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Relation	

The Development of "Asian Academic Credits" as an Aligned Credit Transfer System in Asian Higher Education

Abstract:	During the last two decades, Asian countries have attempted to establish several aligned academic credit systems as part of the harmonization process of their higher education systems. However, these systems have not been widely used among universities in the Asian region. This article analyzes the current trends in credit related governmental regulations and university systems in 24 Asian countries and territories. Moreover, it asserts the concept of "Asian Academic Credits," (hereafter, AACs) as a new widely effective aligned system of academic credit transfer within Asia and also with other regionally aligned credit systems in the world. AACs can serve as one of the vital components for a new era of Asian higher education that provides a regionally aligned, flexible and innovative learning environment for students throughout the entire Asian region.

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I. Introduction

In 2017, there were approximately 5 million students worldwide who studied abroad, a 25% increase since 2012. (United Nations Educational Scientific Cultural Organization Institute of Statistics, 2018b) A large portion of this population studies in Western nations, especially English speaking countries, such as the USA, UK, and Australia. (Knight 2013; Chan, 2012; Daquila & Huang, 2013) This is because many international students seek more academically advanced universities. They also try to acquire better educational credentials, including English proficiency, to obtain better job opportunities in both their home and host countries. The Asian region has been a main contributor to this population of 5 million students. For example, students from the Eastern, Southeastern and Southern Asian regions under UNESCO's categories have been regularly contributing about 37-38% of these international students and have been responsible for half of the recent one million student increase. Nevertheless, this same region accepts only one half million students (about 13%) from overseas (United Nations Educational Scientific Cultural Organization Institute of Statistics, 2018a). In fact, only 9 out of 25 countries and special administrative regions receive nearly 90% of this half million population who study in the Asian region. These statistics clearly indicate that the flow of international students in Asia and the world is very skewed. One-way flow to academically more advanced nations in Asia as well as the world is still the dominant phenomenon and seems not likely to change in the near future.

However, there is a new trend indicating that countries, traditionally not popular destinations for international students, have begun receiving more international students. In Asia, Malaysia, Singapore and Hong Kong are expanding the number of international students on its campuses.(Altbach & de Wit, 2015; United Nations Educational Scientific Cultural Organization 2013; Institute of International Education, 2018; Knight 2011, 2016) This is due to the strong motivation of many Asian governments and universities to accept international students for various reasons, including improving their international reputations, reacting to recent population decreases, anticipating economic benefits and promoting cross-cultural understanding in the region. In order to attract international and domestic students at home, some governments and universities have concluded new academic exchange agreements, hired foreign professors and now provide courses taught in English. Others created transnational universities or double, joint and twinning programs with western universities.

While those efforts were undertaken mainly by universities, governments of the Association of Southeast Asian Nations (hereafter ASEAN) region established the ASEAN Community in 2015 (Association of Southeast Asian Nations, 2015). As part of this effort, ASEAN nations have planned the "harmonization of higher education," which attempted to create a regionally aligned credit transfer system (Yavaprabhas,

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2014; Chan, 2012). It was due primarily to the positive perception of Europe's major restructuring of higher education, the "Bologna Process" (de Wit, 2007). However, merely establishing an aligned credit transfer system is not adequate to attract international students to Asian universities. Among ASEAN nations, there are many differences among member states in terms of economic, political and social factors, including the quality of education.

This situation exists throughout the entire Asian region, as well. Therefore, if Asian nations seek to enhance the attractiveness of their higher education offerings, they must improve not only their educational systems, but also the economic, political and social conditions in all member states (Chan, 2012; Altbach & Knight, 2007). If those basic conditions improve along with the development of an aligned credit transfer system, universities will be able to compare, contrast, and understand the differences as well as similarities among their educational offerings. Thus, they can establish mutually trusted relationships among universities, governments and even with industries. Consequently, students can acquire more globally attractive educational qualifications and credentials by studying in different nations and programs in the Asian region and earn academic degrees from traditional and even transnational universities more easily.

The purpose of this article is to investigate the feasibility of developing an aligned academic credit transfer system in the Asian region and to introduce the concept of Asian Academic Credits (hereafter, AACs), which defines one academic credit as representing a student workload of between 38 and 48 hours, including 13 to 16 hours of academic instruction. If all universities in Asia adopt this concept, it will allow students greater access to various kinds of education in different parts of the region without their being hampered or penalized by the conversion of academic credits. In addition, it could change some of the traditional structures and functions of higher education in Asia. Regionally aligned Asian higher education could create a more attractive educational market where many universities attract students from all over the world by offering unique and high quality learning environments (Hirosato, 2014; Sauwakon, 2014; Yavaprabhas, 2014).

