The Development of Architectural Education in Thailand under the ASEAN Community

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Abstract

This article explores the development of architectural education in Thailand under the framework of the ASEAN Community. A Mutual Recognition Agreement on Architectural Services was established which defines qualifications for courses, studies, and experience for ASEAN architects. The article has the following objectives: 1) to study the influence of current situations on the negotiation of ASEAN countries regarding architectural education; 2) to compare the architectural education programs of ASEAN countries; and 3) to present guidelines and recommendations for developing architectural education in Thailand. The research was conducted through a literature review, in-depth interviews, and focus group discussions. The study revealed differences between the programs in ASEAN countries that obstruct negotiations on architectural education from reaching the targeted goals. The major issues are the following: 1) the absence of a specific body with clear responsibility and authority regarding architectural education requirements among ASEAN members; 2) the differences among the member nations in the qualifications required for graduates; 3) the differences in occupational experience required for a professional license; and 4) the different systems used in applying for a professional license. The article concludes with the following recommendations: 1) it may not be necessary to specifically determine the terms of education, but instead, more emphasis should be placed on professional training; 2) architectural-related organizations of Thailand should work together to create solid policies; and 3) a single, unified accreditation body should be created to determine the guidelines for certifying degrees and quality of curricula in architecture.

Keywords: architectural education, Free Trade for Architectural Services, ASEAN architects

Introduction

The Association of South East Asian Nations consists of 10 member countries. Since 2015 as a result of the 15th ASEAN Summit, the Thai Ministry of Education, as per the 4th ASEAN Foreign Ministers' Meeting, issued policies that emphasize improving the country's education and human resource training, which are fundamental for sustainable development of the region (Wongboonsin, 2005). The result of this negotiation was also felt by the architecture profession, especially the core architectural services, namely, those involved in designing buildings and their surrounding environment. Under global-level agreements with the World Trade Organization (WTO) and regional-level agreements, such as the free trade agreement under the ASEAN Framework Agreement on Trade in Services, Thailand entered into the Mutual Recognition Agreement on Architectural Services. This agreement specifies the terms and conditions, as well as curricular and experiential requirements for those who want to become ASEAN architects.

Education is the first and major consideration for anyone to practice any profession under the scope of ASEAN. However, the 10 member countries have different levels of educational potential. Therefore, every country must start by improving and developing its education system and education-related laws that support those goals (Wongboonsin, 2009).

When considering the educational systems of ASEAN countries, we found differences in the mechanisms among ASEAN members in the following areas: the organizations responsible for certifying the degrees; the number of years required for completing the study of architecture; and the scope of subjects taught, academic terms, and related regulations. The fundamental criteria for considering and recognizing individuals as ASEAN architects are the graduates' qualifications. However, due to the numerous differences in the educational systems of those countries, it was not possible to gather certain data for consideration. Thus, this research project examined information related to the architectural education systems of ASEAN

member countries by selecting four representative countries – Thailand, the Lao People's Democratic Republic, Malaysia, and Singapore – to compare the content as specified in the requirements of curriculum preparation which can be used as a guideline to develop an architectural education plan for Thailand in the future.

Research Objectives

The objectives of this research are: 1) to study the influence of current situations on the related negotiations of ASEAN countries, regarding architectural education; 2) to compare architectural education in ASEAN countries; and 3) to gather and present guidelines and recommendations for developing architectural education in Thailand.

Research Methodology

This research project was divided into four stages, as described below.

Stage 1: Gathering information through a literature review regarding the initiation of free trade for architectural services, as per the scope of the ASEAN community's agreement.

