 42) = 2.642$, $p = .047$ ($p < 0.05$); age and experience in professional development in inclusive education, $F(2, 42) = 1.130$, $p = 3.280$ ($p < 0.05$). For domicile and experience in professional development in inclusive education interaction effect, it was found that there was no significant effect, $F(2, 42) = .014$, $p = .986$ ($p > 0.05$).

Furthermore, a Tukey's HSD post-doc test was applied to reveal the significant differences between groups of kindergarten principals in the variable of their ages. Results showed that the kindergarten principals in the control class who were aged under 39 years ($M = 2.94$, $SD = 0.43$) had no differences in attitudes toward inclusive education after professional development compared to the group of kindergarten principals aged between 40–49 ($M = 2.9$, $SD = 0.36$), $p = .995$ ($p > 0.05$) (see Table 4.66). The interactions for the rest of the other groups also showed no differences.

Table 4.67

Average Means of Attitudes of Principals' Age Variable in Control Class

Age	Mean	N	Std. Deviation
Under 39	2.9447	19	.43131
40 - 49	2.9338	32	.36132
50 Above	3.0167	9	.55462
Total	2.9497	60	.40974

Source: Results from data analysis, 2021

Table 4.68

The Tukey's HSD Post Hoc on Principals' Domiciles Variable in Control Class

Dependent Variable: Attitudes_towards_IE

Tukey HSD

					95% Confidence Interval	
(I) Domicile	(J) Domicile	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Java	Sumatera	-.0293	.11997	.995	-.3502	.2916
	Kalimantan	-.4305	.24270	.300	-1.0798	.2187
	Eastern Part of Indonesia	.0130	.13760	1.000	-.3550	.3811
Sumatera	Java	.0293	.11997	.995	-.2916	.3502
	Kalimantan	-.4013	.23923	.348	-1.0412	.2387
	Eastern Part of Indonesia	.0423	.13138	.988	-.3091	.3938
Kalimantan	Java	.4305	.24270	.300	-.2187	1.0798
	Sumatera	.4013	.23923	.348	-.2387	1.0412
	Eastern Part of Indonesia	.4436	.24854	.295	-.2213	1.1084
Eastern Part of Indonesia	Java	-.0130	.13760	1.000	-.3811	.3550
	Sumatera	-.0423	.13138	.988	-.3938	.3091
	Kalimantan	-.4436	.24854	.295	-1.1084	.2213

Based on observed means.

The error term is Mean Square(Error) = .153.

Source: Results from data analysis, 2021

Table 4.69

Average Means of Attitudes of Principals' Domicile Variable in Control Class

Domicile	Mean	N	Std. Deviation
Java	2.9195	19	.30979
Sumatera	2.9488	24	.41045
Kalimantan	3.3500	3	.25239
Eastern Part of Indonesia	2.9064	14	.52997
Total	2.9497	60	.40974

Source: Results from data analysis, 2021

The principals' domiciles revealed that group of the kindergarten principals from Java in the control class ($M = 2.91$, $SD = 0.30$) had no differences in attitudes toward inclusive education after professional development compared to the group of kindergarten principals from Sumatera ($M = 2.94$, $SD = 0.41$), $p = .995$ ($p > 0.05$) (see Table 4.68). The analysis also showed no differences in the interaction for the other groups.

The significant effect of principals' attitude toward inclusive education among variables of age, domicile, and experience in professional development in inclusive education in experiment class. The same analysis was conducted in the experiment class. A three-way ANOVA was completed on a sample of 60 participants to examine the effect of principals' ages, domicile, and personal experience in professional development in inclusive education on principals' attitudes toward inclusive education. It was found that there was no statistically significant three-way interaction, $F(3, 40) = 2.247$, $p = .119$ ($p > 0.05$).

As shown in Table 4.70, there was also no significant two-way interaction effect of principals' attitudes among age and domicile, $F(6, 40) = .395$, $p = .878$ ($p > 0.05$); age and experience in professional development in inclusive education, $F(2, 40) = 2.031$, $p = .145$ ($p > 0.05$); domicile and experience in professional development in inclusive education interaction effect, $F(3, 40) = 2.107$, $p = .115$ ($p > 0.05$).

Table 4.70

Significance Levels in Three-Way ANOVA for the Effects of Principals' Ages, Domiciles, and Experience in Professional Development in Inclusive Education in Experiment Class

Dependent Variable: Attitudes_towards_IE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.970[a]	19	.262	.991	.491
Intercept	367.885	1	367.885	1393.382	.000
Age	.721	2	.361	1.366	.267
Domicile	.120	3	.040	.152	.928
Experience_in_PDIE	7.665E-5	1	7.665E-5	.000	.986
Age * Domicilie	.626	6	.104	.395	.878
Age * Experience_in_PDIE	1.072	2	.536	2.031	.145
Domicilie * Experience_in_PDIE	1.669	3	.556	2.107	.115
Age * Domicilie * Experience_in_PDIE	1.186	2	.593	2.247	.119
Error	10.561	40	.264		
Total	816.853	60			
Corrected Total	15.531	59			

a. R Squared = .320 (Adjusted R Squared = -.003)

Source: Results from data analysis, 2021

Based on Tukey's HSD post-doc test on the age variable, it was revealed that the group of kindergarten principals in the experiment class aged under 39 years (M = 3.6, SD = 0.60) had no differences in attitudes toward inclusive education from the group of kindergarten principals aged between 40–49 years (M = 3.6, SD = 0.46), p = .991 ($p > 0.05$). Interaction with the other groups also showed no differences.

Table 4.71

The Tukey's HSD Post Hoc on Principals' Age Variable in Experiment Class

Dependent Variable: Attitudes_towards_IE

Tukey HSD

		Mean			95% Confidence Interval	
(I) Age	(J) Age	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
below 39	40 – 49	.0212	.16317	.991	-.3759	.4184
	50 above	-.1898	.20214	.619	-.6818	.3022
40 – 49	below 39	-.0212	.16317	.991	-.4184	.3759
	50 above	-.2110	.17253	.447	-.6309	.2089
50 above	below 39	.1898	.20214	.619	-.3022	.6818
	40 – 49	.2110	.17253	.447	-.2089	.6309

Based on observed means.

The error term is Mean Square(Error) = .264.

Source: Results from data analysis, 2021

Table 4.72

Average Means of Principals' Age Variable in Experiment Class

Age	Mean	N	Std. Deviation
below 39	3.6286	14	.60585
40 – 49	3.6074	34	.46096
50 above	3.8183	12	.55105
Total	3.6545	60	.51307

Source: Results from data analysis, 2021

For the domicile variable, it was revealed that the group of the kindergarten principals from Java in the control class (M = 3.60, SD = 0.57) had no differences in attitudes toward inclusive education after professional development when compared to the group of kindergarten principals from Sumatera (M = 3.66, SD = 0.57), p = .981 ($p > 0.05$). As shown in Table 4.73, the other groups' interactions also showed no differences.

Table 4.73

The Tukey's HSD Post Hoc on Principals' Domicile Variable in Experiment Class

Dependent Variable: Attitudes_towards_IE

Tukey HSD

(I) Domicile	(J) Domicile	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Java	Sumatera	-.0579	.15323	.981	-.4687	.3528
	Kalimantan	-.1489	.23665	.922	-.7833	.4854
	Eastern part of Indonesia	-.0645	.20331	.989	-.6095	.4805
Sumatera	Java	.0579	.15323	.981	-.3528	.4687
	Kalimantan	-.0910	.23555	.980	-.7224	.5404
	Eastern part of Indonesia	-.0066	.20203	1.000	-.5481	.5349
Kalimantan	Java	.1489	.23665	.922	-.4854	.7833
	Sumatera	.0910	.23555	.980	-.5404	.7224
	Eastern part of Indonesia	.0844	.27081	.989	-.6414	.8103
Eastern part of	Java	.0645	.20331	.989	-.4805	.6095
Indonesia	Sumatera	.0066	.20203	1.000	-.5349	.5481
	Kalimantan	-.0844	.27081	.989	-.8103	.6414

Based on observed means.

The error term is Mean Square(Error) = .264.

Source: Results from data analysis, 2021

Table 4.74

Average Means of Principals' Domicile Variable in Experiment Class

Domicile	Mean	N	Std. Deviation
Java	3.6077	22	.57216
Sumatera	3.6657	23	.50322
Kalimantan	3.7567	6	.53042
Eastern part of Indonesia	3.6722	9	.44189
Total	3.6545	60	.51307

Source: Result from data analysis, 2021

The results of the analysis of the intervention program's effectiveness based on the questionnaire. To measure the effectiveness of the intervention program for the current study, 60 participants from the experimental group were asked to complete the questionnaire. This questionnaire was divided into nine components with 37 questions (See Table 4.75).

Table 4.75

Questionnaire to Measure Effectiveness of the Newly Developed Program

No	Components	Question Number	Number of Questions
1	Discovering participants' responses to the implementation of in-on-in professional development in inclusive education (PDIE) as an active, innovative, creative, effective, and fun, professional development.	8, 12, 17, 21, 27, 28, 36	7
2	Discovering participants' responses to the implementation of the in-on-in PDIE as a competency based-programs on the ability of attitudes, skills, and knowledge.	1, 6, 15, 23, 33	5
3	Discovering participants' responses related to the suitability of the implementation of the in-on-in PDIE in improving participants' skills and knowledge about inclusive education.	7, 29	2
4.	Discovering participants' responses related to the facilitator's performance in teaching to support the implementation of the in-on-in PDIE	2, 5, 13, 16, 22, 24, 25, 35, 37	9
5.	Discovering participants' responses related to the administration of the implementation of the in-on-in PDIE to support the implementation of the in-on-in PDIE	11, 20, 26, 32	4
6.	Discovering participants' responses related to the infrastructure that supports the activities in the implementation of the in-on-in PDIE.	10, 14, 19, 31	4
7.	Discovering participants' responses related to the activity material in the in-on-in PDIE.	4, 9, 34	3
8.	Discovering participants' responses related to the duration of the in-on-in PDIE.	3, 18	2
9.	Discovering participants' responses related to the legal basis of the implementation of the in-on-in PDIE.	30	1
Total			37 items

Source: Research Instrument, 2021

Table 4.76
Results Analysis of Component One (Program Effectiveness)

Component	No	Question	Answer	f	%
The implementation of in-on-in professional development in inclusive education (PDIE) is considered an active, innovative, creative, effective, and fun, professional development.	8	In-on-in PDIE can create a creative learning atmosphere.	SA	31	51.7
			A	24	40.0
			N	5	8.3
			D	0	0
			SD	0	0
			∑	60	100%
	12	In-on-in PDIE is a fun program.	SA	33	55.0
			A	21	35.0
			N	4	6.7
			D	1	1.7
			SD	1	1.7
			∑	60	100%
	17	The implementation of in-on-in PDIE is effective in increasing competence, skills, and knowledge about inclusive education	SA	33	55.0
			A	22	36.7
			N	4	6.7
			D	1	1.7
			SD	0	0
			∑	60	100%
	21	In-on-in PDIE can create an innovative learning atmosphere.	SA	31	51.7
			A	24	40.0

		N	4	6.7
		D	1	1.7
		SD	0	0
		∑	60	100%
27	The number of in-on-in PDIE participants effectively supports the program's goals.	SA	29	48.3
		A	25	41.7
		N	5	8.3
		D	1	1.7
		SD	0	0
		∑	60	100%
28	PDIE is an exciting program.	SA	32	53.3
		A	24	40.0
		N	3	5.0
		D	1	1.7
		SD	0	0
		∑	60	100%
36	The in-on-in PDIE program creates a more active and less monotonous learning atmosphere.	SA	26	43.3
		A	28	46.7
		N	5	8.3
		D	1	1.7
		SD	0	0
		∑	60	100%

Source: Results from data analysis, 2021

Interpretation of the data analysis in Table 4.76:

- Participants' responses to *In-on-in PDIE can create creative learning atmosphere* showed that almost all participants (n = 55) strongly agreed or agreed (91.7%) that the in-on-in PDIE fostered a creative learning atmosphere.
- Participants' responses to *In-on-in PDIE is a fun program* showed that almost all participants (n = 54) strongly agreed or agreed (90.0%) that the in-on-in intervention program at Professional Development in Inclusive Education was fun.
- The responses of participants to *The implementation of in-on-in PDIE is effective in increasing competence, skills, and knowledge about inclusive education* showed that almost all participants (n = 55) strongly agreed or agreed (91.7%) that the in-on-in intervention program at the Professional Development in Inclusive Education increased participants' skills and knowledge about inclusive education.
- Participants' responses to *In-on-in PDIE can create an innovative learning atmosphere* showed that almost all participants (n = 55) strongly agreed or agreed (91.7%) that the in-on-in intervention program at Professional Development in Inclusive Education created an innovative learning atmosphere.
- The responses of participants to *the number of in-on-in PDIE participants are effective in supporting the programs' goals* showed that almost all participants (n = 54) strongly agreed or agreed (90%) that the number of in-on-in intervention program participants at Professional Development in Inclusive Education was effective in supporting the programs' goals.
- The participants' responses to *PDIE is an exciting program* found that almost all participants (n = 56) strongly agreed or agreed (93.3%) that the in-on-in intervention program at Professional Development in Inclusive Education was exciting.

- The responses of participants to *the in-on-in PDIE program create a more active and less monotonous learning atmosphere* showed that almost all participants (n = 54) strongly agreed or agreed (90 %) that the in-on-in intervention program at Professional Development in Inclusive Education created a more active and less monotonous learning atmosphere.

  Interpretation of the data analysis in Table 4.77:

- The responses of participants to *After the in-on-in professional development in inclusive education (in-on-in PDIE), After the in-on-in professional development in inclusive education (in-on-in PDIE), I am now confident in dealing with children with special needs in the classroom* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that the in-on-in intervention program at Professional Development in Inclusive Education boosted participants' confidence to deal with children with special needs in the classroom.
- The responses of participants to *By following in-on-in PDIE, I can understand a problem in my inclusive class and try to solve it*showed that most participants (n = 57) strongly agreed or agreed (95.0%) that the in-on-in intervention program at Professional Development in Inclusive Education helped participants to learn to understand a problem in their inclusive class and try to solve it.
- The responses of participants to *In-on-in PDIE increase my learning motivation toward inclusive education* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that the in-on-in intervention program at Professional Development in Inclusive Education increased their learning motivation toward inclusive education
- The responses of participants to *After following the in-on-in PDIE program, I am now more open to accepting children with special needs in my class* showed that most

Table 4.77
Results Analysis of Component Two (Competency Based-program)

Component	Item	Question	Answer	f	%
The implementation of the in-on-in PDIE as a competency based-programs for attitudes, skills, and knowledge improvements.	1	After the in-on-in professional development in inclusive education (in-on-in PDIE), I am now confident in dealing with children with special needs in the classroom (in-on-in PDIE).	SA	39	65.0
			A	19	31.7
			N	2	3.3
			D	0	0
			SD	0	0
			∑	60	100%
	6	By following in-on-in PDIE, I can understand a problem in my inclusive class and try to solve it.	SA	36	60.0
			A	21	35.0
			N	3	5.0
			D	0	0
			SD	0	0
			∑	60	100%
	15	In-on-in PDIE increases my learning motivation toward inclusive education	SA	42	70.0
			A	16	26.7
			N	1	1.7
			D	1	1.7
			SD	0	0
			∑	60	100%

23	After following the in-on-in PDIE program, I am now more open to accepting children with special needs in my class.	SA	38	63.3
		A	18	30.0
		N	4	6.7
		D	0	0
		SD	0	0
		∑	60	100%
33	In-on-in PDIE has enriched my knowledge of inclusive education.	SA	40	66.7
		A	18	30.0
		N	1	1.7
		D	1	1.7
		SD	0	0
		∑	60	100%

Source: Results from data analysis, 2021

participants (n = 56) strongly agreed or agreed (93.3%) that the in-on-in intervention program at Professional Development in Inclusive Education made participants more open to accepting children with special needs in their class.

The responses of participants to *In-on-in PDIE have enriched my knowledge of inclusive education* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that the in-on-in intervention program at Professional Development in Inclusive Education enriched participants' knowledge of inclusive education.

Interpretation of the data analysis in Table 4.78:

- The responses of participants to *In-on-in PDIE is a suitable program for increasing my skills and knowledge about inclusive education* showed that almost all participants

Table 4.78

Results Analysis of Component Three (Suitability of the Program)

Component	Item	Question	Answer	f	%
Suitability of the implementation of the in-on-in PDIE in improving participants' skills and knowledge about inclusive education.	7	In-on-in PDIE is a suitable program for increasing my skills and knowledge about inclusive education	SA	43	71.7
			A	14	23.3
			N	2	3.3
			D	1	1.7
			SD	0	0
			∑	60	100%
	29	In-on-in PDIE makes it easy for me to understand inclusive education comprehensively.	SA	31	51.7
			A	26	43.3
			N	2	3.3
			D	1	1.7
			SD	0	0
			∑	60	100%

Source: Results from data analysis, 2021

(n = 57) strongly agreed or agreed (95%) that the in-on-in intervention program at Professional Development in Inclusive Education increased participants' skills and knowledge about inclusive education.