II. Issues and Challenges of Current Credit Systems

The academic credit system was invented by American institutions and is now being used by many Asian universities. However, the history of the academic credit system in Asia is rather short, especially for countries like Laos and Myanmar. Although the main focus of this study is the establishment of an aligned credit transfer system in Asia, it is important to question whether the academic credit system itself is the best way to recognize academic credentials in Asian higher education. There has long been a debate regarding the use of academic credit systems for recognizing educational credentials. The main criticism is that a single number of credits does not

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demonstrate evidence of academic achievement, but only estimates how many hours students spent acquiring knowledge and skills that are ultimately used for awarding degrees (Wellman and Ehrlich, 2003; Silva and White, 2015). Although the single use of academic credits will not prove the qualitative value of education, it will have more meaning if the academic credits based upon the amount of student workload and learning outcomes prove how many hours students spent at each step of the learning process and what kinds of knowledge and skills they acquired (Rauhvargers, 2011).

Today, many universities in the world, especially in Asia, count academic credits based upon the total number of teaching/contact hours. This tendency is based on the concept of "Carnegie units." The "Carnegie Unit" was originally invented for the payment of teachers' pensions and widely employed in the U.S. during the late 19th to early 20th century (Ehrlich,2003; Heffernan 1973; Altbach 2001; Regel 1992). Since then, this simple, systematic and objective credit system using the concept of "teaching/contact hours" has become very popular in determining the amount of teachers' duty and often the actual salaries of teachers. At the same time, it became the main tool to determine students' academic credentials for each class they attended, even though students spend more hours on homework and preparing for examinations. Thus, the "Carnegie Unit" did not reflect fully the time students spend learning new knowledge and skills.

Moreover, this wide use of "Carnegie Units" creates a problem for transferring academic credit from one institution to another. If the number of teaching hours per class is different, students face difficulties transferring credit even if the academic content is similar. This has caused graduation delays due to students' having to repeat similar coursework at their home institution (Laitinen, 2012, p. 7). Therefore, the concept of academic credits must correspond to learning outcomes and demonstrate how a student acquires knowledge and skills by showing the learning process (Wellman & Ehrlich 2003).

This leads to a second issue, why Asian higher education needs to establish an aligned credit transfer system. As stated earlier, an aligned credit transfer system in the region will improve the attractiveof higher education in all member states. However, this will happen only if all member states make an effort to harmonize other parts of regional cooperation and co-develop economically, politically and socially (Chan, 2012). Given these conditions, the development of an aligned credit transfer system will allow students to acquire different kinds of knowledge and skills not only from different nations, but also in different ways of learning, such as transnational and e-learning education without losing academic credit. This will promote more vigorous student mobility and produce more globally aware citizens (Altbach & de Wit, 2015; Knight, 2016). As a result, it will lead to a regional political stability and economic cooperation in Asia. Furthermore, at a more successful stage, aligned regional higher

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education will prompt Asian students to stay in the region and eventually may attract international students from other regions of the world, as well.

III. Recent Development of Aligned Credit Transfer Systems in Asia

During the 1990s and 2000s, many Asian countries and territories experienced a rapid expansion of higher education institutions and their student populations (Banks & Bhandari, 2012; Chapman, 2009; Kim, 2010; Lee 2007; Yonezawa, Kitamura, Meerman & Kuroda, 2014). The development of European regional reform of higher education, called the "Bologna Process," along with the European Credit Transfer and Accumulation System (hereafter ECTS) motivated leaders in Asian higher education to follow a similar path under the concept of "harmonization of higher education in Asia" (Kuroda, Yuki & Kang, 2013; European Union Support to Higher Education in ASEAN Region Secretariat, 2016; Southeast Asian Ministers of Education Organization-Regional Centre for Higher Education and Development, 2008). ECTS became a supporting mechanism enabling European higher education institutions to develop various types of educational mobility without having to employ painstaking calculations to convert academic credits between different credit systems (Regel, 1992; Teichler, 1997, 2010; Huisman, Adelman, Hsieh, Shams & Wilkins 2012; Wolanin, 2003).

Because of the positive views on ECTS in Europe, during the last two decades at least three types of credit transfer systems have been developed. In 1999, an international consortium of governments and universities, called University Mobility in Asia and the Pacific (hereafter UMAP), developed its regionally employed credit transfer system called "UMAP Credit Transfer System" (hereafter, UCTS) for their student mobility programs (University Mobility in Asia and the Pacific-(Japanese) National Committee, 2017). Moreover, in 2008, the "Asia Cooperation Dialogue" (hereafter, ACD), a governmental consortium of 18 countries from the regions of East, Southeast, and South Asia and the Middle East, proposed the concept of the "Asian Credit Transfer System (hereafter, ACD-ACTS)" for future student mobility among their member states (Asian Cooperation Dialogue, 2011). Finally, in 2009, the "The Association of Southeast Asian Nations (ASEAN) University Network" (hereafter, AUN) developed the "ASEAN Credit Transfer System" (hereafter, AUN-ACTS) to promote student mobility among selected universities of the 10 ASEAN member states (Association of Southeast Asian Nations University Network, 2009, 2010; Aphijanyathanm, 2010).