Stage 2: Analyzing the influence of current situations on the related negotiation and comparing architectural education in ASEAN countries by means of a literature review and in-depth interviews with key informants from related organizations. This research focused on three main groups of ASEAN member countries: a) developed countries namely Singapore; b) developing countries with clear professional organizations and requirements for architecture, namely Thailand, Malaysia, Indonesia and the Philippines; and c) developing countries that have professional bodies but no clear professional requirements for the study architecture, namely the Republic of the Union of Myanmar, the Lao People's Democratic Republic, Cambodia, Vietnam, and Brunei Darussalam. Thus, the research was conducted as a comparative study of countries from each group, namely Singapore, Thailand, Malaysia, and Lao People's Democratic Republic, to discover how they prescribe the educational standards of their countries to meet ASEAN standards.

Stage 3: Presenting guidelines and recommendations for developing architectural education in Thailand by conducting two focus group discussions consisting of people from educational institutions and representatives of professional practitioners.

Stage 4: Summarizing and assessing the results.

Results and Discussion

The Influence of Current Situations on the Negotiation of ASEAN Countries Regarding Education Systems

Thailand is a member of the World Trade Organization (WTO), an international organization that was formed after the execution of the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS). It aims to establish the scope, regulation, and framework for the trading of international services used by WTO members, to ensure that international trade will be increasingly more open and free. Therefore, ASEAN members followed the GATT and GATS as the framework for negotiation.

The negotiation for the initiation of an international service market among member states of ASEAN proceeded as per the ASEAN Framework Agreement on Service (AFAS), which is currently into the 10^{th} round of the negotiation (Department of Trade Negotiations, 2018). The international service market created under AFAS is more open than the one created under the scope of GATS. Therefore, the international service market created under AFAS was known as GATS+PLUS. In accordance with the Declaration of the ASEAN Economic Community Blueprint, the initiation of such an independent and unified international service market was to be completed in 2015.

The meeting of members of the ASEAN Coordinating Committee on Services (CCS), which is responsible for negotiating under the ASEAN Framework Agreement Services (AFAS), propeled the execution of the Mutual Recognition Agreement (MRA) regarding architectural services (ASEAN Mutual Recognition Arrangement on Architectural Services, 2007). The MRA aims to encourage nation-states

to adopt the qualifications of other ASEAN members to allow architects to work in other ASEAN countries. For example, they must be subject to the rules and regulations of the countries where they are going to work, acquire a professional license from their country of origin, and possess the required experience and responsibility for the intended projects.

The ASEAN Mutual Recognition Arrangement on Architectural Services aims to facilitate the relocation of professional architects to work among ASEAN members, to promote the recognition of ASEAN architects among nation-states, and to create generally accepted standards and agreements for the relocation of technologies among ASEAN nation states (ASEAN Mutual Recognition Arrangement on Architectural Services, 2007). The core concept of MRA regarding architectural services is the recognition of ASEAN architects.

However, the gathering of data from meetings proceeded slowly for several reasons, and as a result, there is no solid evidence from this source.

Architectural Education of ASEAN Countries

Results from studying the relevant documents from the ASEAN member countries indicate that there are several differences in the architectural education courses and requirements of the ASEAN member countries as follows:

1) In all ASEAN member countries, architecture courses are taught at the higher educational level, except in Brunei where there are no such courses available at that level, or in local educational institutes. There, the specifications of the Royal Institute of British Architects (RIBA) are used as the criteria for comparison.
2) In all ASEAN member countries where higher education architecture courses are taught, at least five years of study are required for those wishing to become ASEAN architects, which corresponds to the requirements of the MRA.

3) In all ASEAN member countries except Vietnam, the completion of architectural education courses is required in order to apply for a professional architect's license (ASEAN Secretariat, 2015).

The author compared the four selected countries in terms of the following topics: 1) the titles of degrees certified by those countries in order to acquire the professional license; and 2) the terms of education, the total number of credits per term, the scope of subjects studied, and the certification of degrees and evaluation of curricula provided by both domestic and international organizations.