- The responses of participants to *In-on-in PDIE makes me it easy for me to understand inclusive education comprehensively* showed that most participants (n = 57) strongly agreed or agreed (95.0%) that the in-on-in intervention program at Professional Development in Inclusive Education helped participants to gain a comprehensive understanding of inclusive education.

Table 4.79
Results Analysis of Component Four (Facilitators' Performance)

Component	Item	Question	Answer	f	%
The facilitator's performance in teaching to support the implementation of the in-on-in PDIE	2	Facilitators motivate participants to learn during the in-on-in PDIE.	SA	42	70.0
			A	15	25.0
			N	2	3.3
			D	1	1.7
			SD	0	0
			∑	60	100%
	5	Facilitators were on time in class.	SA	40	66.7
			A	18	30.0
			N	1	1.7
			D	0	0
			SD	1	1.7
			∑	60	100%
	13	Attitudes and behavior of facilitators in teaching are positive.	SA	42	70.0
			A	16	26.7
			N	1	1.7
			D	0	0
			SD	1	1.7
			∑	60	100%

16	Facilitators know how to achieve the learning objectives of the in-on-in PDIE.	SA	31	51.7
		A	25	41.7
		N	3	5.0
		D	1	1.7
		SD	0	0
		∑	60	100%
22	Facilitators of the in-on-in PDIE master the materials learned.	SA	39	65.0
		A	19	31.7
		N	1	1.7
		D	1	1.7
		SD	0	0
		∑	60	100%
24	The facilitators cooperate in teaching.	SA	36	60.0
		A	22	36.7
		N	1	1.7
		D	0	0
		SD	1	1.7
		∑	60	100%
25	The facilitators' language is easy to understand	SA	37	61.7
		A	21	35.0
		N	1	1.7
		D	1	1.7
		SD	0	0
		∑	60	100%

35	Facilitators are competent to present the learning material	SA	37	61.7
		A	20	33.3
		N	2	3.3
		D	0	0
		SD	1	1.7
		∑	60	100%
37	Facilitators use a variety of learning methods in teaching.	SA	24	40.0
		A	26	43.3
		N	8	13.3
		D	2	3.3
		SD	0	0
		∑	60	100%

Source: Results from data analysis, 2021

Interpretation of the data analysis in Table 4.79:

- The participants' responses to *Facilitators motivate participants to learn during the in-on-in PDIE* showed that most participants (n = 57) strongly agreed or agreed (95%) that facilitators motivated participants in learning during the in-on-in PDIE.
- The participants' responses to *Facilitators were on time in class* showed that almost all (n = 58) strongly agree or agree (96.7%) that facilitators were usually on time during the in-on-in intervention program at Professional Development in Inclusive Education.

- The responses of participants to *the Attitudes and behavior of facilitators in teaching are positive* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that facilitators' attitudes and behavior were positive while teaching the in-on-in intervention program at Professional Development in Inclusive Education.
- Participants' responses to *Facilitators know how to achieve the learning objectives of the in-on-in PDIE* showed that most participants (n = 56) strongly agreed or agreed (93.4 %) that the facilitators knew how to achieve the learning objectives of the in-on-in PDIE.
- Participants' responses to *Facilitators of the in-on-in PDIE master the materials learned* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that facilitators mastered the materials for the in-on-in PDIE.
- Participants' responses to *The facilitators' cooperation in teaching* were obtained information that almost all participants (n = 58) strongly agreed or agreed (96.7%) that facilitators of in-on-in PDIE cooperated in teaching.
- Participants' responses to *The facilitators' language is easy to understand* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that facilitators made participants understand by using easy and simple language in teaching.

Table 4.80
Results Analysis of Component Five (Administration Aspect)

Component	Item	Question	Answer	f	%
The administration of the implementation of the in-on-in PDIE	11	There is clear information on the implementation of the in-on-in PDIE program for participants before joining the program.	SA	32	53.3
			A	24	40.0
			N	3	5.0
			D	1	1.7
			SD	0	0
			∑	60	100%
	20	There are guidelines for participants in participating in the in-on-in PDIE.	SA	29	48.3
			A	26	43.3
			N	4	6.7
			D	1	1.7
			SD	0	0
			∑	60	100%
	26	The committees understand their duties and responsibilities in serving the participants during the in-on-in PDIE.	SA	33	55.0
			A	25	41.7
			N	1	1.7
			D	0	0
			SD	1	1.7
			∑	60	100%

32	There is an accuracy between planning (time and place) and the implementation of the in-on-in PDIE.	SA	22	36.7
		A	28	46.7
		N	10	16.7
		D	0	0
		SD	0	0
		∑	60	100%

Source: Results from data analysis, 2021

- The participants' responses to *Facilitators are competent to present the learning material* showed that most (n = 57) strongly agreed or agreed (95%) that facilitators were competent to teach in the in-on-in intervention program at Professional Development in Inclusive Education.
- The responses of participants to *Facilitators using a variety of learning methods in teaching* showed that most (n = 50) strongly agreed or agreed (83.3%) that facilitators were creative by using various learning methods in teaching at the Professional Development in Inclusive Education.

Interpretation of the data analysis in Table 4.80:

- The responses of participants to *There is clear information on the implementation of the in-on-in PDIE program for participants before joining the program* showed that most participants (n = 56) strongly agreed or agreed (93.3%) that the participants had gained clear information about the program of in-on-in Professional Development in Inclusive Education.
- The responses of participants to *There are guidelines for participants in participating in the in-on-in PDIE* showed that most participants (n = 55) strongly agreed or agreed

(91.6%) that the in-on-in intervention program at Professional Development in Inclusive Education had provided guidelines for participants to follow the program.

- The responses of participants to *The committees understand their duties and responsibilities in serving the participants during the in-on-in PDIE* showed that almost all participants (n = 58) strongly agreed or agreed (96.7%) that the committees had done great jobs serving participants during the program of professional development.
- The responses of participants *There is an accuracy between planning (time and place) and the implementation of the in-on-in PDIE* showed that most participants (n = 50) strongly agreed or agreed (83.3%) that the in-on-in intervention program at Professional Development in Inclusive Education had met participants' expectation regarding time and place of the program.

Interpretation of the data analysis in Table 8.1:

- The responses of participants to *There is an availability of worship facilities during in-on-in PDIE*" showed that most participants (n = 56) strongly agree or agree (93.3%) that participants were given time (since the program was online) to practice their religion during the in-on-in program at Professional Development in Inclusive Education.
- The responses of participants to *Readiness and availability of facilities to support the program [audio visual, LCD / laptop, whiteboard, bleachers, markers, eraser]* showed that most participants (n = 52) strongly agreed or agreed (86.6%) that there were sufficient facilities to support the in-on-in program at Professional Development in Inclusive Education.

Table 4.81
Results Analysis of Component Six (Supporting Infrastructures)

Component	Item	Question	Answer	f	%
The infrastructure that supports the activities in the implementation of the in-on-in PDIE.	10	There is an availability of worship facilities during in-on-in PDIE.	SA	40	66.6
			A	16	26.7
			N	3	5.0
			D	0	0
			SD	1	1.7
			∑	60	100%
	14	Readiness and availability of facilities to support the program [audio visual, LCD / laptop, whiteboard, bleachers, markers, eraser].	SA	26	43.3
			A	26	43.3
			N	7	11.7
			D	1	1.7
			SD	0	0
			∑	60	100%
	19	Participants could easily access the venue of the in-on-in PDIE.	SA	37	61.7
			A	18	30.0
			N	3	5.0
			D	2	3.3
			SD	0	0
			∑	60	100%

31	The documents and stationery were sufficient to complete activities in the program.	SA	22	36.7
		A	27	45.0
		N	10	16.7
		D	1	1.7
		SD	0	0
		∑	60	100%

Source: Results from data analysis, 2021

- The responses of participants to *Participants could easily access the venue of the in-on-in PDIE* showed that most participants (n = 55) strongly agreed or agreed (91.7%) that participants could easily accessed the venue (Zoom link) for the in-on-in program at Professional Development in Inclusive Education.
- The responses of participants to *The documents and stationary were sufficient to complete activities in the program* showed that most participants (n = 49) strongly agreed or agreed (81.7%) that they were given sufficient documents and stationery to support the in-on-in program at Professional Development in Inclusive Education.

Table 4.82
Results Analysis of Component Seven (Activity Material)

Component	Item	Question	Answer	f	%
The activity material that is used in the in-on-in PDIE.	4	The quality of the display of the in-on-in PDIE modules is good enough.	SA	29	48.3
			A	26	43.3
			N	4	6.7
			D	1	1.7
			SD	0	0
			∑	60	100%
	9	Training providers provide modules for the in-on-in PDIE.	SA	28	46.7
			A	24	40.0
			N	6	10.0
			D	2	3.3
			SD	0	0
			∑	60	100%
	34	Illustrations and examples of the program modules are available. .	SA	24	40.0
			A	32	53.3
			N	4	6.7
			D	0	0
			SD	0	0
			∑	60	100%

Source: Results from data analysis, 2021

Interpretation of the data analysis in Table 4.82:

- The responses of participants to *The quality of the in-on-in PDIE modules is good enough wer*e showed that most participants (n = 55) strongly agreed or agreed (91.6%) that they considered the quality of the display of the in-on-in PDIE modules to be good.
- The participants' responses to *Training providers provide modules for the in-on-in PDIE* showed that most participants (n = 52) strongly agreed or agreed (86.6%) that the modules were provided for participants during the in-on-in program at Professional Development in Inclusive Education.
- The responses of participants to *Illustrations and examples of the program modules are available* showed that most participants (n = 56) strongly agreed or agreed (93.3%) that the modules included illustrations and examples to help participants easily understand the module contents.

Interpretation of the data analysis in Table 4.83:

- The participants' responses to *Accuracy in allocating time to complete each activity in the program* showed that most participants (n = 55) strongly agreed or agreed (91.6%) that the time given to complete each activity in the program was accurate.
- The responses of participants to *The duration of the program is allocated sufficiently to reach the goals and objectives of the in-on-in PDIE* showed that more than half of participants (n = 43) strongly agree or agree (71.6%) that the program's duration was allocated sufficiently to reach the goals and objectives of the in-on-in PDIE.

Table 4.83
Results Analysis of Component Eight (Duration)

Component	Item	Question	Answer	f	%
The duration of the in-on-in PDIE.	3	Accuracy in allocating time to complete each activity in the program.	SA	30	50.0
			A	25	41.7
			N	5	8.3
			D	0	0
			SD	0	0
			∑	60	100%
	18	The duration of the program is allocated sufficiently to reach the goals and objectives of the in-on-in PDIE.	SA	26	43.3
			A	17	28.3
			N	14	23.3
			D	2	3.3
			SD	1	1.7
			∑	60	100%

Source: Results from data analysis, 2021

Table 4.84
Results Analysis of Component Nine (Legal Basis)

Component	Item	Question	Answer	f	%
The legal basis of the implementation of the in-on-in PDIE.	30	There is a legal basis that underlies the implementation of the in-on-in PDIE.	SA	23	38.3
			A	22	36.7
			N	13	21.7
			D	2	3.3
			SD	0	0
			∑	60	100%

Source: Results from data analysis, 2021

Table 4.85
Results Analysis of All Components

Component	Numbers of Questions	Answer	Percentage of the answer
1. The implementation of in-on-in professional development in inclusive education (PDIE) as an active, innovative, creative, effective, and fun, professional development.	7	SA	51,2%
		A	40%
		N	7,2%
		D	1,4%
		SD	0,2%
		∑	100%
2. The implementation of the in-on-in PDIE as competency based-programs for attitudes, skills, and knowledge improvements.	5	SA	65,0%
		A	30,7%
		N	3,7%
		D	0,6%
		SD	0%
		∑	100%
3. Suitability of the implementation of the in-on-in PDIE in improving participants' skills and knowledge about inclusive education.	2	SA	62%
		A	33%
		N	3%
		D	2%
		SD	0%
		∑	100%
4. The facilitator's performance in teaching to support the implementation of the in-on-in PDIE	9	SA	60,7%
		A	33,7%
		N	3,7%
		D	1,2%
		SD	0,7%
		∑	100%
5. The administration of the implementation of the in-on-in PDIE to support the implementation of the in-on-in PDIE	4	SA	48,4%
		A	42,9%
		N	7,5%
		D	0,8%
		SD	0,4%
		∑	100%
6. The infrastructure that supports the activities in the implementation of the in-on-in PDIE.	4	SA	52,1%
		A	36,3%

		N	9,6%
		D	1,7%
		SD	0,3%
		∑	100%
7. The activity material that is used in the in-on-in PDIE.	3	SA	45%
		A	45,6%
		N	7,7%
		D	1,7%
		SD	0 %
		∑	100%
8. The duration of the in-on-in PDIE.	2	SA	46,7%
		A	35,0%
		N	15,8%
		D	1,7%
		SD	0,8%
		∑	100%
9. The legal basis of the implementation of the in-on-in PDIE.	1	SA	38.3%
		A	36.7%
		N	21.7%
		D	3.3%
		SD	0
		∑	100%

Source: Results from data analysis, 2021

Interpretation of the data analysis in Table 4.84:

- The participants' responses to *There is a legal basis that underlies the implementation of the in-on-in PDIE* showed that half of the participants (n = 45) strongly agreed or agreed (75%) that the in-on-in PDIE provided a legal basis for its implementation.

Interpretation analysis for all components (4.85):

- For theme one, it was concluded that most participants strongly agreed or agreed (91.2%) that implementing in-on-in professional development in inclusive education (PDIE) was considered an active, innovative, creative, effective, and fun, professional

development. In comparison, a small portion of the participants were neutral (7.2%), disagreed (1.4%), or strongly disagreed (0.2%).

- For theme two, it was concluded that almost all participants strongly agreed or agreed (95.7%) that implementing in-on-in professional development in inclusive education (PDIE) was considered a competency based-program for attitudes, skills, and knowledge improvements. In comparison, a small portion of the participants were neutral (3.7%), disagree (0.6%), and no one chose strongly disagree (0%).
- For theme three, it was concluded that almost all participants strongly agreed or agreed (95%) that implementing in-on-in professional development in inclusive education (PDIE) was a program suitable to improve their skills and knowledge about inclusive education. In comparison, a small portion of the participants were neutral (3%), disagreed (2%), but no one strongly disagreed (0%).
- For theme four, it was concluded that most participants strongly agreed or agreed (94.4%) that the facilitators were competent in teaching at the in-on-in professional development in inclusive education. In comparison, a small portion of the participants were neutral (3.7%), disagreed (1.2%), or strongly disagreed (0.7%).
- For theme five, it was concluded that most participants strongly agreed or agreed (91.3%) that the implementation of in-on-in professional development in inclusive education (PDIE) had supported the program's success. In comparison, a small portion of the participants were neutral (7.5%), disagreed (0.8%), or strongly disagreed (0.4%).

- For theme six, it was concluded that most participants strongly agreed or agreed (88.4%) that the infrastructure for implementing in-on-in professional development in inclusive education (PDIE) was enough to support the program. In comparison, a small portion of the participants were neutral (9.6%), disagreed (1.7%), or strongly disagreed (0.3%).
- For theme seven, it was concluded that most participants strongly agreed or agreed (90.6%) that the activity material used in the in-on-in PDIE was good enough to support the program. In comparison, a small portion of the participants were neutral (7.7%), disagreed (1.7%), or strongly disagreed (0%).
- For theme eight, it was concluded that most participants strongly agreed or agreed (81.7%) that the program duration of the in-on-in PDIE was allocated sufficiently to reach its goals. In comparison, a small portion of the participants were neutral (15.8%), disagreed (1.7%), or strongly disagreed (0.8%).
- For theme eight, it was concluded that half of the participants strongly agreed or agreed (75%) that the program of in-on-in PDIE had provided a legal basis for its implementation. In comparison, a small portion of the participants were neutral (21%), disagreed (3.3%), or strongly disagreed (0%).