[Insert Table 1]

The development of both UCTS and AUN-ACTS was strongly influenced by the concept of ECTS. Table 1 shows definitions of each credit transfer system in Asia and

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ECTS. Due to the strong influence of ECTS, the original UCTS and AUN-ACTS required institutions to offer coursework totalling 60 credits annually, while ACD-ACTS required 30 credits. Moreover, AUN-ACTS originally required 25-30 hours of student workload per credit, while UCTS did not define any hours of student workload, and ACD-ACTS required 40 hours of student workload per credit. However, these initial influences from Europe have been changed due to some difficulties in applying the European model to Asian higher education.

AUN-ACTS stopped using the concept of 25-30 hours per credit. Instead, it started transferring credits based on the learning outcomes in each subject. Although this process simplifies the credit transfer system, it requires a strong mutual trust among participating universities, and it is possible for AUN members only because they so carefully select their members from the top ranking universities of each ASEAN nation. At present, the total number of member universities is 51 in ASEAN+3 nations (Association of Southeast Asian Nations University Network, 2018). Furthermore, in 2013 UMAP changed from the old UCTS, which modeled ECTS, to the concept of Asian Academic Credits. Since then, UMAP has steadily increased its membership and now includes 237 participating universities from 15 different nations in the Asia and Pacific region (University Mobility in Asia and the Pacific, 2018). However, there are some impediments to expanding the membership rapidly since UMAP requires a governmental endorsement for their universities' participation. As for the ACD-ACTS, it is still in its developmental and promotional stage. The ACD High-Level Meeting on Asia Academic Collaboration is still developing both its mobility scheme for ACD-UN (university network) and an ACTS Task Force to establish ACD-ACTS guidelines for future student mobility (Asian Cooperation Dialogue, 2016).

Although all three credit transfer schemes in Asia have seen a certain level of expansion, the number of participating universities is still very limited compared to the total number of over 7800 higher education institutions in ASEAN countries and over 3,000 higher education institutions in China, South Korea and Japan (Chantavit, 2016). Thus, it is still necessary to consider some other form of permeable framework each university can independently employ for student mobility. However, it needs to be a simple and systematic credit transfer scheme that will require some governmental support, or at least recognition.

IV. Key Characteristics of Credit Systems in the Asian Region

In order to investigate the feasibility of developing a widely usable aligned credit transfer system, two studies were conducted between 2010 and 2014. One study was a Japanese governmental research mission to investigate the current educational framework of 13 ASEAN+3 countries (Hotta, 2010, 2011). ASEAN is an international community of ten countries, namely Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, and

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ASEAN+3 adds three more countries, namely, China, Japan and South Korea aligned to promote regional collaboration and co-development. The data was collected by Japanese, Korean and Chinese 11 researchers and the author who worked in Japanese leading universities and 19 field experts mainly overseas during the period of January and February in 2010. The main data were governmental and university documents as well as various stakeholders' opinions through semi-structured interviews. The study investigated general trends in credit and grading systems as well as systems of quality assurance in 13 Asian countries.

The other study was supported by a Japanese governmental research grant, called "The Grant for Scientific Research Type B (#24402045)" and conducted by the author and 11 another group of researchers from leading universities in Japan during 2012 to 2014. Although the number of factors for a comparative study of credits, grading and quality assurance was increased in order to investigate in greater detail, the main focus remained the same with the number of targeted countries and territories expanded from 13 to 24. The additional countries and territories beyond the initial 13 included Bangladesh, Bhutan, East Timor, Hong Kong, India, Macao, Maldives, Mongolia, Nepal, Sri Lanka, and Taiwan. This section provides an overview of the general trends in higher education systems related to the regulations and systems of academic credit in 24 Asian countries and territories.

Three indicators are used because of their importance for the definition of academic credit systems. The first indicator is the number of student contact hours per credit; the second is the amount of student workload per credit; and the third is the average number of academic credits earned by students annually. The number of contact hours per credit is important because many Asian universities use this indicator to measure the number of credits earned by students (Hotta, 2010, 2011). However, it has been noted that the actual duration of a class session defined as one academic contact hour may vary from 45 to 60 minutes, since each institution or nation defines class duration differently. Furthermore, the second and third indicators, namely the concept of student workload and the average number of credits earned annually, are used because these indicators are employed by existing credit transfer systems such as ECTS, UCTS and originally AUN-ACTS, in Europe and Asia. The following are the general trends in 24 Asian countries and territories relating to these three indicators.

[Insert Table 2]

By and large, many Asian countries and territories do not have national standards for credit systems because there are many different patterns of credit systems among universities in each nation. Although these existing credit systems in Asia have miscellaneous differences, there are some similar trends in different country groups among the 24 countries and territories. (See Table 2)

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As for the number of contact hours, many credit systems in the 24 countries and territories count one academic credit for every 14 to 16 contact hours. In fact, 21 out of the 24 countries and territories include those hours as at least a part of their systems. This is often related to the number of instructional weeks in each semester. Since most of the institutions in Asia use a 2-semester system, they use a duration of 14-16 weeks of instruction per semester. This tendency indicates that many Asian higher education systems are strongly influenced by the concept of "Carnegie Units". As for student workload, Table 2 indicates that 14 out of 24 Asian countries and territories reported no single regulation on how to count academic credits based on student workload. This is because the hours of student workload are often used only for practical training, such as internship and laboratory work, but not for regular lecture-discussion classes. Moreover, the difference between 10 to 54 hours of student workload is greater than that of the difference in contact hours per credit. Thus, it is more difficult to establish an aligned credit transfer system based upon the concept of student workload as it currently exists.