Table 1 Comparison of educational data in the four countries[1]

Country	Thailand[2]	Laos[3, 4]	Malaysia[5]	Singapore[6, 7]
Degree	B.Arch Bsc.Arch+M. Arch	B.Arch	Bs.Arch+B.Arch Bsc.Arch+M. Arch	BA(Arch)+M. Arch
Years	4+1 5	5	Varies from 5 to 6 years: • 5 years for A Level equivalent • 6 years for O Level equivalent	4+1
Total credits	Minimum 120 (4yrs) -150 (5Yrs)	140-176 credits	120: Part 1 60: Part 2	160 (B+M) 40 (M)

[1] ASEAN Architect Council (AAC), 2019
[2] Board of Architect Council of Thailand, 2005
[3] Sihalarth, 2018
[4] National University of Laos, 2018
[5] Board of Architects Malaysia, 2013
[6] National University of Singapore, 2018
[7] Singapore University of Technology and Design, 2018

Table 1 Comparison of educational data in the four countries (cont.)

Country	Thailand[2]	Laos[3, 4]	Malaysia[5]	Singapore[6, 7]
Subject grouping	1. Architectural design and theory 2. Thai architecture, history, and cultural context 3. Sustainability, technology, and environment 4. Professional practice and laws 5. general education (university courses)	1. Mathematics, descriptive geometry and basic science 2. Drawing, design and architectural theory 3. History of Laos and world art and architecture 4. Process, technology and materials of construction 5. Design studio 6. Practice, management and laws (urban and construction) 7. Sustainable green architecture and environment.	1. Design studio 2. Technology and environment 3. History and cultural context 4. Communication 5. Management, practice and law	NUS: 1. Architectural and urban design 2. Architectural practice 3. Building technology 4. Contemporary theories SUTD: 1. Sustainable design 2. Urban sustainability 3. Building contracts (law and practice) 4. Digital design and fabrication
National accreditation	Architect Council of Thailand, Ministry of Education Higher Education Commission	Ministry of Education and Sports (Architecture Faculty), Ministry of Public Works and Transport (Board of Architects and Engineers)	Board of Architects Malaysia/ Council of Accreditation Education Malaysia (CAAEM)	Ministry of Education, Board of Architects Singapore
International accreditation	-	Under ASEAN University Network (AUN) exchange program	RIBA (For UiTM and University of Malaya only)	RIBA

According to the Union Internationale des Architects (UIA) (UIA, 2006), the foundation of architectural education is to ensure that graduates possess the required knowledge, understanding, and ability

to conduct and provide architectural services appropriately, in terms of hygiene, safety, and overall ecological balance. Architects must understand the relationship of culture, wisdom, history, society, economy, and environment to the architectural projects they work on, and must understand the potential environmental impacts of the construction of such projects. Moreover, architects must be responsible for the work they create and situate in foreign communities, in terms of the differences in the underlying culture and ideas. Moreover, the architectural education standard requirements of the Royal Institute of British Architects (RIBA) mandate that to qualify as an architect, one must have completed at least five years of university education and completed a minimum of two years of practical experience. The typical route for qualification includes the completion of part 1 through part 3, where part 1 is the completion of three years of fulltime undergraduate degree and gaining a year of practical experience; part 2 is the completion of two years of a fulltime B.Arch or M.Arch degree followed by 24 months of practical experience; and finally, part 3 is the completion of examinations in professional practice and management to become a registered architect (Bhattacharjee and Bose, 2015).

Another organization involved with architectural education standards is the National Architectural National Accrediting Board (NAAB), which certifies professional degrees in architecture offered by institutions accredited by a U.S. regional accrediting agency. The curricular requirements for awarding these degrees must include professional studies, general studies, and optional studies, which can be summarized as follows:

1) Professional Studies. Courses with architectural content required of all students in the NAAB accredited program are the core of a professional degree program that leads to licensure. Knowledge from these courses is used to satisfy Condition 3 – Program and Student Criteria. The degree program has the flexibility to add additional professional studies courses to address its mission or institutional context. In its documentation, the program must clearly indicate which professional courses are required for all students.