Table 4.86
Overall Questionnaire Analysis

Component	Number of Questions	Answer	Percentage of the answer
How effective is the use of in-on-in professional development in inclusive education in shaping principals' competencies to apply inclusive education in their schools? (RQ4)	37	SA	52,1%
		A	37,1%
		N	8,9%
		D	1,6%
		SD	0,3%
		∑	100%

Source: Results from data analysis, 2021

From an overall analysis of the responses, more than half of the participants (52.1%) strongly agreed, and almost half of the participants agreed (37.1%) that the new professional development model was an effective professional development (see Table 4.86). A few participants said they were neutral about its effectiveness (8.9%), and 1.6% of participants did not agree that the new professional development model was effective. In contrast, around 0.3% of participants thought that the in-on-in program for professional development was totally ineffective. As a result, the newly developed model with the in-on-in intervention was considered an effective professional development model for inclusive education for kindergarten principals.

Results analysis of the program's effectiveness based on the pre-test and post-test results. ANCOVA was used to examine the finding that the proposed professional development model successfully increased principals' attitudes toward and improved their skills and knowledge about inclusive education. The main purpose of the ANCOVA was to determine the effect of treatment on the dependent variable by controlling other variables, which was the result of the post-test in the current study.

Table 4.87

Tests of Between-Contents Effects

Dependent Variable: Posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4118.493[a]	2	2059.246	9.098	.000
Intercept	29934.525	1	29934.525	132.260	.000
Pretest	35.159	1	35.159	.155	.694
Class	3779.356	1	3779.356	16.698	.000
Error	26480.674	117	226.331		
Total	475900.000	120			
Corrected Total	30599.167	119			

a. R Squared = .135 (Adjusted R Squared = .120)

Source: Results from data analysis, 2021

The table showed the value of the sig. class variable to be 0.000 < 0.05. As a result, Ho was rejected, and Ha was accepted. Consequently, it was concluded that there is a significant difference in the competence of kindergarten principals between principals who participated in professional development with in-on-in as an intervention program and those who participated in traditional professional development.

Furthermore, the effectiveness of the intervention program was determined from the parameter estimates output table (Table 4.88) where the post-test was placed as the dependent variable.

Table 4.88

Parameter Estimates for Intervention Program Effectiveness

Dependent Variable: Posttest

					95% Confidence Interval	
Parameter	B	Std. Error	t	Sig.	Lower Bound	Upper Bound
Intercept	53.245	5.052	10.539	.000	43.239	63.251
Pretest	.044	.112	.394	.694	-.178	.267
[Class=1.00]	11.449	2.802	4.086	.000	5.900	16.998
[Class=2.00]	0[a]	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

Source: Results from data analysis, 2021

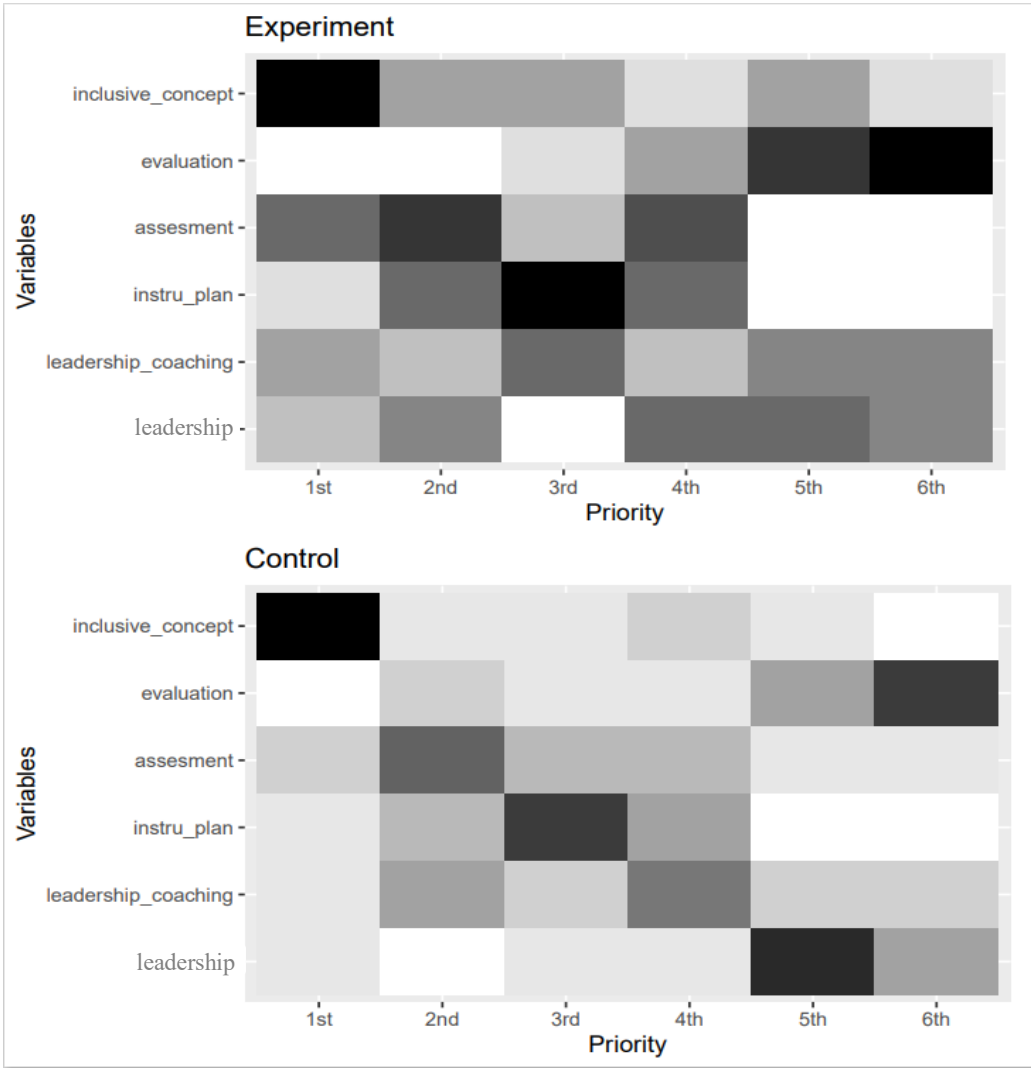
From the table, the sig. value of class variable was sig = 0.000 < 0.05. Based on this, the in-on-in intervention program in professional development in inclusive education for kindergarten principals effectively increased the competence of kindergarten principals.

Contents in professional development to improve kindergarten principals' competencies in fostering inclusive education in kindergarten. A survey was conducted to answer RQ5: What contents are needed in professional development for kindergarten principals' in fostering inclusive education in kindergarten? The survey consisted of questions about the materials that principals needed most to run inclusive education in their schools. An R analysis was conducted to determine the competencies needed by principals to implement inclusive education in their schools.

Figure 4.1 showed that, in both control and experiment classes, most principals tended to believe that the knowledge of the concept of inclusive education was the highest priority for them to learn, and the second most important in both the control and experiment classes was assessment. However, in the experiment class, many principals also believed that an instrument plan was necessary for the concept of inclusive education. However, as in the experiment class, most of the principals in the control class chose an instrument plan as the next priority to learn for their professional development regarding inclusive education.

Figure 4.1

Result of R Analysis for Contents' Priority for Professional Development about Inclusive Education

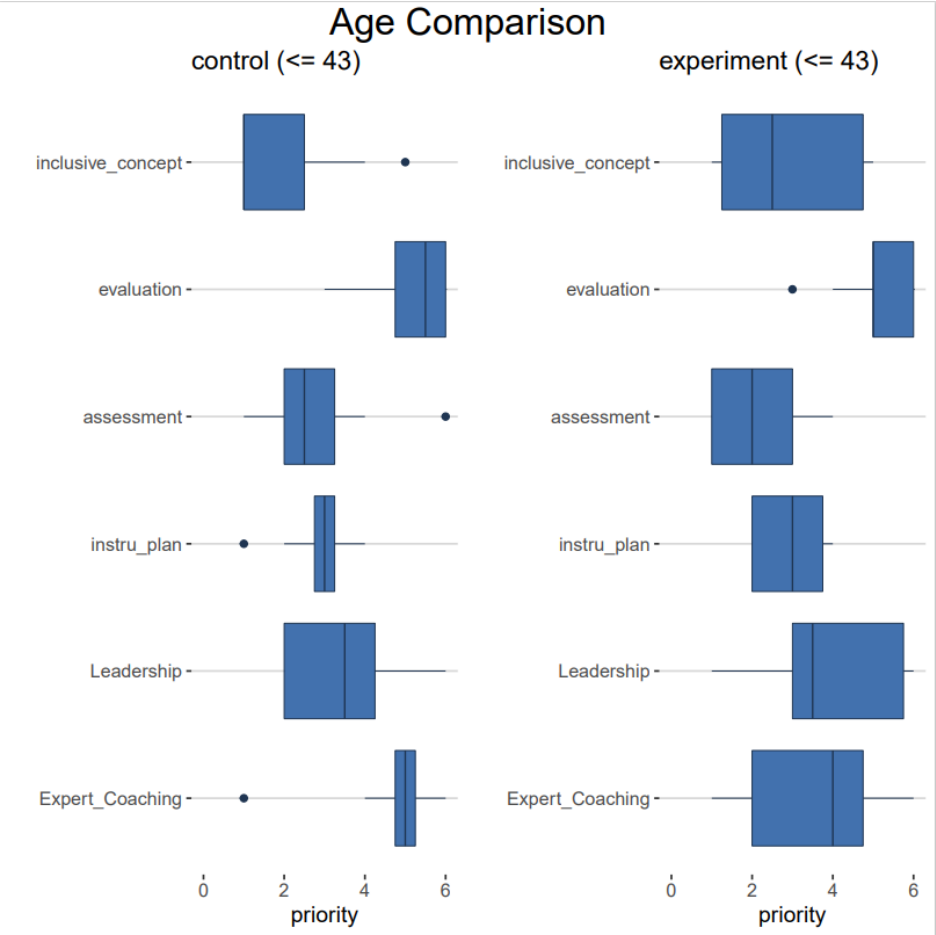


Source: R studio analysis, 2021

In the control class, principals put expert coaching and evaluation as the lowest priority contents in their professional development. Furthermore, in the experiment class, evaluation also had the lowest priority for principals to equip themselves in inclusive education implementation.

Figure 4.2

Priority of Contents for Professional Development about Inclusive Education Based on Age (Under 43)

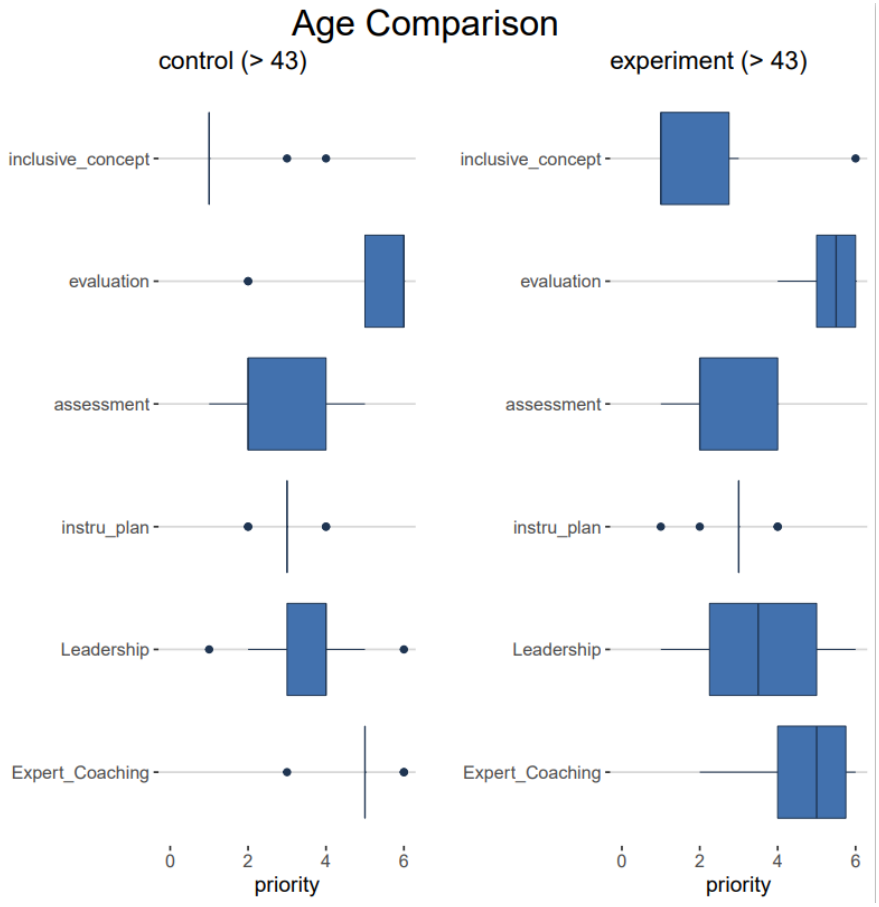


Source: R studio analysis, 2021

Contents' priority based on age. The age of 43 was determined to be the mean age of the sample. Figure 4.2 shows that, in the control class, for principals under and over 43 years old, the concept of inclusive education was believed to be the priority, while in the experiment class, assessment and concept of inclusive education were priorities for principals under 43. Still, for principals over 43, the concept of inclusive education was selected most often. In control and experiment classes, principals who were both under and over 43 years old believed that the last item to learn was evaluations.

Figure 4.3

Contents' Priority for Professional Development in Inclusive Education Based on Age (Over 43)

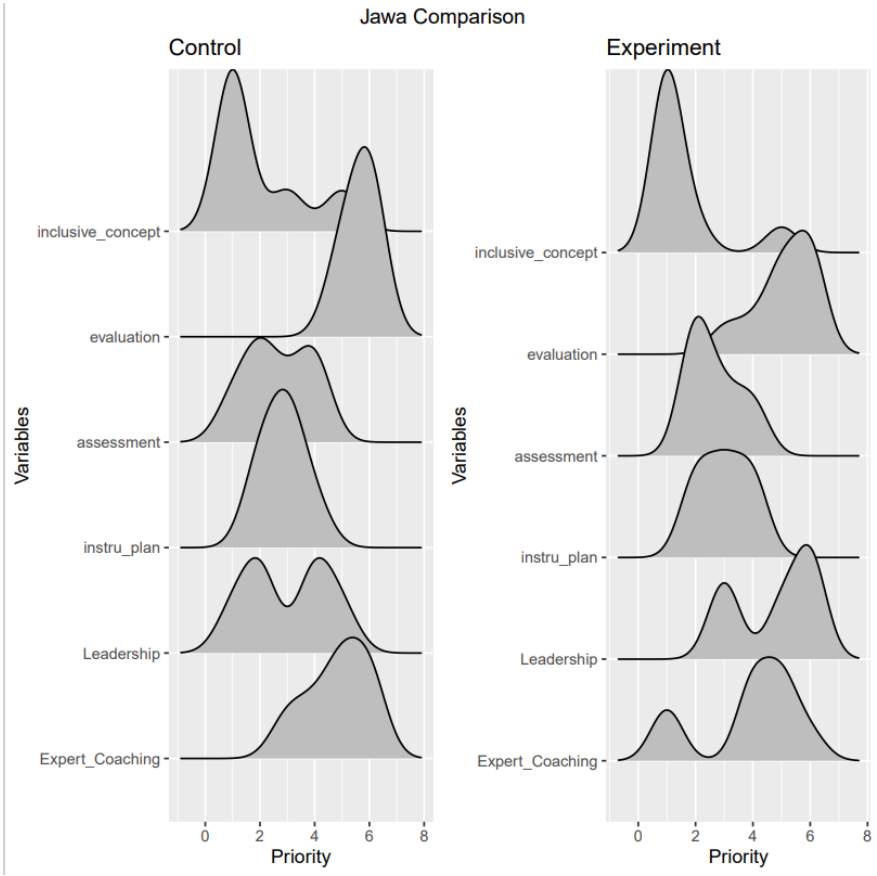


Source: R studio analysis, 2021

Meanwhile, an instrument plan for learning and leadership had a midlevel of importance in the experiment class for those of all ages. There was a significant difference for the expert coaching content; in both the control and experiment classes, principals over 43 considered the expert coaching to be the least important content to learn. However, in the experiment class under 43, expert coaching was listed as one of the highest priority content to learn.