As for the average number of credits per year, Table 2 indicates a reported difference between 30 to120 credits per year. 19 countries and territories indicated the average number of credits per year to be between 30 and 40. China and India responded "greatly varied," while Bhutan and Maldives are the only ones that require 120 credits per year. Bhutan and Maldives appear to align themselves with the system of "Credit Accumulation and Transfer Scheme" (CATS) in the UK (Quality Assurance Agency, 2008). Although the difference is large, the majority of countries and territories reported somewhat similar average numbers of credits per year, namely 30 to 40. In summary, one academic credit in many universities in these countries and territories tends to stay within a range of 13 to 16 hours of academic instruction and have four-year bachelor's degree programs that require 120-150 credits for degree award.

V. The Concept of AACs

According to Table 2, the general findings from 24 Asian countries and territories showed large differences among credit systems of higher education. Many countries did not have specific nationwide regulations relating to their academic credit systems. However, it is also true that there are some similarities among countries where such systems exist. Based upon these differences and commonalities, any new aligned credit transfer system needs to fulfill two missions. One is to require a minimum number of conditions to transfer academic credits from one institution to another. The other is that the new system must to be applicable to all types of credit systems currently existing in Asian higher education. Based upon the above criteria, the concept of AACs was developed largely through discussions at several UMAP board meetings as well as ASEM expert meetings between 2011 and 2014, where governmental and university representatives from the Asia-Pacific and European regions were in attendance.

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Consequently, the concept of AACs became the new concept for UCTS in 2013 (Hotta, 2014, 2017).

The definition of AACs is as follows:

One (1) Asian Academic Credit (AAC) = 38-48 hours of student workload.   This includes 13-16 hours of academic instruction.

The range of 38 to 48 hours of student workload per credit was developed based upon the most commonly reported practices, namely 14-16 contact hours in the 24 nation comparative study. However, in order to include a small group of countries that count one credit for 12-13 contact hours, the range was expanded to 13 to 16 contact hours. As for the definition of AACs based on student workload, at first the concept of defining student workload commonly used in the U.S. and other nations was used (Wolanin, 2003, p. 99; Shimizu, 1998). In this formulation, each hour of class time requires an additional hour of preparation for the next class and another hour for the review of studied class materials (Altbach, 2001; Shedd, 2003; Harris, 2002). Thus, one AAC became defined as 39 to 48 hours of student workload (13 to 16 contact hours multiplied by 3). Ultimately, student workload became defined as 38 to 48 hours in order to make it more comparable to systems of credit transfer elsewhere in the world (Hotta, 2014, 2017). Therefore, Asian higher education does not need to import the concept of ECTS directly, although the main concept of AACs is somewhat influenced by it.

Moreover, the concept of AACs adopted the definition of contact hours, though originally defined based only upon student workload. This is because currently many universities in Asia count the number of academic credits based on contact hours, except for non-lecture practical training. However, all universities in Asia eventually will need to use student workload for counting academic credits. This is a very important requirement for the effective use of AACs. Moreover, AACs should require an indication of learning outcomes associated with student workload (Wellman and Ehrlich, 2003, p.121). The course syllabus should explain how students achieve each learning outcome, e.g., by specifying what kind of activities they do both inside and outside of the classroom. An additional very important goal is that each university needs to be willing to accept a range of differences in the amount of student workload and associated learning outcomes central to the concept of AACs. If professors and registrars who evaluate credit transfer are too strict about the exactness of content, study hours, and learning outcomes of each subject, the effectiveness of AACs will be diminished and face the same difficulties for which other credit systems are criticized. Given adherence to these conditions, Asian universities will be able to transfer credits among themselves on a one-to-one basis.

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Unlike ECTS and AUN-ACTS, AACs do not include requirements regarding the total number of credits per year, because AACs attempt to assure only the value of each course--not an entire educational program. In Europe one major issue pertaining to ECTS is the difficulty of maintaining the principle of 60 ECTS per year among different academic disciplines (Markevičienė & Račkauskas, 2012). Many institutions and academic departments adjust the amount of student workload in various ways, though the definition of ECTS is clearly stated in their law. On the other hand, AACs allow each university to determine their own requirement of student workload for each degree program. Thus, AACs provide universities freedom to demonstrate the level of difficulty of their educational programs and allow them to transfer credits to and from institutions offering similar types of education.