2) General Studies. An important component of architecture education, general studies provide basic knowledge and methodologies of the humanities, fine arts, mathematics, natural sciences, and social sciences. Programs must document how students earning an accredited degree achieve a broad, interdisciplinary understanding of human knowledge.
3) Optional Studies. All professional degree programs must provide sufficient flexibility in the curriculum to allow students to develop additional expertise, either by taking additional courses offered in other academic units or departments, or by taking courses offered within the department offering the accredited program but outside the required professional studies curriculum. (National Architectural National Accrediting Board, 2020)

The four ASEAN countries studied here use the architectural education standard requirements from international organizations, such as UIA, RIBA and NAAB, as guidelines to prescribe their architectural education. However, the research found both similarities and differences in their subjects and curricula, as outlined below.

1. Terms of education

Under the scope of MRA, ASEAN architectural candidates must graduate from educational institutes certified by their original countries, with four to six years in architect schools and different requirements for professional training thereafter. As a result, the credit requirements of these countries vary between 120 and 180 credits to earn the Bachelor's and the Master's Degree, respectively.

At present, two organizations are responsible for specifying the scope of credit requirements in Thailand, namely, the Office of the Higher Education Commission (OHEC) and the Architect Council of Thailand. These organizations specify the requirements for the four-year and five-year curricula at not less than 120 and 150 credits, respectively. The Architect Council of Thailand is responsible for validating the architectural education system in terms of professional training. Only

curricula approved by the Architect Council of Thailand will allow graduates of such curricula to apply for the professional license, provided that they also possess other qualifications required by the council.

Therefore, when comparing the content and credits of architecture studies of the four countries in the credits of the specific subject area, elective and general education subjects specified in accordance with the university's criteria in each country are shown in the following table:

Table 2 Comparison of the number of credits in each main course category between Thailand, Lao PDR, Malaysia and Singapore.

Country	Thailand	Laos	Malaysia	Singapore
Architectural core courses	95	95-126	100	108
Elective courses	25	20	30	32
University courses	30	25	20	20
Total credits	**150**	**140-176**	**150**	**160**

Source: ASEAN Architect Council (AAC), 2019

Comparison of the number of credits of each core course, especially the architectural core courses, independent courses, and other courses determined by universities (general courses) reveals that the credit requirements of architectural core courses account for more than 60 percent of the total number of credits. However, the credit requirement of general courses determined by universities in Thailand is 5-10 credits higher than that of other countries. In-depth interviews with qualified individuals reveal that, in Thailand, compared with other countries, architectural core courses, which require a considerable amount of practice, have to compete for students' time spent on general courses that are not directly concerned with architectural knowledge. However, many universities have revised the general course requirement to a more appropriate level. This is a policy issue that each university will decide.

2. Architectural courses

As architects must truly understand the relationship of culture, wisdom, history, society, economy, and environment to the architectural

projects they work on, the architectural core courses of every country focus on the subjects of design, construction technologies, and construction materials and methods as the core knowledge of architectural education. However, the matters that the countries emphasize differently are the terms of professional training, practical performance, as well as related laws and differences in technological advancements.

Comparison of architectural core courses provided in universities of the four ASEAN countries reveals the following similarities:

1) **Design-related courses**
   Design-related courses involve studying design methods, processes, and theories. These courses are taught in the design studio of each college year, in the form of project-based learning. The size of the projects assigned to students is increased in the later college years.
2) **Technology-related courses**
   Technology-related courses involve studying construction theories, materials, methods, tools, and equipment used for the construction of a building and its physical components. These courses focus on building design for sustainability and the environment of the local area for the ultimate goal of sustainable architecture in the future.
3) **History courses regarding architectural arts and local architecture**
   These courses focus on the history and theory of architectural design and its relationship with anthropology, sociology, and human behavior and the environment; as well as local architecture. Of the four countries, Singapore is the only one that does not emphasize the study of local architectural history.
4) **Other courses concerning professional practices and laws on building and physical design**
   These courses cover the methods, procedures, and processes of professional practice that students may expect after graduation, as well as knowledge regarding laws on building, urban planning, project management, contract execution, professional code of conduct, and specifications for construction drawings. These courses are very similar in all four countries as they teach students practical knowledge and the processes that they must use in their careers in the future.