Figure 4.4

Contents' Priority for Professional Development in Inclusive Education Based on Jawa Domicile

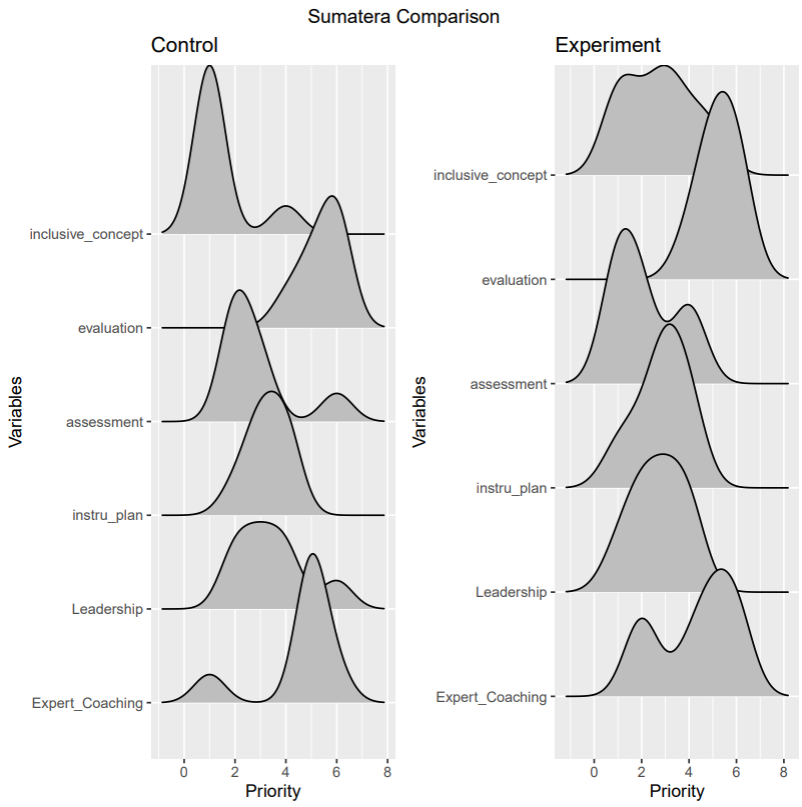


Source: R studio analysis, 2021

Contents' priority based on domicile. Figures 4.4 and 4.5 showed that inclusive education was the priority content in Jawa and Sumatera in control and experiment classes. The second priority was dominated by assessment contents in all areas. Furthermore, principals believed that evaluation was less important content they needed to learn and this was followed by expert coaching in the control class, Jawa and Sumatera, and the experiment class in Jawa.

Figure 4.5

Priority of Contents for Professional Development in Inclusive Education Based on Sumatera Domicile



Source: R studio analysis, 2021

In contrast, most kindergarten principals in the experiment class in Jawa felt that leadership knowledge regarding inclusive education was not a priority to learn. However, Sumatera's principals in the control and experiment classes thought otherwise; they identified leadership content as among one of the highest priority items. Meanwhile, kindergarten principals in Jawa and Sumatera set an instrument plan for inclusive education to have the middle priority.

Qualitative Analysis

Qualitative data in the current study was gathered from interviews with ten kindergarten principals, including four participants from the control class, and six participants from the experiment class. With the help of the research assistants, interviews were conducted to support the findings of the quantitative data and to reveal three major themes of inclusive education in kindergarten, which are:

- Kindergarten principals' perspectives on inclusive education in kindergarten.
- Knowledge and skills in implementing inclusive education.
- Kindergarten principals' experience in professional development in inclusive education.

Kindergarten principals' perspectives on inclusive education in kindergartens.

Kindergarten principals' responses when hearing about inclusive education. The development of inclusive education in Indonesia began in 2019 with the Ministry of Education regulation no. 70. This regulation states that every district should have at least one inclusive school at every level, including kindergarten. However, the term inclusive education was relatively new for teachers and principals.

When asked about their opinions about inclusive education, principals in kindergartens in the control class mostly discussed the definition of inclusive education. According to P1:

> When I heard about inclusive education, I thought it was an educational service that could accommodate all students, both those with typical development and those with special needs. So, in my opinion, inclusive education is a school or institution that accepts all students, both normal and special needs students.

P4 talked from the perspective of children:

> The first is that [every]child is unique, so whomever the child is, regardless of their socioeconomic status, they have the right to get the same education as other children like that […].

In the experiment class, principals mostly responded to their changing paradigm, as P7 and P9 said. P7 said:

> At first, I imagined that inclusive education was impossible. Sorry, Madam, it is a bit; I am just venting. I imagine that [inclusive] education is difficult for me. The kindergarten principal and my teachers are our first sight [….] it turns out that when we know, it is something we thought was impossible, which was difficult before we could do it.

P9 provided a similar answer:

> After attending the training, [my] paradigm of thinking was different, so at the beginning, we could say that we were inclusive…[at first] I also think about children with special needs who physically may look different from most children […] inclusive schools can embrace all children because it is possible to get education for all children without exception in experiment class.

Other principals in the experiment class also expressed their changing points of view on inclusive education. However, she pointed out the appropriate treatment for the term of inclusive education. P10 said:

> It turns out that inclusive education must be carried out in a very planned and careful manner in treating children […][after the training], so I started to open up *oh,* it turns out this is how it treats children with special needs.

Kindergarten principals' answers to this statement showed that they had different views of inclusive education; the answers also indicated that the different classes of professional development made a clear difference in how they responded to the term inclusive education itself. While most principals in the control class considered inclusive education by its most basic definition, like putting special needs students in a regular classroom, the principals in the experiment class talked about their changing attitudes toward inclusive education.

Responses toward the implementation of inclusive education at the kindergarten level. Responding to the question about implementing inclusive education at the kindergarten level, all the experiment and control class principals expressed the same opinion. They all agreed that inclusive education was the right way to accommodate all students with special needs. P1 from the control class said:

> Very appropriate. Because when we can provide inclusive education services, even though, as in my institution, I have not been able to provide it optimally, it can help students who have obstacles, even if only a little […].

P7 also shared the same opinion:

> For me, it is very appropriate, and it is a pity if they do not gather with friends of the same age. In the end, friends can help each other […].

P10 gave her opinion about the early stage of children. She said:

> I think it [the implementation of inclusive education] is right because the first years are important times for children at an early age in kindergarten […].

Barriers to implementing inclusive education at kindergartens. In this section, principals are divided into two groups. The first group of principals thought that the main barrier to implementing inclusive education at the kindergartens was the human resources

they had available. The other group mentioned acceptance. P1 from the control class explained:

> The first is human resources. In my institution, we do not have well-qualified human resources for the needs of inclusive education. The second is about the budget. We know that when we want to implement the inclusive program, we want to provide the full service because we certainly want the best for them to learn safely, comfortably, and with fun. That is usually a bit expensive […].

P3 also expressed the same idea. She said:

> Teachers and school principals do not understand the concept of inclusive education and children with special needs, and kindergarten principals do not understand the learning management strategy of inclusive education settings.

The same idea was shared by P7 from the experiment class. She said:

> For me, the first is the human resource, the second is the infrastructure, and the third is the curriculum; how is the curriculum related to inclusive education […].

The opinion that acceptance could be a barrier to implementing inclusive education was given by P4 and P10. P4 said:

> […] there is only one obstacle; the first is acceptance. The recipients of parents are different every year; the parents who were given an explanation last year already understood. Now, the parents are different; again, you must explain back to the parents. Then, the infrastructure for special-needs children and the knowledge [about inclusive education].

P10 said:

> The main obstacle is the acceptance of teachers and the lack of training from organizations or institutions, so teachers do not understand how to prepare for individual learning.

Although they slightly gave different opinions about the barriers to implementing inclusive education, their responses show that principals faced almost the same challenges when they wanted to implement inclusive education: attitudes toward inclusive education, whether they be from parents', principals', or teachers.

The benefits of implementing inclusive education. When discussing the benefits of implementing inclusive education, principals shared almost the same idea about the basic right of children to get an education. P3 from the control class said:

> The benefits of inclusive education for children with special needs and regular children are fostering respect for differences, fostering a caring attitude toward others, growing a sense of love and affection for others, and providing play and learning services according to the needs and abilities of children.

P1 shared the same response:

> The first benefit is that we can provide facilities to all students, both normal and with special needs. Then when students with special needs are combined with normal students [in one class], normal students will learn to empathize, respect, and understand each other […].

Meanwhile, principals from the experiment class supported inclusive education by mentioning some benefits. P6 said:

> Firstly, children respect each other's differences, and then they can increase their gratitude that they are physically intact, but their friends are not. Now it's just up to the teacher how to grow the gratitude for God's gift. The second one is to foster empathy and a sense of caring among others, and many positive things benefit from inclusive education.

P7 mentioned both from regular and special needs students' perspectives. She said:

> Children without special needs will learn from their environment. Firstly, their character will become strong. They can respect each other and appreciate the strengths and weaknesses of their friends. For children with special needs, I think their self-confidence will grow, and they will feel very appreciated that way and feel the same with other friends. That is actually what I can draw from the observations of my students.

P10 expressed the same opinion. She said:

> The benefits are for children with special needs. Their needs, which are different from regular children, are met. Children without disabilities may become more caring and understand better that there are different friends around their environment, so they will care about wanting to help their friends who are different from them.

Based on the responses, principals understood that implementing inclusive education benefits special needs children as well as regular students. In addition, there was no contradiction between the control and experiment class. Principals shared the same opinion that the right of special needs students were met and regular students could learn to respect and care for them when kindergartens implemented inclusive education.

Principals' knowledge and skills in implementing inclusive education.

The function of the principal in actualizing inclusive education at kindergartens. After exploring principals' understanding of how to implement inclusive education in kindergarten, including the barriers and benefits, the next phase was to determine the role of principals in implementing inclusive education. When principals were asked about the function of a principal in actualizing an inclusive education setting in the kindergarten, all principals agreed on one thing: the role of the principal was important. P1 said:

> This [the function of the principal] is essential because a principal has the full right to run an institution. So when the principal can accept the existence of children with special needs and then tries to provide services for children with special needs, God willing, the principal can mobilize stakeholders to provide educational services together […] jointly".

P2, P3, and P4 responded the same. According to P3:

> In my opinion, it is vital [the function of principals], right, because if the principal does not understand controlling, evaluating, and so on, inclusive education will not be able to run optimally.

All principals (P5, P6, P7, P8, P9, P10) from the experiment class also agreed that the function of principals in implementing inclusive education at kindergartens is crucial. P6 said:

> […] the spearhead of an organization moving well depends on the leadership.

While P9 gave an analogy:

> So, it is just like the body parts. The kindergarten principal is the brain, and if the brain does not signal to the hands, the hands cannot move; maybe that is the analogy […].

It was clear that the function of a leader in a school setting, including in kindergartens, was irreplaceable, and that principals played an important role in actualizing inclusive education at kindergartens.

The characteristics of leadership that can support the implementation of inclusive education in kindergarten. When principals were asked about the leadership characteristics needed to support the implementation of inclusive education at kindergartens, every principal gave different opinions. However, being open-minded was mentioned frequently. P3 from the control class highlighted the critical factors of excellent characteristics of leadership.

> The leadership characteristics of kindergarten principals who support inclusive education are: understanding the concept of inclusive education and regulations on inclusive education, having compassion for all children and understanding the diversity of children, and having five principal competencies, which are managerial, supervision, social, personality, and entrepreneurial competence.

Some principals from the experiment class claimed that open-minded principals would create an excellent inclusive education atmosphere at the kindergarten. P9 said:

> In my opinion, leadership that is open to all changes is characteristic of leaders who want to leave their comfort zone.

P10 responded with the same opinion:

> Leadership is open and participatory, for example, following the teachers' wishes, although we also have a program. For example, we have a program [inclusive education] [...]. A program like this should be like this; we must plan. How to plan, implement, and evaluate it.

Other than talking about open-mindedness, other principals also considered the spirit of learning. P1 from the control class said:

> The first may be those who value tolerance. Those with a high fighting spirit who continue to learn to improve self-capability are open to all students' circumstances. The most important point may be that we sincerely intend that all students have the right to obtain education services.

Response regarding principals' knowledge and skills to implement inclusive education at the kindergartens level. The current study's results showed that understanding the concept of inclusive education was the priority for kindergarten principals to implement inclusive education. Almost all principals claimed the importance of inclusive education as must-have knowledge for principals.

P2 from the control class highlighted the importance of understanding the inclusive program as important knowledge for principals by saying:

> […] the main knowledge is that the principal must also understand early child growth and development detection. The inclusive school program and so on are also related to the curriculum […]

P1 and P3 also suggested that inclusive education should be the primary knowledge for kindergarten principals. P1 said:

> First, the most basic knowledge may be about the concept of inclusive education and how to identify children with special needs.

P3 also said:

> Understanding the concept of inclusive education and regulations on inclusive education, having compassion for all children, and understanding the diversity of children […].

In line with the opinions of the control class, a principal from the experiment class explained that the concept of inclusive education should be the priority knowledge for principals to have. P6 said:

> The most important knowledge is about the concept of [inclusive education] in kindergarten itself.

Other principals believed that the learning process for inclusive classes should be the first to be learned. P10 said:

> Knowledge of how to guide children [in inclusive class], what kind of counseling guidance they need, and how to stimulate them.

P7 added:

> I think the first one is that it is a kind of framework for the direction of learning.

From the answers, the statements aligned with the finding that the concept of inclusive education was prioritized more than any other knowledge to help principals implement inclusive education.

Regarding skills, most principals in the control class (P2, P3, and P4) agreed that managerial skills should come first for principals to help them implement inclusive education at kindergartens. P1 tended to believe that motivating skills should be the priority. She said:

> The first may be the skill to motivate teachers always to be open […].

Other principals from the experiment class shared the same opinions as principals from the control class that managerial skill was the most critical to implementing inclusive education. P6 said:

> The most important skill was managing.

She then added:

> In inclusive education, the management of the content of the standard process is the most important. In education, it is the reference we teach. If the planning is not right, it will impact the implementation and the evaluation […].

P6's opinion was the same as P10's. She also said:

> The skill to manage so that her teachers can serve children with special needs.

However, P9 from the experiment class highlighted the other skills that kindergarten principals should have to implement inclusive education by saying:

> In my opinion, skills start from planning, carrying out learning activities, and evaluating their implementation.

Most principals' statements uniformly highlighted managerial skills as crucial for implementing inclusive education in their kindergartens, as well as managing the overall education system.

How principals gain skills and knowledge in inclusive education. All principals from the control class shared the same opinion when asked how they gained skills and knowledge in inclusive education; they said that professional development and training could improve their knowledge and skills in inclusive education. P3 explained:

> […] We hope there will be a systematic and continuous training program to discuss and thoroughly explore the leadership strategy of the kindergarten principals in implementing inclusive education settings in kindergarten.

P1 also said:

> So far [to gain skills and knowledge] when I go to college, that is one of them. Then the second is training, one of which was held by P4TK [National Training Provider for Kindergarten and Special School Teachers] yesterday regarding inclusive education, even though it was online […].

Principals from the experiment class also claimed that professional development is one of the best ways to gain skills and knowledge in inclusive education. P7 said:

> I will run the fastest if there is training on inclusive education. I will join that first […].

P9 mentioned:

> I felt it was enough to get it through yesterday's training, so I just returned again, then the teachers and I developed it.

P10 added:

> Retake the training. For example, training is organized by the P4TK [national teacher training center] or the education office or IGTKI [kindergarten educators association].

Professional learning was the principals' favorite way to improve their skills and knowledge. So far, the national training center for teachers and principals, PPPPTK TK and PLB (teacher training center for kindergarten and special teachers), has been most common.

However, some principals complained about the traditional method of professional development. The current study therefore revealed a new professional development model for inclusive education.

Kindergarten principals' experience with professional development in inclusive education.

Principals' attitudes toward inclusive education after joining the Professional Development in Inclusive Education (PDIE). The main goal of the current study was to determine the effectiveness of the proposed professional development model in inclusive education for kindergarten principals in Indonesia. The quantitative findings revealed that the new professional development model effectively changed principals' attitudes toward inclusive education from moderate to positive. In contrast, the conventional professional development model did not significantly differ in attitude before and after professional development.

The principals from the control class were then interviewed to support the finding. The attitudes of some principals in the control class seem to be more positive after joining the professional development in inclusive education. P2 said:

> First of all, I am motivated to make an inclusive school. Indeed, we facilitate and open up such opportunities. Although later, there may be limitations, I am motivated.

P2 now started to look at children with special needs as unique children that need special attention. Before that, she admitted that she underestimated them. P2 then added:

> We now see the child more objectively.

P1 said:

> Inclusive education must be implemented in kindergartens that serve children aged 4 to 6 years, yes, early childhood, as a start for further education.

However, other principals in the control class felt that the Professional Development in Inclusive Education had not given them enough understanding about inclusive education. P4 stated that since the Professional Development in Inclusive Education has not touched all kindergartens, many kindergartens have not implemented inclusive education in their schools. So, she expected more training in the future. P4 also explained:

> More effective professional development is not studying the theory alone. For example, we have some children with special needs in our kindergarten, so how do we deal with them?

P3 said:

> Very useful and provides insight into inclusive education […] even though our understanding is still incomplete.

Meanwhile, all respondents in the experiment class argued that the newly developed professional development model in inclusive education had significantly changed their attitudes toward it to become more positive. P6 said:

> My attitude now is very positive, and I am grateful that I can be involved as a participant.