The concept of AACs can realistically become an aligned credit transfer scheme for higher education in 24 Asian countries and territories (Hotta, 2014, 2017). This group would be far more comprehensive than any other group of countries and territories that are actively using existing credit transfer systems. In other words, by employing AACs, it would no longer be necessary to perform painstaking calculations in order to convert and transfer credits among thousands of institutions in the Asian region. However, this original concept was created mainly for regular lecture and discussion type of class sessions, but not for internships, field studies and laboratory work, especially in medical and natural science fields, which may require far more hours of commitment from students.

Furthermore, the adoption and use of AACs would provide a methodology for making credit transfer between Asian universities and the following countries' and regions' universities easier than ever before.

[Insert Table 3]

Moreover, if the proposed conversion table between AACs and other credit transfer systems is accepted by all member states, AACs will extend the ease of credit transfer to universities in over 100 different nations (see Table 3). As the world of higher education has become more and more integrated, it has promoted not only student and staff mobility, but also the mobility and integration of educational programs in the form of twinning, off-shore campuses, double degree programs, and various other forms of international education (Knight, 2008; Rauhvargers, 2011; Sakamoto & Chapman, 2011).

VI. Usefulness of AACs

Although the main mission of AACs is challenging, it remains rather straightforward. The issue is whether AACs can truly be effective for all universities in the Asian region. For success, AACs need to embrace a simple process, easily measure

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and ensure trust of other institutions' educational credentials, and demonstrate flexibility in applying the scheme to various types of educational mobility. If Asian nations successfully continue their national developments and improve their quality of education, aligned credit transfer can serve effectively as part of their permeable framework of higher education. The following are some expected outcomes based upon such developments in the Asian region.

First of all, AACs can serve as a national common framework for universities whose governments have not officially issued any guidelines or regulations on the domestic academic credit system. As the study of 24 Asian countries described previously, many Asian nations do not have regulations for academic credit systems, and universities develop their own systems. Therefore, if Asian governments agree upon the concept of AACs, it will be easier for governments and universities to adhere to the same principles for credit transfer.

Secondly, AACs need to institute much simpler paper work than before for university professors and administrators to handle credit transfer, which will be done among all universities in the Asian region on a one-to-one basis with no burdensome conversions required. This is because the definition of AACs takes into account the differences of various kinds of credit systems. Therefore, AACs will enable anyone who handles credit transfer to do so without complicated calculations and changes to the current credit system in each country. Furthermore, AACs will help professors and registrars make judgments/decisions about accepting academic credits from other institutions much more quickly since information associated with AACs will include details on the process of students' educational attainment, e.g., syllabi and transcripts. Academic credits based on student workload and learning outcomes will illustrate the similarities and differences of educational content as well as levels of difficulty both quantitatively and qualitatively.

Thirdly, the ease of credit transfer associated with AACs can promote student mobility domestically and internationally. An important corollary function of AACs is helping universities identify suitable partner institutions. AACs can promote greater student mobility among many new or small size universities, despite their possible lack of an international reputation or membership in a regional Asian consortium. An increase in student mobility will undoubtedly enhance the level of cross-cultural understanding, especially among Asian students, and will promote greater social integration in the region. (Yavaprabhas, 2014). An additional hoped for result would find the Asian region eventually developing greater regional security and peace in the future (Hirosato, 2014; de Wit, 2008).

Fourthly, if many institutions in the member states were to improve their teaching and produce a cadre of talented students with global competencies, a surge in economic development throughout Asia might result. This ever-enlarging student cohort would constitute a valuable human resource capable of effecting change far greater than that

contributed by a few elite institutions in a handful of countries (Deardorff and Jones, 2012; Knight & Lee, 2012; Yavaprabhas, 2014). This is particularly important for universities that are not currently ranked internationally. Moreover, since AACs will provide a simple conversion formula with other credit systems in the world, as Table 2 indicates, its simple system will attract students from other parts of the world. That will bring additional opportunities for the Asian region to increase its global human resource capacity.

Finally, by measuring student workload, AACs will allow students to earn academic credits not only through regular lecture classes, but also some nontraditional courses, such as online education and internships (Hotta, 2017; European Union Support to Higher Education in ASEAN Region Secretariat, 2016; Green et al., 2012). Therefore, AACs stand to encourage institutions to establish programs such as double or joint degree programs with their partner institutions. This type of flexible education would give students the freedom to choose how, what, when and where they learn as well as the pace and mode of delivery, as long as the amount of workload and learning outcomes meet their home institutions' expectations (Delplace, 2016; Knight, 2008, 2010; Lee 2007; Neubauer & Kuroda, 2012; Malaysian Qualification Agency, 2016). Those who will benefit most from such flexibility are students in remote areas where it is difficult to access high quality education. AACs are positioned to play a central role in transferring credits from online education to a university's bachelor degree program despite differences in methods, content and even (perhaps) the quality of education. In this respect, eventually, AACs could serve as a "common and recognized credit system" for the world of "Edu-Glomerate" in Asian higher education, as Knight (2015) described. The concept of "Edu-Glomerate" is the stage of development in higher education where different kinds of education, including transnational, joint degree, and online education, will be in one platform without any conflict caused by the differences of modality.