Courses that Are Not Generally Taught in Thai Universities

Some courses are not generally taught in Thailand because of the individual interests of universities in other ASEAN nations that want their students to have specialized expertise in the subjects. For example, Singaporean universities emphasize specific issues, especially communication. The courses focus on physical communication and presentation of architecture-related information, which the universities deem important for architectural services in the future.

1) Also, Singaporean universities provide another course that is different from those in Thai universities, namely, "Design and Fabrication," which involves the use of information technology to promote and support the design and creation of architectural features, in accordance with the design concept and the scope of the architectural project. This course demonstrates the usefulness of such digital media in enhancing a designer's imagination.
2) The subject matter also covers the issues of design and construction development, using the architecture created with the systematical digital calculation method. The teaching of this course is divided into the following three parts.
   2.1) Design computation: the use of models and parameters for designing, experimenting, and reasoning, based on the architectural structure, to aid in the construction.
   2.2) Digital fabrication: the use and implementation of digital computers and rapid modeling with industrial robots to support complex design projects.
   2.3) Data gathering through the 3-D scanning technology that can be used for various architectural applications; project area analysis, context assessment, and

implementation with the structural heritage conservation projects that require the high precision computation of the project's area and dimensions (Singapore University of Technology and Design: SUTD).

It can be seen that currently people have to rely on and apply various tools, equipment, and technology to aid the design process. Moreover, courses like communication and design and fabrication will provide great benefit when used with architectural services. Therefore, it is imperative that universities in Thailand, as well as government and private organizations, come together and provide support on the integration of these courses as part of the architectural curricula in this country.

Guidelines and Recommendations for Developing Architectural Education in Thailand

This research revealed differences between countries that impede negotiation on architectural education from reaching the targeted goals. The major differences include: 1) education management systems, 2) relevant authorities, and 3) evaluation and certification guidelines. Therefore, the development of architectural education in Thailand should focus on the following issues.

1. Architectural education management systems

For the context of architectural education management of Thailand, it may not be necessary to require a specific number of years of education. This issue is under the purview of the Office of the Higher Education Commission (OHEC) and the Architect Council of Thailand, which determine the number of credits required for each college year for the entire education system. The terms of architectural education must be in the range of four to five years. However, it is necessary to determine the number of credits of architectural core courses and other related courses, as they represent the minimum standards that universities then later modify to match the different demands of each university.

The most important thing is that architectural education should focus on the integration of the architectural core courses with the support

courses or structure-related courses or on architectural characteristics of the tropical zone or local architecture, in order to create unique strengths in graduates of the system. The teaching methods should focus on creating MOUs between member states of ASEAN, as well as arranging workshops in order to promote the exchange of knowledge between ASEAN countries. Doing so will allow students to be exposed to different cultures, and enable them to learn how to apply their knowledge in diverse contexts. Architectural education should emphasize the cultivation of two kinds of skills. The first consists of professional skills, or the unique skills required for their profession; and the second consists of communication skills, including speaking, presentation, social relations, teamwork, and using information systems.

2. Related organization

The Architect Council of Thailand, the Association of Siamese Architects, and the educational institutions supervised by the Council of Deans of Architecture Schools of Thailand, are the three core organizations that represent the government sector, the private sector, and the education sector, respectively.