P7 explained that:

> I am very happy that I have received a lot of knowledge, and the most important thing is that I finally understand that I can change my mindset. At first, I thought that children with special needs should not be mixed with normal children because it would be difficult for the teacher. Still, after I found out, *oh*, the learning is very simple, the target is very simple, we can combine them [children with special needs and regular children].

She then added:

> Finally, I conveyed this to my teachers, and the response was extraordinary. If only like this, we could move from the beginning. Yes, we can.

Other principals expressed the same responses. They felt that now, they were more open-minded about inclusion. P8 said:

> Yes, my insight is getting more open, and I understand more and more that children with special needs have to be accepted; whatever the circumstances, we can not refuse them.

She felt that the professional development had impressed her, so she also requested that the teachers be involved in the professional development as she attended.

> So, I am more open to my perspective and more receptive to children with special needs so that I can embrace and love them more now, so there should be no more disgust like that. I think this is very good training. We suggest that teachers, if possible, also be involved in this training.

P9 provided a long response regarding her changing attitudes:

> My view on inclusive education has changed. I have realized that, ideally, all schools are worthy to prepare themselves to be called inclusive schools because education is the right of all Indonesian children, without exception. I do not want to hear that they [children with special needs] came to our school because they were rejected at other schools. I am happy that my teachers have the same voice as me to provide education for all, as what I have learned from professional development is that we all have special needs.

Responses regarding whether the Professional Development in Inclusive Education (PDIE) has successfully improved principals' knowledge and skills in inclusive education.

Besides attitude, improving knowledge and skills in inclusive education was also considered the parameter of the effectiveness of professional development. Most principals said that

professional development in inclusive education (PDIE) has successfully improved their knowledge and skills. P1 from the control class said:

> Yes, when I attended this professional development in inclusive education, I knew the real concept of inclusive education.

P3 agreed, and then added that there were several lessons that she could learn, for example, the concept of inclusive education, understanding children with special needs and how to carry out assessments, and making individual learning plans and evaluations.

In contrast, P2 from the control class claimed that the improvement was only in her knowledge, not her skills. P2 said:

> So yes, there is an increase in knowledge, but it may not be optimal for skills.

When they were asked in what ways their knowledge and skills were improved, P1 explained:

> I feel a simple way to identify children with special needs is the most useful skill for me. For example, if a child has a special need, we will see that from his characteristics. Then from there, we plan a learning program that suits his needs. Of course, using a curriculum that is not equated with normal children and some standards might be reduced according to the child's development. […] We also learned to compose individual programs; although I still have problems implementing them in the field, I am still confused about whether it is appropriate. However, from this training, there are very, very many [lessons] starting from us making a plan and then adjusting it to the characteristics of the needs of our children. We are also given an understanding of how to evaluate it and make the next follow-up program useful.

Another principal from the control class, P4, explained that she now could understand that every child has different learning styles and potential. She also claimed that now she knew how to make differentiation lesson plans.

Meanwhile, all principals from the experiment class agreed that the new professional development model had successfully improved their knowledge and inclusive education skills. P5 said:

> It was very successful if I can give it a star, five from five stars […] God willing, I have learned a lot from yesterday's professional development.

She then explained that the identification and assessment were two lessons that impressed her.

> Especially regarding identification and assessment, to be honest, we have never had a new child that we gave a questionnaire to be filled in by parents. We have never done that; we also just discovered that there are children like that [have special needs].

P7 mentioned that she was excited because this professional development in inclusive education was her first experience.

> Very successful, and I want a follow-up. This professional development is my first experience; I have never participated in inclusive education training.

P8 also showed the same expression. She said:

> Yes, [professional development in inclusive education] improves skills and knowledge because previously, if we were self-taught, it was different. So now, it is even more focused because yesterday, there were experts and material books distributed until we practiced making reports, so it was very different.

She added that she could directly apply the lessons she learned to her kindergarten. In addition, P9 also felt the same; when asked what knowledge and skills might have been improved for her, she replied:

> Design appropriate learning activities for children because inclusive schools serve children with special needs and non-children with special needs. So through that [professional development in inclusive education], we can have the knowledge and skills to design the right activities, find the right learning activities and even evaluate the implementation of our existing learning activities as outlined in the modification plan.

All the responses concluded that the proposed professional development model supported the current study's findings. Principals from the experiment class felt that the professional development in inclusive education had significantly improved their skills and knowledge.

Priority contents in the Professional Development in Inclusive Education (PDIE). The quantitative data of the current study found that most principals claimed that the concept of inclusive education should be the priority learning in professional development related to inclusive education. The finding was relevant to the real condition of inclusive education implementation in Indonesia, where inclusive education was considered new to the education system. The policy to implement inclusive education in Indonesia was issued in 2009, and many schools were not ready. This could be one reason that principals felt they needed to learn more about inclusive education.

However, in the qualitative data, the interviews revealed that principals tended to give a variety of answers when asked about the most important content to learn during the professional development about inclusive education. P1 from the control class claimed that planning in education is the highest priority content because:

> The most important thing is planning because when making plans according to the needs of children, God willing, every child will be facilitated and well served.

Furthermore, when she was asked further if there is anything that could be important for the PD contents, she added that a coaching process should also be included. P1 said:

> Special assistance from experts and organizing institutions was related to the implementation of inclusive education.

This was in line with P3's thoughts; she said:

> Stimulation and intervention contents should be learned deeper as content on composing an assessment format.

P2 had another opinion. According to her, leadership was the most important content to learn. P2 said:

> It is related to leadership; I feel this is how it is [to become a leader in an inclusive kindergarten]. *Oh*, that is the worst in my heart.

Another opinion was given by P5 from the experiment class. She said:

> I think they are all important, but because I do not know the most about identifying and assessing learning needs, I think these contents are my priority to learn about.

P6 and P10 believed that the concept of inclusive education should be learned first. Furthermore, P6 explained several contents needed to learn most:

> The first is understanding early childhood education [in inclusive education], the second is understanding early childhood development, and the third is stimulation, detection, and early intervention for child development, which is important for a teacher and school principal. The third [fourth] is the communication strategy for parents with special needs children.

P7 gave another thought:

> The first lesson is about the types of children with special needs and how we screen them, then how to become the principal of an inclusive kindergarten. The third is related to implementing daily and weekly lesson plans and assessments.

According to P8 and P9, individual lesson plans were their priority content. P9 said:

> It [individual lesson plan] is very helpful to open the horizon. We can even produce our own modified lesson plans and self-assessment tools to accommodate children with special needs and regular children.

Level of self-confidence as a principal at an inclusive kindergarten after joining Professional Development in Inclusive Education (PDIE). When principals in the control class were asked if they were confident or not about implementing inclusive education after joining the professional development, they were divided into two opinions: some were confident while others were not. P1 explained:

> Right now, to be honest, I'm not confident because I still have to dig and add more references to my knowledge about inclusion. Hopefully, there will be a follow-up to the previous training to deepen our understanding. Finally, I am confident that I am ready to become the principal of a school that provides inclusive education. So, during the training, if possible, later, material about good practices or special tricks when dealing with children with special needs can be inserted.

P2 gave the same opinion. She said:

> Between confident and not. If it is said I am motivated, yes, I am motivated, but if I say I am confident, actually, I am not. However, if you say *Bismillah* [in the name of God], you have to go.

On the other hand, P3 said:

> God willing, I feel confident because, since the beginning of kindergarten, we have had a vision, mission, and goals in realizing inclusive education.

P4 assumed that she was the one that should convince herself to implement inclusive education.

> For me, you have to deceive yourself. […] Especially because of government regulations, we cannot do anything if all education must be inclusive. However, the inclusive kindergarten is a general kindergarten in our city, so if there is a child with special needs, I will just accept him.

However, all respondents (P5, P6, P7, P8, P9, and P10) in the experiment class claimed they felt confident after joining the Professional Development in Inclusive Education. P8 said:

> Yes, I am quite confident, but that was what I needed, maybe support from our friends so that they also have more insight about children with special needs in inclusive education, so I don't feel like I am moving alone.

P10 gave a simple answer:

> God willing while doing it.

P9 mentioned that she felt confident because she got instruments from the professional development to implement inclusive education in her kindergarten.

> What makes me most confident is that now I have a "weapon" to do it [implement inclusive education] as early as possible. From the registration of new students, we have been ideally able to analyze and measure [students] using these instruments.

The participant's confidence level after joining the professional development was the last theme proffered as the qualitative data to support the finding of the current study. There was a slightly different response from the control and experiment class principals. Principals

from the control class tended to feel that they were not fully confident in implementing inclusive education at their kindergarten despite having joined the professional development in inclusive education. In contrast, principals from the experiment class believed they could implement inclusive education after joining the proposed professional development model.

An Overview Analysis of Quantitative and Qualitative Findings

The first research question of this study was to identify the attitudes of Indonesian kindergarten principals toward inclusive education both before and after they took part in a new model of professional development in inclusive education as a part of an intervention program (RQ1). To respond to this question, the mean attitudes of experiment class teachers were evaluated and investigated. Before the professional development, the quantitative data revealed that the opinions about inclusive education from the principals in the experiment class were 2.8, indicating a moderate attitude (defined as a score between 1.3 and 3.5). Following the professional development, the views of kindergarten principals regarding inclusive education increased an average of more than 3.5.

To gain more accurate data, the paired t-test was used. Results from the same paired t-test found a significant difference in principals' attitudes in the experiment class before and after the professional development. Before the professional development, the average mean was 2.8 (moderate), and after was 3.6 (positive). In addition, the value of significance value (sig. 2-*tailed*) of the paired t-test result was less than 0.05 (<0.05), meaning that there was an influence on the use of professional development in inclusive education for experiment class.

The same was shown in the finding of the interview-based qualitative research. The responses from the experiment class all suggest that the newly designed model for professional development in inclusive education has dramatically shifted the respondents' opinions toward it, making them significantly more favorable. Respondents noted that they

now felt more responsive to children with special needs after participating in the recently established professional development.

A quantitative and qualitative analysis was conducted to determine the difference in the principals' attitudes toward inclusive education in the control group before and after professional development (RQ2). The control group revealed that the mean score of principals' attitudes toward inclusive education before receiving professional development was 3.0, ranging from 1.3 to 3.5, indicating that the majority of participants had a balanced perspective on inclusive education. After the professional development, another evaluation of the attitudes was carried out. The mean score was 3.1, which suggested a reasonable degree of attitude despite the slight advancement. This was indicated by the fact that the score improved somewhat.

A paired t-test was used to collect data that was significantly more accurate regarding the difference before and after development. The paired t-test suggested that there was no significant difference for the control class before and after professional development.

According to the qualitative research, although some kindergarten principals agreed that conventional professional learning had helped them become more aware of inclusive education, others confirmed that they had not gained sufficient knowledge to improve their attitudes toward inclusive education. Some kindergarten principals believed that they still required further training in the future to equip themselves with knowledge regarding inclusive education before they could successfully implement it in respective schools.

An independent t-test was used to answer RQ3, which asked whether there is a difference in the attitudes that principals have toward inclusive education depending on whether they receive professional development with or without the intervention program. The results showed that the probability value or sig. (2-tailed) was less than 0.05; as it was less than 0.05, it was translated to 0.000. It was then discovered that there was a substantial

difference in the views of kindergarten principals toward inclusive education between the individuals in the control class and those in the experiment class.

According to the qualitative study, principals assigned to the control group tended to agree with the hypothesis that their attitude toward inclusive education had not been successfully modified. The principals assigned to the control group felt that the professional development in inclusive education had not provided them with sufficient knowledge about inclusive education. In contrast, the principals of the experiment class reported a considerable improvement in their attitude toward inclusive education and an enhanced level of confidence in their ability to accommodate children with special needs in their kindergartens.

Several analyses were conducted to determine whether the intervention program was successful (RQ4). Analysis of the questionnaire revealed that more than half of the participants (52.1%) strongly agreed, and almost half of the participants agreed (37.1%) that the new model for professional development is effective. However, around 0.3 percent of participants stated that the in-on-in program for professional development was completely unsuccessful.

The results of the ANCOVA showed that the value of the sig. class variable showed that sig = 0.000 < 0.05. It was, therefore, possible to draw the conclusion that there was a significant difference in the level of expertise that kindergarten principals had between those who participate in the in-on-in professional development and those who participated in traditional professional development. In other words, principals who participated in professional development with an in-on-in intervention program had a higher level of expertise than principals who participated in traditional professional development.

The following analysis will be taken from the output table of the parameter estimates tool. The sig. value for the class variable was determined to be sig. = 0.000 < 0.05. Consequently, it was possible to demonstrate that the in-on-in intervention professional

development program for inclusive education for kindergarten principals successfully enhanced the participants' level of expertise.

The replies to the interview all pointed to the same conclusion. When asked if the newly designed professional development approach had effectively increased their knowledge and inclusive education abilities, principals from the experiment class all agreed that it had. They thought that the newly developed model for professional development satisfied their requirements for inclusive education.

To discover the most important subjects for professional development in inclusive education, an R analysis was carried out (RQ5). According to the findings, the majority of principals in both the control and experiment classes believed that understanding the idea of inclusive education is the primary knowledge principals must have to manage inclusive kindergarten classrooms. The instrument plan was the third priority, followed by the assessment completed in the inclusive classroom. In addition, the principals of the control class placed expert coaching and assessment at the very bottom of their list of key topics for teachers to study as part of their professional development. Evaluation was not a particularly high priority for principals participating in the experiment class designed to train them in implementing inclusive education.

Based on the findings of the qualitative research, several principals from the experiment and control classes shared the opinion that the idea of inclusive education should be the most important thing to learn during professional development in the field of inclusive education. However, many other principals presented contrasting points of view, suggesting that planning and coaching are the two most significant aspects of professional growth. Some believed effective leadership was necessary to implement inclusive education in kindergartens successfully.

In general, based on the results shown above, the data obtained from the qualitative study corroborated the conclusions obtained from the quantitative data used in this study. In a few instances, the principles may have answers distinct from the preliminary quantitative results; nevertheless, in most instances, all qualitative findings were appropriate and pertinent to the quantitative findings.

CHAPTER V

DISCUSSION

Kindergarten Principals' Attitude Toward Inclusive Idication

According to many researchers' findings, the attitudes of educators toward inclusive education are the primary factor in determining how successfully it is implemented (Avramidis & Kalyva, 2007; Barnes & Gaines, 2015; Elisa & Wrastari, 2013; Fitrianasari, 2015; Monsen et al., 2014; Muzdalifah & Billah, 2017). In addition, the attitudes that educators have toward inclusive education has a significant impact on the atmosphere of the classrooms in inclusive schools (Monsen et al., 2014). Barnes and Gaines (2015) argued that educators with a favorable attitude toward inclusive education might generate a positive school culture, which would promote great student results.

Attending professional development opportunities focused on inclusive education is one of the ways that principals may acquire the necessary positive attitudes. In a study by Avramidis and Kalyva (2007), 60% of 135 participants felt that their knowledge would affect their opinions. One-third of respondents believed that they might achieve greater expertise via professional development. In addition, Prinsloo (2006) believed that ongoing professional development was one of the most important factors in favorably influencing educators' attitudes toward inclusive education.

Kindergarten principals' attitude toward inclusive education before and after joining the intervention program of professional development. This study's first research question sought to understand the attitudes of Indonesian kindergarten principals regarding inclusive education before and after their participation in a new model of professional development for inclusive education as part of an intervention program. The mean attitudes of experiment class principals were assessed to answer this question. The quantitative data

found that principals' attitudes toward inclusive education in the experiment class before the professional development was 2.8, and a mean score between 1.3 and 3.5 indicated a moderate attitude. After the professional development, kindergarten principals' attitudes toward inclusive education improved to 3.6, indicating a positive attitude since the mean was more than 3.5.

Based on every category from the analysis of the eigenvalues for each component in the data, the attitudes of Indonesian kindergarten principals toward inclusive education were measured before and after the professional development in the control class. The five components refer to three basic attitude elements: cognitive, affective, and behavioral.

In the first cognitive element, the belief in implementing inclusive education in the school setting, the principals' attitudes were considered moderate before the professional development and became positive after the professional development. The second cognitive element is teachers' perceptions of accepting children with special needs in a regular classroom. The attitudes for the second cognitive also changed from moderate to positive. The other elements of attitudes showed the same result, i.e., that the principals' attitudes changed from moderate to positive. The only exception was the first affective element, which was teachers' concerns about teaching diverse students in an inclusive classroom. Although there was a slight improvement in this element, from 2.9 to 3.1, the category remained moderate.

In his thesis, Cayer (2019) explained that professional development and training related to inclusion significantly correlated with teachers' basic attitudes, such as cognitive, affective, and behavioral. Using a sample of 150 teachers from Canadian high schools, he observed that the teachers' behavioral attitudes toward inclusion were the most favorable, while their emotional attitudes toward inclusion were the least positive.