VII. Future Tasks for the Effective Use of AACs

Although this paper does not intend to create any concrete action plan for the promotion of AACs, it is worthwhile to examine the possible use of existing organizations, regional activities and mutual agreements among governments and universities on the harmonization process of Asian higher education. In order to promote the use of AACs, it is important to get cooperation from existing regional consortia and local universities as well as government support. Voluntary international collaborations of universities are also crucial to expanding the use of AACs. A governmental and university consortium, such as UMAP, needs to continue to promote the use of AACs for their student mobility program(s). AUN can use the concept of AACs as an optional reference point for their exchange program since AUN-ACTS is already in the same category of credit transfer schemes as proposed to the ASEAN+3

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Ministers' meeting in 2018. ACD too can employ AACs as a broader concept in their ACD-ACTS. Lastly, relatively new student mobility programs mainly in ASEAN nations, such as "ASEAN International Mobility for Students (AIMS)" and the "Great Mekong Sub-Region-University Consortium (GMS-UC)," initiated by the South-East Asian Ministers of Education Organization-Regional Centre for Higher Education and Development (SEAMEO-RIHED), can also utilize AACs for their student exchanges, since the concept of AACs has already been introduced to all member universities in these regional student exchange schemes (Southeast Asian Ministers of Education Organization- Regional Centre for Higher Education and Development, 2018a, 2018b).

However, those student mobility schemes have limited the expanded use of AACs by virtue of all consortia's requirement for membership and membership screening. Thus, in order to disseminate the concept of AACs to all universities in the Asian region, the governments in Asia need to endorse and promote the use of AACs. In this respect, the ASEAN Plus Three Education Ministers Meetings have already established some specific guidelines for regional student exchanges and approved the concept of AACs as a reference point at their meeting on the 1st of November in 2018 (Association of Southeast Asian Nations, 2018). In Asia there are still many universities that prefer or require governmental endorsement before they implement new systems and approaches (Lee, 2007). Thus, approval by the ASEAN+3 Ministers of Education Meeting in 2018 is one good starting point for establishing some level of governmental recognition and permission for universities to use AACs.

As discussed earlier, in addition to student workload, the concept of learning outcomes has to be employed in AACs (Brewer & Leask, 2012; Hotta 2014, 2017; Knight & Lee, 2012). If a course syllabus identifies the learning outcomes of that course, it is up to the instructor to indicate how students will acquire the knowledge, skills, and various competencies based upon the allocation of student workload for each educational activity. This could pose a challenge for the Asian community because the concept of learning outcomes is relatively new. However, the inclusion of learning outcomes along with the related means of achieving them is an important component for improving internal quality assurance.

Finally, a key to using AACs effectively is allowing students the freedom to choose their path(s) to acquiring new knowledge and skills from various types and sources of education (Chantavit, 2016; Delplace, 2016). In other words, institutions need to recognize not only the academic value of traditional courses, but also the value of intensive workshops, online education, and other means of education offered by various types of educational institutions through all sorts of non-traditional coursework. In fact, this way of using AACs revives the original purpose of academic credits in the U.S. when Charles W. Eliot, the president of Harvard University created "elective courses" for senior students to acquire new knowledge with "academic credits" during the late 19th century (Shedd, 2003). The recognition of flexible education and the

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acceptance of AACs for students' educational achievements as a part of the fulfillment of their degree programs might be a substantial challenge for most Asian higher education institutions. Nevertheless, it is imperative that Asian higher education institutions and governments move forward in adopting diversity and flexibility in higher education in the future.

VIII. Conclusion

It is important to remember that the concept of AACs was not developed from scratch. It was based upon the current systems the majority of Asian universities are using now. Moreover, the concept accommodates a range of differences among Asian universities, yet still encompasses an acceptable range for transferring credits from other institutions in the world. Thus, the effective use of AACs in conjunction with the concept of student workload, learning outcomes and the adoption of flexibility in educational mobility will make Asian higher education more attractive than before. In addition, the concept of AACs will allow universities to spend more time examining the equivalencies of educational content from other universities because they will no longer need to convert academic credits from different systems. This permeability of regional higher education will allow universities to find suitable partner institutions and students to access various types of education through a regionally "harmonized" higher education. At the same time, it is important to note that AACs have the potential to affect negatively the regional development of higher education in Asia by engendering regional competition among universities to attract students and, as a result, cause potential brain drain among countries in Asia (Altbach 2007; Findlay and Tiermey, 2010).

Today, the concept of AACs has been adopted by UMAP member states as a new version of UCTS (UMAP-JAPAN, 2017). Moreover, the Fourth ASEAN Plus Three Education Ministers Meeting adopted the conversion table for different credit systems between Asian countries and other parts of the world using the concept of AACs in November 2018 (ASEAN, 2018). Thus, the concept of AACs can be used as an officially recommended principle for an aligned credit transfer system in Asia.