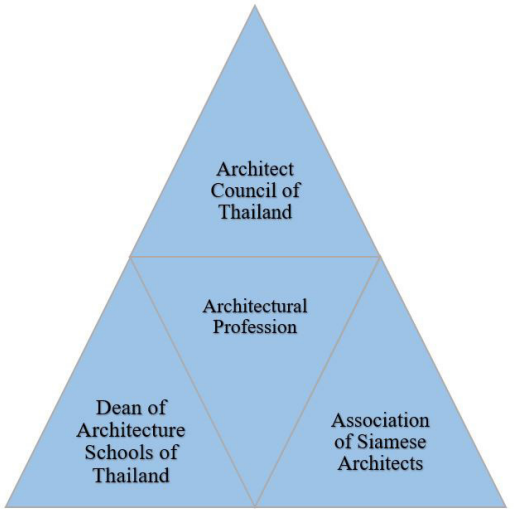

Figure 1 Organizations playing a role and being an important part of supervising architectural practitioners

These three organizations play different roles. Each should contribute to the professional development of architecture in Thailand to ensure that graduates will have the deep understanding and competency to perform architectural operations appropriately in terms of hygiene, safety, and ecological equilibrium. Architectural practitioners should fully understand the culture, local wisdom, history, society, economy, and environment in relation to that architectural structure as well as the effects on the environment that may occur due to its location. These organizations should work together in determining strategies, policies, and tactics with the emphasis on collaboration, clear processes, and standards in order to allow practitioners or education institutes to function properly and to further promote the physical development of Thailand.

3. Evaluation and certification guidelines

In terms of the guidelines for evaluating and certifying architectural curriculums, at present, the Architect Council of Thailand is responsible for certifying architectural degrees as part of the requirements for applying for the professional license, under the collaboration with the Office of the Higher Education Commission (OHEC). According to the negotiations under the ASEAN Framework, where members discussed the guidelines for certifying the architectural curricula of ASEAN countries, the evaluation will be conducted under the ASEAN Framework as the 10 member states will jointly create the Accreditation Board. In this regard, the author believes that such an initiation is not necessary at present because other instruments for evaluation and certification are already available under the ASEAN University Network. The author recommends that further effort should be placed on promoting AUN-QA as part of the evaluation/certification in order to reduce redundant branches, faculties, or curricula that have to be evaluated and certified. Moreover, using AUN-QA for evaluation and certification is already accepted, at both the regional level and international level. Therefore, the creation of a single, unified accreditation body or a central organization would provide the greatest benefits to the overall operation of educational institutes and help reduce redundant operations.

Suggestions for Future Research

This research also revealed significant issues that may obstruct or impede international collaboration on this subject, as follows.

1) Related legal issues, where the architectural profession-related laws don't fully support the initiation of ASEAN architects, for example, labor laws, foreign business acts, etc.

2) There is already an instrument available for the regional evaluation and certification of architectural curriculums, namely, the AUN-QA, used by all members of the ASEAN University Network. Thailand should study architectural curricula certified by AUN-QA as 'the best practice,' in comparison with the architectural curricula of Thailand, in order to develop its curricula or a guideline for the related processes, recommendations, and/or potential obstacles for the evaluation, in order to promote the advancement of the Thai educational system to the international level.

3) The creation of the Ministry of Higher Education, Science, Research, and Innovation, by means of the new Higher Education Act, is closely related to the evaluation and certification of the architectural profession. Therefore, the Architect Council of Thailand should consider and determine its strategies, guidelines, and policies for the future.

Conclusion

This study found that the development approach can be divided into the main issues of teaching management system-related organizations and the development of certification and assessment guidelines.

In addition, for the long-term development of professional architectural education in Thailand, the teaching content may need to be developed concerning the framework of the WTO negotiation which is called Central Product Classification (CPC) to cover all aspects of professional service architecture areas. They are the following: 1) advisory and pre-design services, 2) architectural design, 3) contract administration, 4) combined architectural design and contract

administration, and 5) other architectural services. The latter include preparing materials used in public relations and presentation of the project to the public and creating models that show the actual location during the construction phase provision of operating manuals, etc.

Therefore, the contents can be used as guidelines for professional bodies that set course content standards; also, each institution would consider emphasizing the curriculum to be in the context of the liberalization of trade in architectural professional services in the future.

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