The finding of the qualitative study from the interview showed the same. All respondents in the experiment class stated that the newly developed professional development model in inclusive education had significantly positively improved their attitudes toward inclusive education. One of the respondents mentioned that, after joining the newly developed professional development, she felt more receptive to children with special needs and could embrace and love them more.

Other previous studies confirmed this study's results. According to Robinson and Carrington (2002), a professional development model that involves the real work of teachers would be effective in changing teachers' attitudes toward inclusive education. Furthermore, they believed that the new model of professional development in inclusive education, i.e., the "change process" had been important for successful professional development. The same idea was discussed by Avramidis and Kalyva (2007), who found that long-term professional development for teachers was able to positively change teachers' attitudes toward inclusive education.

However, a newly introduced or developed program in professional development was not always successful. A study by Wilkins and Nietfeld (2004) found that a new professional development program failed to improve teachers' attitudes toward inclusive education. By applying Project WINS (Winning Ideas Network for Schools), their study aimed to determine whether the program would greatly impact teachers' attitudes toward inclusive education. After using comparison groups of control and experiment groups, their study found that the newly introduced program had not successfully improved teachers' attitudes toward inclusive education.

Furthermore, a three-way ANOVA was conducted to examine the effect of principals' ages, domicile, and personal experience in professional development regarding inclusive education on their attitudes toward inclusive education in the experiment class. As this study

included only three male respondents, considerations of gender were excluded. It was found that there was no statistically significant three-way interaction, $F(3, 40) = 2.247$, $p = .119$ ($p > 0.05$) among the variables.

In addition, there was also no significant two-way interaction effect of principals' attitudes among age and domicile, $F(6, 40) = .395$, $p = .878$ ($p > 0.05$); age and experience in professional development in inclusive education, $F(2, 40) = 2.031$, $p = .145$ ($p > 0.05$); or domicile and experience in professional development about inclusive education interaction effect, $F(3, 40) = 2.107$, $p = .115$ ($p > 0.05$).

These findings were relevant to the previous study. For example, a Dukmak (2013) study mentioned no relationship between teachers' attitudes toward inclusive education and their age. In addition, Dopudong (2014) revealed no differences in attitudes among teachers when grouped according to age and professional development, such as training in special education. However, a study by Hwang and Evans (2011) mentioned otherwise. Their study of 29 Korean general education teachers from three primary schools found that the older a teacher was, the more negative their attitude toward inclusive education.

In contrast, some studies revealed that previous professional development significantly impacted teachers' attitudes toward inclusive education (Brownell et al., 2005; Forlin et al., 2009; Hsien et al., 2009; Seçer, 2010). In their study, Hsien et al. (2009) claimed that teachers with professional development experience indicated higher confidence, knowledge, and efficacy in implementing inclusive education.

However, some studies also mentioned that previous experience in professional development did not correlate with the teachers' attitudes toward inclusive education (Ahmmed et al., 2012; Orakci et al., 2016). Using the Pearson product-moment correlation coefficient (n = 738), Ahmmed et al. (2012) found no significant correlation between

previous training for inclusive education and teachers' attitudes toward including children with disabilities.

In the current study, the domicile variable was lifted since Indonesia is an archipelago country with around 17,000 islands. The domicile variable was analyzed to determine the correlation between principals' domicile and their attitudes toward inclusive education, which few previous studies have done. A study from Portugal with 68 preschool teachers found no correlation in attitudes toward inclusive education between teachers from urban and rural areas (Dias & Cadime, 2016). The results indicated that all teachers had positive attitudes toward inclusive education.

Meanwhile, a study from China discussed the relationship between urban and rural teachers and their attitudes toward inclusive education (Meng, 2008). Meng (2008) found a significant difference between teachers' attitudes from rural-urban areas, where teachers from urban areas had a more negative attitude toward inclusive education than teachers from rural areas. In contrast, a study in India found that urban teachers had a more positive attitude toward inclusive education than rural teachers (Singh et al., 2020).

Above all, it can be concluded that the professional development intervention program effectively boosts principals' attitudes toward inclusive education. It was also found that there was no statistically significant three-way interaction among principals' ages, domicile, and personal experience in professional development regarding inclusive education on principals' attitudes toward inclusive education.

Kindergarten principals' attitude toward inclusive education before and after joining the traditional professional development. The second study question asked about kindergarten principals' attitudes toward inclusive education both before and after they participated in the conventional professional development for inclusive education. To answer

this question, 60 kindergarten principals joined the traditional professional development in a control class.

According to the quantitative data analysis conducted on the control group, the mean score of principals' attitudes toward inclusive education before receiving professional development was 3.0 within a range of 1.3 to 3.5. This indicated that most participants held a moderate attitude toward inclusive education. The attitudes were evaluated again once the professional development had been completed. The mean score was 3.1, indicating a moderate attitude level despite minor improvement. To obtain more precise data regarding the differences, a paired t-test was utilized. The results of the paired t-test indicated that there was no significant difference between the control class before and after professional development.

The "sit and watch" approach was the only combination of professional development used in the conventional professional development investigated in the current study. As was anticipated, it did not influence the attitudes of principals regarding inclusive education. According to the findings of most research studies, conventional professional development does not increase teachers' abilities because of its top-down structure, one-size-fits-all character, and absence of continuous follow-up and support (Shurr et al., 2014; Utami & Prestridge, 2018; Visser et al., 2014).

The results of the analyses of the three basic attitude elements, cognitive, affective, and behavioral, were the same. There was no improvement in principals' attitudes toward inclusive education before and after the professional development; their attitudes remained moderate. This finding supported the finding by Lee (2013), who no significant statistical correlation between teachers' self-efficacy as a part the cognitive element for inclusion and professional development by teachers.

Meanwhile, although there was no comparison between pre- and post-professional development, a study by Kurniati et al. (2012) revealed that Indonesian teachers generally held a positive attitude toward inclusive education in three aspects of attitudes, namely cognitive, affective, and behavioral. Their study then showed that the attitudes of the regular and special school teachers differed considerably on the cognitive–affective scores. Regarding behavioral scores, the regular and special groups had similar results.

In contrast, a literature review by De Boer et al. (2011) showed that in 26 studies, most teachers had negative or neutral cognitive, affective, and behavioral attitudes. Teachers did not consider themselves very knowledgeable about teaching students with special needs. In addition, six of these studies mentioned that teachers felt incompetent and unconfident in teaching students with various types of special needs (De Boer et al., 2011)

From the qualitative study, although some principals agreed that conventional professional learning had opened their eyes to the benefits of inclusive education at the kindergartens, some still confirmed that they had not gained enough skills to boost their attitudes toward inclusive education. P4 explained that the professional development was ineffective since it was only based on the theory, not implementation. P3 thought that her understanding was still incomplete. P2 stated that the improvement was only in her knowledge, not her skills.

This conclusion corroborated the findings of several previous studies concerning the inadequacy of traditional professional development to increase the attitudes and competencies of teachers, such as the study conducted by Reina et al. (2019). That study concluded that the conventional method of professional development was not successful in altering the attitudes of 40 Spanish physical education teachers (PET) toward inclusive education. This outcome was also consistent with the findings of Sykes's research (1996). He claimed that the conventional method of professional development, in which educators complete a single

training session, was insufficient to foster the growth of their abilities. Artman et al. (2020) similarly claimed that conventional methods of professional development fell short of satisfying the requirements of educators. As a direct consequence of this, the students' accomplishments were challenging to acquire.

The result of a three-way ANOVA analysis was the same as the experiment class. It was found that there was no correlation between principals' ages, domicile, and personal experience in professional development and their attitudes toward inclusive education in the control class. The same discussion from the experiment class could be applied here, where some studies supported no correlation between principals' ages, domicile, and personal experience in professional development variables and teachers' attitudes toward inclusive education, such as between ages and attitudes toward inclusive education (Avramidis & Norwich, 2002; Dopudong, 2014; Ellins & Porter, 2005), between personal experience in professional development and attitudes toward inclusive education (Abu-Hamour & Muhaidat, 2013; Ahmmed et al., 2012; Orakci et al., 2016), and between domicile and attitudes toward inclusive education (Dias & Cadime, 2016).

On the other hand, as mentioned in the experiment class's findings, some studies revealed a correlation between those variables and teachers' attitudes toward inclusive education. Among the studies that supported the correlation between ages and attitudes toward inclusive education are Abu-Hamour and Muhaidat (2013), Hwang and Evans (2011), and Vaz et al. (2015). In addition, regarding the relationship between professional development and attitudes toward inclusive education, some studies suggest that professional development is correlated with teachers' attitudes toward inclusive education (Brownell et al., 2005; Forlin et al., 2009; Hsien et al., 2009; Seçer, 2010). Forlin et al.'s (2009) study revealed that professional development significantly improves younger trainee teachers' attitudes toward inclusive education, but not older ones.

One interesting point is the domicile variable. Some studies mentioned that domicile correlates with teachers' attitudes toward inclusive education. Studies by Meng (2008) and Singh et al. (2020) mentioned a significant difference in attitudes toward inclusive education between urban and rural teachers. When it comes to culture, some opinions support a correlation between culture and attitudes toward inclusive education (Hofstede, 2001; Leyser, 1994; Van Steen & Wilson, 2020). In their study, Van Steen and Wilson (2020) revealed that individualistic societies have more positive attitudes toward inclusive education than collectivist societies. They suggested that this is the result of individuals believing that inclusive education has no negative effects on typically developing children. Compared to Indonesia, this finding could be aligned with some areas like Java, where people tend to be more individualistic than in Sumatra, Kalimantan, and the eastern part of Indonesia.

The difference in attitudes toward inclusive education of kindergarten principals who joined professional development with and without the intervention program. To answer RQ3, which asked about the difference in attitudes toward inclusive education between principals who were in the control or experiment classes, an independent t-test was conducted. Based on the analysis of the independent t-test, the probability value or sig. (2-tailed) was less than 0.05, which was 0.000. It was then found that a significant difference existed between kindergarten principals' attitudes toward inclusive education in the control and experiment class participants. The independent t-test also confirmed a significant difference in the principals' cognitive, second affective, and behavioral elements between the control and experiment classes.

The result of the current study was backed up by what kindergarten principals explained in the interview. Principals from the control class tended to believe that their attitude toward inclusive education was not successfully improved; they also considered that the professional development in inclusive education had not given them sufficient

understanding about inclusive education. As a result, their attitudes toward inclusive education were not improved.

P1 from the control class said that when she attended this professional development about inclusive education, she understood the concept of inclusive education. P4 explained that practical skill was needed more than just the theory alone, and that the conventional professional development class was primarily theory. She expected more training in the future. Furthermore, P2 from the control class felt that the improvement was only in her knowledge, not her skills, which she felt might not be optimal.

In contrast, principals from the experiment class felt that their attitude toward inclusive education was significantly increased, and they felt confident in accepting children with special needs in their kindergartens. P6 from the experiment class said that her attitude now was incredibly positive, and she was grateful that she could participate. P7 explained that she finally could understand the implementation of inclusive education in kindergarten, but even more importantly, that she could change her mindset about inclusive education. Before completing the professional development, she thought teaching special needs children in mainstream classrooms would be exceedingly difficult for teachers. After completing the class, she understood that it could be implemented.

Other principals from the experiment class expressed the same responses. They felt that now, they were more open-minded about inclusion. P8 said that her insight about inclusive education was more open, and she now believed that all special needs children should be accepted in mainstream schools, whatever their conditions. P9 provided the same response. She felt that her view on inclusive education had changed. She realized that all schools should be inclusive because education was the right of all Indonesian children, without exception.

The current result was aligned with some previous studies. According to Robinson & Carrington (2002), the conventional professional development model failed to improve teachers' competencies because conventional professional development was not practical and did not target their specific needs. Mangope & Mukhopadhyay (2015) revealed that conventional professional development, like the one-time workshop, was ineffective in equipping teachers with skills and knowledge in inclusive education.

Specifically, regarding the shift in attitudes toward inclusive education resulting from professional development, several studies reported varying degrees of success. Studies such as Ediyanto (2020), Kuyini and Desai (2008), Lambe (2007), Lifshitz et al. (2004), and Male (2011) all noted that teachers' attitudes toward inclusive education improved through professional development (2011). Male found that 48 teachers who were enrolled in a master's program in special and inclusive education indicated having more positive attitudes at the end of the professional development compared to the beginning in four categories of inclusion. These categories are physical/sensory, social, academic, and behavioral inclusion. Male found that these attitudes were more positive at the end of the professional development than at the beginning.

Sari (2007) presented a study about the influence of an in-service teacher training (INSET) program on teachers' attitudes toward inclusion. Like the current study, she applied a quasi-experimental design with 61 teachers in an experimental group and 61 in a control group. She found that there was a positive improvement in teachers' attitudes toward inclusion in the experiment class compared with the control class. On the opinions relative to mainstreaming scale, the study's experimental group obtained considerably higher scores ($t = 15.6$, $p < 0.0001$) on the post-test than the pre-test.

In contrast, a study by Woolfson and Brady (2009) argued that there was no correlation between teachers' experience in professional development and the improvement

of their attitudes toward inclusive education. Wilkins and Nietfeld (2004) showed the same results. They used the Project WINS (Winning Ideas Network for Schools) program to determine the differences in attitude between the experiment and control group, however, they did not find any differences between the two groups, meaning that the intervention did not influence teachers' attitudes on the topic. That study's authors assumed that the program failed because the experiment class teachers had not bought their professional development experience into the inclusion-based classroom approach. To conclude, it is clearly seen that the in-on-on intervention program of professional development significantly improves kindergarten principals' attitudes toward inclusive education compared to the professional development without an intervention program.

The Effectiveness of In-on-in Program in Professional Development

The main focus of the current study was to determine the effectiveness of the proposed program for professional development regarding inclusive education, especially for kindergarten educators in Indonesia. The program was developed to gain maximum benefits in attitude changes.

The analysis results showed that the newly developed program in professional development succeeded in improving kindergarten principals' attitudes toward inclusive education. Using an independent t-test to compare the experiment and control class, the in-on-in strategy in professional development was shown to be effective in boosting the attitudes regarding inclusive education for principals in the experiment class attitudes from moderate to positive. In contrast, the attitudes of the principals in the control class remained the same.

However, some analyses have measured the effectiveness of the newly developed professional development model. To measure the intervention's effectiveness in the current study, 60 participants from the experimental group were asked to complete a questionnaire. This questionnaire was divided into nine components containing 37 questions. The analysis

found that more than half of the participants (52.1%) strongly agreed and almost half of the participants agreed (37.1%) that the new professional development model was effective. A few participants were neutral about the program (8.9%). Around 1.6% of participants did not agree that the new professional development model was effective, and around 0.3% of participants through that the in-on-in professional development program is very ineffective. It was therefore concluded that the newly developed model with the in-on-in intervention is an effective model of professional development regarding inclusive education for kindergarten principals.

More than 90% of the participants stated that they agreed or strongly agreed with seven of the nine statements about the in-on-in professional development, saying that it was an active, innovative, creative, effective, and fun; a competency based-program for attitudes, skills, and knowledge improvements; suitable to improve participants' skills and knowledge about inclusive education; and that it had facilitators who were competent in teaching the contents; supportive administration; appropriate infrastructure; and appropriate material.

Regarding the duration of the program, most participants (81.7%) strongly agreed or agreed that the duration was effective. However, only around 75% of participants strongly agreed or agreed that the program provided a legal basis for its implementation.

The ANCOVA analysis was applied to support how the proposed professional development model successfully increased principals' attitudes toward inclusive education and improved their skills and knowledge in inclusive education. ANCOVA analysis determined the effect of treatment on the dependent variable by controlling other variables, which was the result of the post-test in the current study. According to Mackey and Gass (2015), ANCOVA analysis is useful for increasing research precision because the researcher adjusts the influence of other variables.

From the analysis, it was found from the value of Sig. Class variable, that Sig = 0.000 < 0.05. As a result, Ho was rejected, and Ha was accepted. Consequently, it could be concluded that there was a significant difference in the competence of kindergarten principals between principals who participated in professional development with the in-on-in intervention program and those who participated in traditional professional development.

Furthermore, the effectiveness of the intervention program could be determined from Table 4.88, which shows that the Sig value of the Class variable is Sig = 0.000 < 0.05. This shows that the in-on-in intervention program in professional development in inclusive education for kindergarten principals effectively increased their competence.

The interview responses revealed the same result. When principals from the experiment class were asked if the newly developed professional development model had successfully improved their knowledge and inclusive education skills, they all agreed. They believed that the new professional development model met their inclusive education needs. Voltz (2001) mentioned that professional development must be relevant to the needs of teachers for inclusive education to be successfully implemented.