It is foreseeable that an academic system for recognizing student learning will eventually use competency-based evaluation to accept transferred students and award academic degrees in the future. Nevertheless, it still requires the concept of a credit system to measure and evaluate the detailed learning process each student goes through. The concept of AACs can help universities understand the value of coursework at other universities; and if clear learning outcomes are used effectively together with AACs, the level of trust in others' educational programs would greatly improve. As a result, participating universities could increase student mobility and create a vital population for regional harmony and peace in Asia (Altbach & de Wit, 2015). In order to realize such an expansion of student mobility and the development of

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higher education in Asia, the aligned academic credit system must be simple, systematic, and effective for all universities. The concept of AACs thus qualifies as a critical vehicle for promoting a regionally aligned system of credit transfer in Asia.

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TABLE 1: A Comparative Chart of Three Asian Credit Transfer Systems and ECTS

Name of system	Student workload per credit[1]	Total number of credits annually
ECTS (Europe)	25-30h	60 ECTS credits
(original) UCTS (1999- 2013)	--------	60 UCTS credits
(original)AUN-ACTS	25-30h	60 AUN-ACTS credits
ACD-ACTS	40h	30 ACD-ACTS credits

Source: The table was made by the author based upon the following documents in European Commission (2009), University Mobility in Asia and the Pacific (1999), Association of Southeast Asian Nations University Network (2009) and Asian Cooperation Dialogue（2011）

NOTE:

(1) Student workload includes academic contact hours in classes, but also other educational activities performed by students, such as homework, writing academic reports, attending internships and doing field research.

TABLE 2: General Trends in Academic Credit Regulations in 24 Asian Countries and Territories [1]

(As of March 2015)

	Number of academic contact hours in class per credit [2]	Amount of student workload per credit[3]	Average number of credits students earn per year
Bangladesh	No single regulation, but often 13-14 weeks[4]	Greatly varied No single regulation	Greatly varied, but min. 40 credits (120/3)
Bhutan	No single regulation, but 15 weeks[4]	Often 1 credit=10 hours	120 credits (360/3)
Brunei Darussalam	No regulation, but 14 hours (and 1 hour for reading)	No regulation, 35-42 hours	No regulation, 31-32 credits (124-130/)
Cambodia	15 hours[4]	45 hours[5] (field work)	* 30 credits[5] (120/4)
China	No regulation, but often 15-16weeks[4]	No regulation, but often 40-45 hours	No regulation, Greatly varied No single regulation
East Timor	No single regulation, but often 1 credit= 14 hours	No single regulation,	40 credits (160 credits/4 years)
Hong Kong[7] (2016~)	No single regulation, but often 12 hours (and one hour for final exam)	No single regulation, but often 1 credit=10 hours from 2016, 1 credit =20-30 hours[6] at the Univ. of Hong Kong	Greatly varied, but 31 credits (123/4) in one or 60 credits [7] (240/4) since 2016 in the other.

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India	No single regulation, but often 16 -17 hours	No single regulation, Greatly varied, but 40 hours (recommended)	Greatly varied No single regulation
Indonesia	16 hours (actually 50 min. x 16 weeks[4][5])	42.7 hours[5]	36 credits(144/4) [5]
Japan	15 hours[5] (30 hours)	45 hours[5]　（30 hours）[6]	31 credits (124/4) [5]
Laos	16-17 weeks[4]	No regulations, Min. 48 hours	32-37 credits (130-150 credits/4 years)
Macao	No regulations, but often 14 hours (and 1-2 hours for reading and final exam)	No regulations, but often 42-48 hours (14-16 weeks x 3hours)	Varied, e.g., 42-48 credits (132-135/3 years) & 36 credits (144/4 years) at Univ. of Macao
Malaysia	No regulation, but often 14 weeks[4]	40 hours[5]	40 credits (120/3) [5]
Maldives	No single regulation, but 14 hours (and 2 hours of reading and final exam)	No single regulation, but often 1 credit=10 hours	120 credits (360credits/3 years=120 credits)
Mongolia	15-16 hours	40 hours[5]	Min. 30 credits (120/4)
Myanmar	16 hours[5]	No specific regulation, but at least 20 hours ((3+2) x 16 /4)	40-44 credits (162-178 /4)but also btw 168-174
Nepal	13 hours[5]	No single regulation, 39-45 hours	42 credits (167/4) in a program under semester system
Philippines the	16 hours[5] (and 2 hours of reading and final exam)	48hours[5] (and 6 hours for reading and final exam)	Greatly varied, but min. 35 (140/4)
Singapore	No single regulation, but 13 weeks	No single regulation, but (e.g.) 39 hours at two institutions	No single regulation, e.g., 34-40 credits (103-120/3)
South Korea Republic of	15 hours[5]　（30 hours）	45 hours[5]　（30 hours）[6]	32-35 credits(130-140/4)
Sri Lanka	15 hours[5]	No single regulation, but 45-50 hours	30 (90/3)
Taiwan	16 hours[5] (and 2 hours for reading and final exam)	No regulation, but often 36-54 hours (2-3 hours x 18 weeks for internship)	min. 32 credits (128/4)
Thailand	15 hours[5]	Min. 45 hours[5] for field work and internships	30 credits[5] (120/4)
Vietnam	15 hours[5]	Min. 45 hours[5]for practical education	30 credits (120/4) [5]

Source: This table was made by the author and 11 other research fellows, based upon the findings of a comparative study of 24 Asian countries and territories conducted between 2012 and

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2015 with support from "The Grant for Scientific Research Type B (#24402045)" by the Japanese government.