Most principals thought that they could learn much from the new professional development model. P5 said that she was satisfied and impressed with the professional development so that she could learn many things, including identification and assessment. P7 mentioned that she was excited because this kind of professional development in inclusive education was her first experience. She hoped she could join again in the future. The same responses from other principals like P8 and P9. They mentioned that the new professional development model had significantly improved their skills and knowledge.

This finding resonated with some previous studies. For example, Causton-Theoharis, et al. (2011) showed that professional development that included a new strategy in implementing inclusive education could improve teachers' confidence regarding inclusion.

Domitrovich et al. (2009) revealed that teachers' professional development was proven effective using a different strategy. Domitrovich et al. (2009) applied REDI (Research-based Developmentally Informed) as the intervention program for professional development, which included four days of training and weekly coaching for the early education lead and assistant teachers (n = 44). At the end of their study, they found that the intervention program produced teacher engagement that led to a successful professional development program.

The same finding was revealed by Deppeler (2006) regarding professional development in inclusive education. Her professional development program for teachers (n = 45), which included an action research project, used a collaboration strategy between Australian schools and universities. At the end of the study, she reported that teachers' attitudes became positive and that they were more confident and reliant on classroom teaching and learning processes. Furthermore, she argued that the student's achievements in writing and reading assessments showed the greatest improvement after their teachers joined the professional development.

According to Cochran-Smith and Lytle (1999), effective professional development could make teachers actively start and actualize their research in classrooms. In the current study, the in-on-in intervention program applied a combination of on-site training, coaching, and on-site implementation. This strategy has boosted participants' confidence in actualizing inclusive education in their classrooms. A participant (P8) from the experiment class mentioned that she was quite confident because she had more insight into children with special needs in inclusive education. P9, meanwhile, said that she felt confident because the professional development provided her with instruments that could help her implement inclusive education in her kindergarten.

In school-based professional development, teachers can identify problems, resources, and strategies how to teach in diverse settings (Roach, 1996). In school-based professional

development, teachers would also discover how inclusive education was implemented in the schools (Roach, 1996). Furthermore, Desimone (2009) argued that teachers would benefit the most from their professional development if they had the opportunity to practice the theories they learned during their professional development. In the current study, the school-based practice was provided during professional development. By applying this strategy, participants would be able to share their experiences at the end of the professional development.

While practicing the theory of inclusive education, participants were accompanied by experts, and implementation would include coaching. Coaching is an effective way to guide teachers while implementing inclusive education. By applying a coaching strategy, teachers could have informal collaboration with experts to improve their teaching skills in an inclusive education setting (Kennedy & Shiel, 2010; Villa et al., 1996). Furthermore, a follow-up coaching conversation could help teachers identify themselves with their skills and knowledge in inclusive education (Tschannen-Moran & McMaster, 2009). According to Kohler et al. (2011), teachers need peer coaching to reflect and refine their capabilities.

Contents of Professional Development in Inclusive Education

The survey was delivered to determine the priority contents of professional development for principals to equip themselves to operate inclusive education in their schools. An R analysis was used to determine these priority professional development content results.

From the findings, most principals in both the control and experiment classes believed that knowledge about the concept of inclusive education was the highest priority material to operate an inclusive kindergarten. Assessments in inclusive classes were chosen as the second priority, followed by the instrument plan. In the control class, principals identified coaching and evaluation as the lowest priority contents to learn in professional development.

In addition, evaluation was also the lowest priority in the experiment class for principals to equip themselves in providing inclusive education implementation.

The qualitative findings showed that some principals from the experiment class also believed that the concept of inclusive education should be the top learning priority, but others felt that planning and coaching were the most important contents in professional development. Others thought leadership was key to successfully implementing inclusive education in kindergartens.

However, the quantitative finding of the current study was aligned with previous studies. Schuelka (2018) listed some key factors to successfully implementing inclusive education, including having a clear concept of inclusive education. The same argument was delivered by Mitchell (2015), who said that inclusive education was multifaceted and was the most important for educators to learn.

Sanagi (2016) pointed out the importance of having a concept of inclusive education. He argued that teachers who had misconceptions about inclusive education could not implement it well. For this reason, he suggested that teachers should complete professional development to correctly understand the concept of inclusive education.

However, the concept of inclusive education has become biased, due in part to different meanings of the term in academic literature (Florian, 2008). Maria (2013) provided the same result. In her study (n = 200), she found that although 31.1% of the teachers thought they had a correct concept of inclusive education, only 26.3% correctly understood the concept.

Surprisingly, based on the current study's findings, principals felt that learning evaluation in inclusive education was the least important content for them to learn in professional development. In Indonesia's context, based on the recent study's result (n =

120), the issue level of learning evaluation in inclusive education was considered moderate, and the need level was also moderate (Robiyansah, 2020).

Meanwhile, the current study found assessment to be the second priority content of professional development about inclusive education, meaning that it was generally considered one of the key factors in implementing inclusive education. According to Suleymanov (2015), the main goal of inclusive assessment is to support and enhance the successful inclusion and participation of all students, including those with special needs. Mitchell (2015) provided two kinds of assessments for inclusive education. The first was assessment with accommodations, which changed the assessment process but not the actual content. The second was an alternate assessment designed for students who were not able to engage with the regular assessment.

After assessment, education planning had the next highest priority for professional development learning. Many countries use individualized education plans (IEPs), indicating that they consider education planning to be a key element of inclusive education (Lambrecht et al., 2020). In general, IEPs aim to help children with special educational needs by providing individualized instruction. Lambrecht et al. (2020) also argued that IEPs require collaboration among many parties, such as general and special teachers, students, and parents. Meanwhile, Spencer (2011) introduced the universal design for learning (UDL) as a powerful tool for the education plans of all students. According to Spencer (2011), UDL emphasizes three concepts, representation, expression, and engagement, to support teachers in developing students' participation, including those with special needs.

Unfortunately, many inclusive schools in Indonesia are not prepared to implement inclusive education planning. In the western part of Indonesia, especially in Banda Aceh, educational planning on inclusive education was not completed by schools that are designated

by the government to be fully inclusive (AR et al., 2018). As a result, implementing inclusive education at schools did not work as desired.

In the current study, leadership and coaching were not considered to be the most important content to learn in professional development. This may be because the participants were already principals who might already have leadership and coaching knowledge and skills. They may also have indicated the concept inclusive education as their top priority because most of them had just learned about it in the professional development class. According to Nishimura (2014), coaching in inclusive schools requires collaboration among all related parties, especially between schools and inclusive education experts. Unfortunately, this issue is still unsolved in Indonesia since Indonesia lacks experts in inclusive education.

However, leadership and coaching were among the other most important elements for implementing inclusive education. Strong leadership can support a positive atmosphere in an inclusive school (Suhendri & Kawai, 2021). Loreman (2007) believed that leadership is key to supporting a high-quality inclusive education. He argued that the best method of leadership is shared leadership, which encourages all school members to collaborate to support inclusion (Loreman, 207). Furthermore, in an inclusive school setting, collaboration and lesson development were two skills the leaders needed to actualize inclusive education (Lambrecht et al., 2020).

There are numerous studies about the importance of coaching in inclusive education. Nishimura (2014) mentioned 17 studies of coaching professional development models. According to his study, the coaching model has improved teachers' attitudes, skills, and knowledge in inclusive education. The same idea was proposed in a recent study by Raley et al. (2022). Reviewing existing empirical studies found that coaching played an important role in supporting teachers in inclusive classrooms, making it necessary to learn in professional development.

However, it is not easy to be trained in coaching within the context of inclusive education. Fortunately, in the Indonesian context, the coaching process was supported by Indonesia's local and central governments (Yusuf & Yeager, 2011). Additionally, some national training centers provide a free coaching clinic for inclusive schools, such as the special schools appointed by the government, local education authorities, and PPPTK TK and PLB (National center training for kindergarten and special needs educators). Furthermore, every related party has accepted its role in supporting the development of inclusive education in Indonesia (Suhendri, 2022).

Limitations

The current study's examination was limited to issues regarding the effective use of professional development for inclusive education. Because of this, general professional development could not be examined. Furthermore, this study's new professional development model should be carefully considered since it might not match other models of professional development.

The current study also did not cover and could not be generalized to other areas of inclusive education. The focus of the current study was to find significant differences in participants' attitudes toward inclusive education. Consequently, the findings of other areas other than inclusion could not be controlled. In addition, the contents of the professional development were limited to inclusive education. As a result, the same model might provide different results when focusing on a different concept.

Furthermore, the data did not include levels of education other than kindergarten. The lack of research on kindergarten was another aim of developing the current study, which required that its focus be limited in this way.

The results of the current study should be treated with caution since it is based solely on the Indonesian context, and all participants were from Indonesia. Given its purposive sampling, the current study may also not be generalizable to the whole of Indonesia. Lastly, since the current study focuses on the principals' attitudes, the instrument used in this study did not include the principals' competencies. In other words, the leadership and managerial components were not attached to the principals' attitudes toward inclusive education.

CHAPTER VI

CONCLUSION

Findings Summary

The current study introduced a new model of professional development in inclusive education. The new model was intended to achieve more profound benefits for kindergarten principals in Indonesia and be more effective in improving principals' attitudes toward inclusive education, skills, and knowledge. The new model was called in-on-in professional development because it consisted of three professional development steps. The first "in" was training on the spot, where principals learned from experts about the professional needs for implementing inclusive education. "On" occurred when participants would implement what they learned at their first training in their schools. Finally, the last "in" meant principals would complete a second training to report what they had completed during their schools' implementation and receive expert feedback; in the current study, the last "in" was developed into a focus group discussion (FGD) to gain a more profound evaluation meaning, and participants could learn best practices from others.

Using a mixed-method, quasi-experimental design, the findings of the current study revealed that the new model of professional development in inclusive education could generally create positive attitudes toward inclusive education and improve kindergarten principals' skills and knowledge about inclusive education. To confirm the result, the mean score of kindergarten principals' attitudes in the control and experiment classes was measured before and after professional development. There was no significant improvement in the control class in their attitudes, but there was in the experiment class.

The qualitative study underlined the same result. By applying open-ended questions, principals in control and experiment classes were asked about their experiences joining the

professional development with the semi-structured interview. In the interview, most principals in the control class doubted whether they would be confident implementing inclusive education after completing the traditional professional development. In contrast, all principals in the experiment class believed they achieved more positive results after joining the professional development and were ready to implement inclusive education in their kindergartens.

The other findings discussed the effectiveness of the newly developed model and the highest priority contents of the professional development. The quantitative and qualitative study found that inclusive education's newly developed professional development model was effective; this was demonstrated through three analysis models: questionnaire, ANCOVA test, and parameter estimates output table.

Furthermore, principals shared almost the same opinions regarding the priority contents of professional development. Principals believed that the concept of inclusive education should be the main priority, followed by an assessment as the second priority, and then a learning plan, coaching, and leadership. Evaluation of learning in an inclusive classroom was the lowest priority content for principals to learn in professional development.

Recommendations

Maximum efforts have been put into making the current study successful and well-constructed. However, there is always room for improvement. Some recommendations may include involving more participants to acquire more general results since the number of kindergartens, as well as the number of teachers and principals, have been increasing in Indonesia.

Another consideration is different study methods. In the current study, the intervention program used a combination of offline and online learning because of the

COVID-19 pandemic. In future studies, an intervention that includes in-field implementation and coaching can be done offline so the participants' real experiences can be understood.

Some analyses have been conducted to understand the different attitudes of participants before and after professional development, as well as the effectiveness and the contents of the professional development. Although some parts of the professional development elements have been analyzed through one unit of a questionnaire, in future studies, some independent analyses should be applied, such as the length of the time, the facilitators, the media, or the site, and the previous level knowledge and skills of the participants.

Another possible recommendation is considering the current situation of education in Indonesia. The findings of the current study confirm the effectiveness of the new model of professional development in inclusive education. However, in the real context right now, the implementation of this model may need some adjustments and challenges because of changes in the Indonesian government's system of education. The adjustments and challenges might suit the policy of the new era of education in Indonesia.

Since the appointment of the new minister of education, Nadiem Makarim, on April 28, 2021, the education system in Indonesia has been directed to implement the new independent curriculum. As a result, almost all special teachers' training centers have been melded into one teacher training center with the duty of training all teachers in the new curriculum (Sa'adah, 2022).

Regarding the adjustment, the implementation of the in-on-in professional development may be appropriate based on the purpose of the professional development. For example, in the current study, the professional development is intended for inclusive education purposes, but the purpose might be changed to independent learning or another topic. Another adjustment is related to the contents of the learning. If the training analysis has

been completed prior to the professional development, the contents of the new professional development model may be adjusted for the training needs.

Some challenges may occur since the main concept of the current professional development is developed to improve kindergarten principals' attitudes, skills, and knowledge in inclusive education. At the same time, the new curriculum focuses on improving teachers' competence by conducting student-centered learning to create more optimal student learning outcomes (Sa'adah, 2022). As a result, the strategies may have been different in the implementation process.

Another challenge comes from the organizer since the main unit to train inclusive education teachers has been dismissed. Another organizer may have difficulty adjusting the different background items, such as the experts, the training site, the facilities, and most importantly, the participants' data.

In general, professional development in inclusive education is new for many educators in Indonesia. The government of Indonesia should pay more attention to this issue. Some practical solutions may include bringing back the national teachers' training center for special needs and kindergarten educators, allocating more budget for free professional development for teachers, and sending experts to learn in more advanced countries to gather insights and updated information about inclusive education. Furthermore, the government should encourage collaboration among related parties to support the development of high-quality inclusive education in Indonesia (Suhendri, 2022).

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APPENDICIES

Appendix A

ITAIE Scale

THE INSTRUMENT TO MEASURE INDONESIAN TEACHERS' ATTITUDES TOWARD INCLUSIVE EDUCATION

Data Filler Questionnaire

No	Questions	Answers
1	Gender*	1. Male 2. Female
2	Age	…. Years
3	Province	…….
4	Type of Schools*	1. Inclusive School 2. Special School 3. Regular School
5	Level of Schools*	1. Elementary School/ equivalent level 2. Junior High School/ equivalent level 3. Senior High School/ equivalent level
6	Level of Education*	1. Bachelor 2. Master 3. Doctor
7	Content of Teaching	1. Science (Science, Physics, Biology, or Chemistry) 2. Other Content, specify …….
8	Teaching Experience	…. Years
9	Experience in Inclusive Schools	…. Years
10	Training Program in Inclusive Education*	1. Ever 2. Never
11	Interaction with Special Education Needs Students*	1. Ever 2. Never

Noted: * Circle or cross in the numbers that fit on you

Directions:

This confidential survey aims to obtain an accurate and valid appraisal of your attitude toward inclusive education, i.e., students with special education needs in the regular classroom (inclusive schools) with mild to moderate disabilities. Because there are no "right" or "wrong" answers to these items, and they are confidential, please respond candidly.

Definition of Inclusive Education:

In accordance with the Regulation of the Minister of National Education of the Republic of Indonesia Number 70 the Year 2009, Inclusive Education is defined as an education system that provides opportunities for all students who have disabilities and have the potential for intelligence and/or special talents to follow education or learning in an educational environment together with learners in general. Student disabilities include Learning Disabilities; Deaf and Hard Hearing; Visual Impairments; Physical Handicaps, Speech Disorders; Mild/Moderate Emotional Disturbance; Intellectual Disabilities; Mental Disorders, Autism, or Trauma Brain Injury.

Directions for filling out the Questionnaire:
The extent to which you **(1) Strongly Agree (SA), (2) Agree (A), (3) Neutral (N), (4) Disagree (D), or (5) Strongly Disagree (SD)** statement below by encircling or crossing the corresponding answer in the right column of each statement.

No	Statements	SA	A	N	D	SD
1	Regular classroom settings can create a welcoming environment for all students, including students with SEN.	1	2	3	4	5
2	It rarely happens a case to drop out students with SEN from regular classrooms in order to meet their educational needs.	1	2	3	4	5
3	It is difficult to maintain discipline in a regular classroom that contains students with SEN.	1	2	3	4	5
4	Students with SEN are likely to create confusion in the regular classroom.	1	2	3	4	5
5	The behavior of the students with SEN gives a bad example for the other students.	1	2	3	4	5
6	Inclusive Education for All Students requires extensive retraining of regular classroom teachers.	1	2	3	4	5
7	Most of the students with SEN do not make an adequate effort to complete their assignments.	1	2	3	4	5
8	I get frustrated when I have difficulty communicating with students with SEN.	1	2	3	4	5
9	I get upset when students with SEN cannot follow the lesson in my classroom.	1	2	3	4	5
10	I get irritated when I am unable to understand students with SEN.	1	2	3	4	5
11	I get frustrated when I have to adapt the lesson to meet the individual's needs of all students.	1	2	3	4	5
12	Including students with SEN in regular classrooms is effective because they can learn the social skills necessary for success.	1	2	3	4	5
13	I must learn more about the effects of inclusive classrooms before inclusive classrooms take place on a large scale.	1	2	3	4	5
14	Students with SEN will probably develop academic skills more rapidly in a separate special classroom than in an inclusive classroom.	1	2	3	4	5
15	Students with SEN monopolize teachers' time.	1	2	3	4	5
16	My workload will be increased if I have students with SEN in my class.	1	2	3	4	5
17	I will be more stressed if I have students with SEN in my class.	1	2	3	4	5
18	I will not receive enough incentives (e.g., additional remuneration or allowance) to integrate students with SEN.	1	2	3	4	5
19	There will be inadequate special teachers who are available to support Inclusive Education.	1	2	3	4	5
20	My school will not have adequate special education instructional materials and teaching aids, e.g., Braille.	1	2	3	4	5
21	Students with SEN are not accepted into regular schools because they do not qualify for the selection of new students.	1	2	3	4	5
22	Indonesia does not yet have a curriculum for inclusive education, so it cannot be applied properly.	1	2	3	4	5

THANKS FOR COMPLETING THIS INSTRUMENT

Appendix B

Professional Development Effectiveness Questionnaire

Questionnaire

Name :
Institution :
Class :
Province :

Directions:
The purpose of this questionnaire is to investigate the effectiveness of the in-on-in professional development in inclusive education (in-on-in PDIE) that you have just completed. Please answer it based on your own opinion. This questionnaire will not affect your position.

Directions for filling out the Questionnaire:
Please indicate the extent to which you **(1) Strongly Agree (SA), (2) Agree (A), (3) Neutral (N), (4) Disagree (D), or (5) Strongly Disagree (SD)** statement below by encircling or crossing the corresponding answer in the right column of each statement.

No	Aspects Measured	SA	A	N	D	SD
1.	After the in-on-in professional development in inclusive education (in-on-in PDIE), I am now confident in dealing with children with special needs in the classroom	1	2	3	4	5
2.	Facilitators motivate participants to learn during the in-on-in PDIE.	1	2	3	4	5
3.	Accuracy in allocating time to complete each activity in the program	1	2	3	4	5
4.	The quality of the display of the in-on-in PDIE modules is good enough.	1	2	3	4	5
5.	Facilitators are on time in class.	1	2	3	4	5
6.	By following in-on-in PDIE, I can understand a problem in my inclusive class and try to solve it.	1	2	3	4	5
7.	In-on-in PDIE is a suitable program for increasing my skills-and knowledge about inclusive education	1	2	3	4	5
8.	In-on-in PDIE can create a creative learning atmosphere.	1	2	3	4	5
9.	Training providers provide modules for the in-on-in PDIE.	1	2	3	4	5
10	There is an availability of worship facilities during in-on-in PDIE.	1	2	3	4	5
11	There is clear information on the implementation of the in-on-in PDIE program for participants before joining the program.	1	2	3	4	5
12	In-on-in PDIE is a fun program.	1	2	3	4	5
13	Attitudes and behavior of facilitators in teaching are positive.	1	2	3	4	5

14	Readiness and availability of facilities to support the program [audio visual, LCD / laptop, whiteboard, bleachers, markers, eraser].	1	2	3	4	5
15	In-on-in PDIE increases my learning motivation toward inclusive education	1	2	3	4	5
16	Facilitators know how to achieve the learning objectives of the in-on-in PDIE.	1	2	3	4	5
17	The implementation of in-on-in PDIE is effective in increasing competence, skills, and knowledge about inclusive education	1	2	3	4	5
18	The duration of the program is allocated sufficiently to reach the goals and objectives of the in-on-in PDIE.	1	2	3	4	5
19	Participants could easily access the venue of the in-on-in PDIE.	1	2	3	4	5
20	There are guidelines for participants in participating in the in-on-in PDIE.	1	2	3	4	5
21	In-on-in PDIE can create an innovative learning atmosphere.	1	2	3	4	5
22	Facilitators of the in-on-in PDIE master the materials learned.	1	2	3	4	5
23	After following the in-on-in PDIE program, I am now more open to accepting children with special needs in my class.	1	2	3	4	5
24	The facilitators cooperate in teaching.	1	2	3	4	5
25	Facilitators use language that is easy to understand	1	2	3	4	5
26	The committees understand their duties and responsibilities in serving the participants during the in-on-in PDIE.	1	2	3	4	5
27	The number of in-on-in PDIE participants is effective in supporting the program's goals.	1	2	3	4	5
28	PDIE is an exciting program.	1	2	3	4	5
29	In-on-in PDIE makes it easy for me to understand inclusive education comprehensively.	1	2	3	4	5
30	There is a legal basis which underlies the implementation of the in-on-in PDIE.	1	2	3	4	5
31	The documents and stationery were sufficient to complete activities in the program	1	2	3	4	5
32	There is an accuracy between planning (time and place) and the implementation of the in-on-in PDIE.	1	2	3	4	5
33	In-on-in PDIE has enriched my knowledge of inclusive education.	1	2	3	4	5
34	Illustrations and examples of the program modules are available	1	2	3	4	5
35	Facilitators are competent to present the learning material	1	2	3	4	5

36	The in-on-in PDIE program creates a more active and less monotonous learning atmosphere.	1	2	3	4	5
37	Facilitators use a variety of learning methods in teaching.	1	2	3	4	5

Please provide suggestions and comments regarding the implementation of in-on-in Professional Development in Inclusive Education

……
……
……

Thank You
Your response is highly appreciated

Appendix C

Interview Guideline

INTERVIEW GUIDE

A. Introduction to the informant

My name is Suhendri. I am a doctoral student at Hiroshima University, majoring in inclusive education at kindergartens under Professor Kawai Norimune. I am conducting research on professional development in inclusive education for kindergarten principals. The primary purpose of this research is to determine the efficacies of a newly developed model in professional development for improving kindergarten principals' competencies relating to inclusive education.

First of all, I want to assure you that all information you give me will remain confidential. I would like to ask you some questions relating to your viewpoint regarding inclusive education, your particular needs relating to knowledge and skills in implementing inclusive education, and your experience with the in-on-in Professional Development in Inclusive Education (PDIE). Please feel free to answer any questions based on your opinions, and do not hesitate to ask me if you need any help or clarification.

B. Background questions.

1. How long have you been a principal in this kindergarten?
2. Could you tell me briefly about the characteristics of your school?
   You can talk about the students, teachers, and the learning system used in your school.
3. Have you completed professional development in inclusive education (PDIE) before?

C. Questions to explore kindergarten principals' viewpoint of inclusive education in kindergarten.

1. After you completed the professional development in inclusive education, what comes to mind when you hear inclusive education?
2. Do you think implementing inclusive education at the kindergarten level is the right move? If yes, why? If not, why not?
3. What are the main barriers to implementing inclusive education at kindergartens?
4. What do you feel are the benefits of implementing inclusive education for children with special needs and regular children?

5. How important is the function of the principal in actualizing inclusive education at kindergarten levels?
6. What are the excellent characteristics of leadership that can support high-quality inclusive education in kindergarten?

D. Questions to explore your particular needs relating to knowledge and skills in implementing inclusive education.

7. What knowledge is the most important for you to implement inclusive education at the kindergarten level? Why?
8. What skills do you think are needed for you as a principal to support inclusive education in your school? Why?
9. Based on what you have explained, how do you think you can learn those skills and knowledge?

E. Questions to explore kindergarten principals' experience with professional development in inclusive education.

10. How do you feel about your attitudes toward inclusive education after completing the professional development in inclusive education (PDIE)?
11. Do you think the in-on-in professional development in inclusive education (PDIE) you have completed successfully improves your knowledge and skills in inclusive education?
12. How do you think your knowledge and skills improved after you completed the in-on-in professional development in inclusive education (PDIE)?
13. What contents in the in-on-in professional development in inclusive education (PDIE) are most important to help you implement inclusive education at your kindergarten? Why?
14. What contents in the in-on-in professional development in inclusive education (PDIE) do you think are less important to learn? Why?
15. Besides what you have learned, what other content do you think needs to be included in the professional development in inclusive education (PDIE)?
16. Do you think you are confident enough to be a principal at an inclusive kindergarten after completing the in-on-in professional development in inclusive education (PDIE)?
17. What are your suggestions to make professional development in inclusive education (PDIE) more effective next time?

18. What is your overall comment about in-on-in professional development in inclusive education (PDIE)?

F. Other related questions.

19. Do you think the Ministry of Education has done enough to support the implementation of inclusive education at the kindergarten level in Indonesia? In what ways?
20. Do you have any other things that you want to add or talk about related to this topic of study?

G. Closing the interview.

Thank you for your time and for sharing the experience with me. I appreciate it. Have a beautiful day.

Appendix D

Priority Contents Questionnaire

Questionnaire

Name :
Institution :
Class :
Province :

Thank you for your willingness to help me complete out this questionnaire and identify the indispensable contents regarding inclusive education. This questionnaire has no right/wrong answer, and I will keep your identity confidential.

Direction:

In this questionnaire, you are asked to rank the priority scale in the inclusive education contents that have been carried out that you think should be studied in inclusive education training. Please click on the priority column of the content next to it. Each content can only be selected once for the priority scale, so from the six (6) contents, please choose the order in which you rank the content, from the first, second, third, fourth, fifth, and sixth priority.

Contents	Priority					
Concept of Inclusive Education	1st	2nd	3rd	4th	5th	6th
Identification and Assessment of Special Needs Children						
Planning and Instructions of Learning in Inclusive Education						
Leadership and Consultation in Inclusive Education						
Evaluation in Inclusive Education Setting						
Coaching on field Implementation						

Thank you very much for your help.

Appendix E

Statement Letter for Research Permission from the Ministry of Education

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN
RISET, DAN TEKNOLOGI
PUSAT PENGEMBANGAN DAN PEMBERDAYAAN PENDIDIK DAN TENAGA KEPENDIDIKAN TAMAN KANAK-KANAK DAN PENDIDIKAN LUAR BIASA
Jl. Dr. Cipto No.9 Bandung, 40171
Telp. 022-4230068, Faximile 022-4230068,
Laman: http://tkplb.kemdikbud.go.id, Surel: tkplb@kemdikbud.go.id

Letter of Statement
No : 1835/B6.9/KS.03.00/2020
Date: May 24th, 2020

Please note that Mr. Suhendri, D196070, Hiroshima University Graduate Student, has permission from PPPPTK TK and PLB (Indonesian national professional development center for kindergarten and special needs teachers and other educational staffs), Ministry of Education, Indonesia to conduct research for his study, "**Efficacies of Professional Development in Inclusive Education for Inclusive Kindergarten Principals in Indonesia**".

Mr. Suhendri will conduct the professional development in inclusive education for two classes with the total number of 120 kindergarten principals as participants from all over Indonesia. His plan is to find out the effectivity of in-on-in program (intervention program) for professional development in inclusive education.

As part of his research, our institution will provide and give him permission to use and develop our professional development materials including professional development guidelines, selected modules of the inclusive education program, evaluation sheet of the professional development, and other information related to his research. The duration of his research will be begun from June 2020 to June 2022.

Mr. Suhendri has agreed to provide to PPPPTK TK and PLB a copy of any aggregate results during and after his research.

If there are any questions, please do not hesitate to contact me.

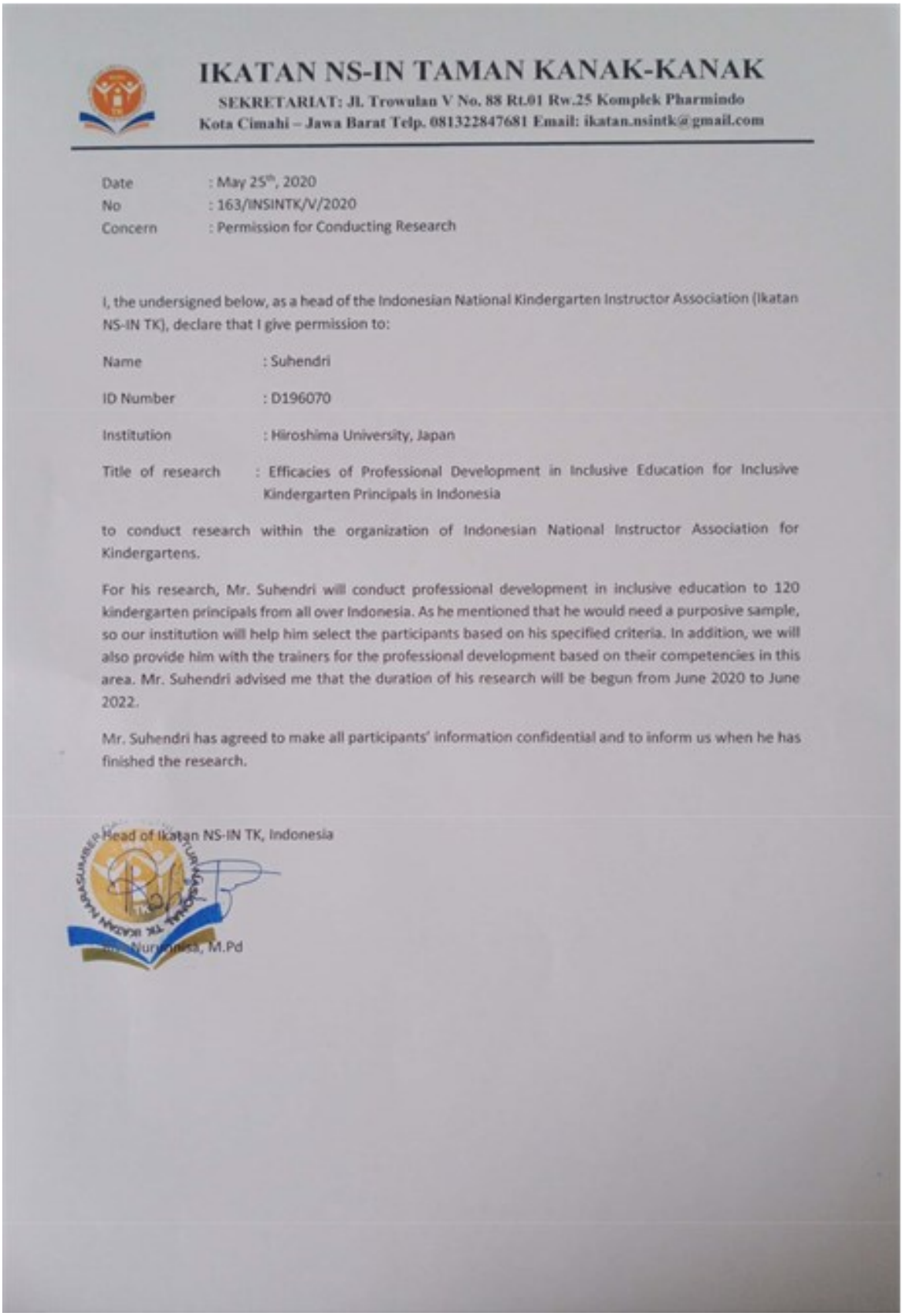
Head of PPPPTK TK and PLB,

Drs. Abu Khaer, M.Pd
NIP. 196604131991031002

V 2013-01

Appendix F

Statement Letter for Research Permission from Indonesian National Kindergarten Instructor Association



IKATAN NS-IN TAMAN KANAK-KANAK

SEKRETARIAT: Jl. Trowulan V No. 88 Rt.01 Rw.25 Komplek Pharmindo
Kota Cimahi – Jawa Barat Telp. 081322847681 Email: ikatan.nsintk@gmail.com

Date : May 25th, 2020
No : 163/INSINTK/V/2020
Concern : Permission for Conducting Research

I, the undersigned below, as a head of the Indonesian National Kindergarten Instructor Association (Ikatan NS-IN TK), declare that I give permission to:

Name : Suhendri

ID Number : D196070

Institution : Hiroshima University, Japan

Title of research : Efficacies of Professional Development in Inclusive Education for Inclusive Kindergarten Principals in Indonesia

to conduct research within the organization of Indonesian National Instructor Association for Kindergartens.

For his research, Mr. Suhendri will conduct professional development in inclusive education to 120 kindergarten principals from all over Indonesia. As he mentioned that he would need a purposive sample, so our institution will help him select the participants based on his specified criteria. In addition, we will also provide him with the trainers for the professional development based on their competencies in this area. Mr. Suhendri advised me that the duration of his research will be begun from June 2020 to June 2022.

Mr. Suhendri has agreed to make all participants' information confidential and to inform us when he has finished the research.

Head of Ikatan NS-IN TK, Indonesia

[illegible] Nurhanisa, M.Pd