NOTE:

1) All numbers are either a definition of government regulations or estimated numbers commonly used by local universities. Actual numbers often differ greatly depending on the field of study. If there is too large a gap in the difference of hours and credits, the list selects the smallest number since that tends to be the minimum requirement counted as legitimate and qualified by the government.

2) The number of academic contact hours means the hours of class sessions students attend. This teaching hour is based upon the academic hour, which is defined by each nation and/or institution. The actual amount of time varies from institution to institution. For example, in the case of Japan, 1 academic hour often means 45 minutes of instruction; in the US, many universities teach approximately 50 minutes. Thus, in this chart, one teaching hour will be counted as one academic hour, not based upon the exact length of teaching hours.

3) The amount of student workload includes academic contact hours in class and the amount of time students spend outside of the classroom, on such tasks as homework, preparation for exams and writing reports. If there is no clear policy on this type of self-study, the number of hours used is often the duration of internships or field research per credit.

4) The number of weeks per semester was indicated since one credit is often calculated based upon the number of weeks per semester. If the duration of semester is 15 weeks, an institution tends to award one credit for every 15 hours of study in class.

5) The number is determined by a national government and applies to all universities in that nation.

6) The amount of workload only for seminar, laboratory, and field studies is under this definition by governmental regulations.

7) The National University of Hong Kong was now in a transition period to change the length of their bachelor's degree program from 3 to 4 years at the time the research was conducted in 2014. Those numbers reflect the National University of Hong Kong's plan, which started from 2016.

TABLE 3: A Proposed Conversion Table of AACs with Other Credit (Transfer) Systems

Nation /Region, (Name of credit [transfer] system), and number of countries and territories	Proposed credit conversion with 1 AAC credit[1]	Equivalency in student workload	Teaching/ contact hours
ASIA (AACs), [at least 24 countries and territories]	1 AAC credit	**38-48 hours**	13-16 hours
USA (2/3 of institutions[2])	1 credit	45 hours	15 hours
Europe & neighbouring countries [47 countries[3]]	1.5 ECTS points	37.5-48 hours	----------
England, UK (CATS)[4]	3.0 CATS points	1 ECTS = 2 CATS points [however, 1 CATS= 10 hours]	----------
Latin America (CLAR)[5] [18 countries]	1.5 CLAR credits	37.5-48 hours	----------
Middle East (ANQAHE)[6] [15 countries]	1 credit	45 hours	----------

Source: The table was made by the author based upon the following documents: Regel (1992), European Commission (2009), Quality Assurance Agency (2008), Tuning Educational Structure in Europe (TUNING) Project (2013), and Arab Network of Quality Assurance in Higher Education (2012)

NOTE:

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[1] Although actual conversions contain some small fractions, e.g., 1 AAC equivalent to 1.5~ 1.6 ECTS, this proposed conversion table was made based upon the ease of credit transfer among a massive number of universities in a total of at least 106 countries and territories in the world.

[2] According to Shimizu (1998), about two thirds of American universities count one academic credit as 45 hours of student workload.

[3] 47 member states participate in the Bologna Process, where the use of ECTS is one of the main requirements.

[4] The CATS (Credit Accumulation and Transfer Scheme) has its own definition of one CATS point = 10 hours of student workload. However, CATS points on this table are calculated based upon the conversion principle of CATs points with ECTS, which was explained by the British Quality Assurance Agency. (Quality Assurance Agency, 2008).

[5] CLAR stands for "Latin American Reference Credit". (Tuning Educational Structure in Europe (TUNING) Project, 2013) It is a regionally aligned credit transfer system recently developed by a group of Latin American governments and universities. 1 CLAR credit=24-33 hours of student workload and requires students to take 60 CLAR credits per year. However, it converts with ECTS on a one to one basis. Thus, in this table, 1 CLAR point is treated the same as 1 ECTS point.

[6] One academic credit of ANQAHE (Arab Network of Quality Assurance in Higher Education) member state's higher education is equal to 45 hours of student workload (Arab Network of Quality Assurance in Higher Education, 2012). ANQAHE is an association of 15 member states and territories in the Middle East region. The board member states and territories are UAE, Kingdom of Bahrain, Kingdom of Saudi Arabia, Oman, Jordan, Egypt, Libya, Lebanon, Morocco, and other regular members are Kuwait, Palestine – Ramallah, Qatar, Sudan, Yemen, and Gazza – Palestine.

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