

A Comparison Study on Accredited Architectural Education Contents between US and Korea

Jin-Wook KIM

Professor, Department of Architecture, Seoul National University of Science&Technology, Seoul, Korea

DOI: 10.5659/AIKAR.2011.13.2.13

Abstract Since 2002, Architecture Schools in Korea was changing long traditional architectural education system from 4 years generalized architectural engineering curriculum to 5 years professional architecture program. Until 2010, 76 architecture schools have changed their program to 5 years course which was focused to design studio education. It was a very rapid change and there was not much time develop their own system which could represent institutional identity, character of students and local environment. Korea joined as a regular member of Canberra Accord in 2010 and it is meaningful to compare Korean architecture program contents to another country education contents. US architecture programs were selected for this comparison study. The goals of this study are to create a comparable understanding the form of contents of Architectural Education in US and Korea and to verify the substantial equivalence of these systems. To achieve above goals, three public institutes of each country were selected and analyzed with general information, history, resources, curriculum and the matrix of Student Performance Criteria for quantitative comparison. For qualitative comparison education context of programs were analyzed with program missions, the way of advising, professional connection and distribution of faculty loads.

Keywords: Architectural Education, Accreditation, Curriculum, Professional Education

1. INTRODUCTION

Together with twenty one century world economy development, domestic academic systems are requested to shift to the paradigm of globalization including architectural education. As a pioneer, Accreditation Board for Engineering and Technology (ABET) had established the exchange frame with worldwide member countries, the Washington Accords in 1989. The Washington Accord is comprised of 12 members and 5 provisional members. Recently architectural accrediting board of several countries agreed to build an exchange frame in architectural education. As a result of this agreement, the Canberra Accord had been established to verify academic systems of member nations as reliable systems to exchange in architecture area. The Canberra Accord focuses exclusively on the substantial equivalency of accreditation systems for professional degree programs in architecture. The substantial equivalency is also important for professional architecture degree programs itself. Also NAAB had made the own substantial

equivalency process and condition for individual institutes want to take. Though the substantial equivalency process is working well, there is a need to compare the content of education of different countries, not the accreditation processes or conditions.

In this study, the education contents of academic institutes of two member countries of Canberra Accord were analyzed; US and Korea. Through this study, the difference and the similarity of education structures and contents between institutes and countries were analyzed.

This study will be a meaningful step to expand exchange student programs and cooperative educations between two countries. Also it might be helpful for continuing discussion about possibility of license exchange.

The goals of this study are to create a comparable understanding the form of contents of Architectural Education in US and Korea and to verify the substantial equivalence of these systems.

To achieve above goals, three institutes of each country were selected and analyzed with general information, history, resources, curriculum and the matrix of Student Performance Criteria for quantitative comparison. For qualitative comparison education context of programs were analyzed with program missions, the way of advising, professional connection and distribution of faculty loads.

2. PRECEDING STUDIES

(1) Windsor Forum on Design Education

In 2002, Windsor Forum discussed about Curricula of Architectural Education. A curriculum matrix was provided to

Corresponding Author: Jin-Wook KIM, Professor
Department of Architecture, Seoul National University of
Science&Technology
Gongneung 2-dong, Nowon-gu, Seoul, 139-743, Korea
Tel :+82 2 970 6569 e-mail: jinwook@seoultech.ac.kr

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Table 1. A sample of five year program curriculum model (Hetzel, et al.)

	Year1		Year2		Year3		Year4		Year5	
	1 st semester	2 nd semester	3 rd semester	4 th semester	5 th semester	6 th semester	7 th semester	8 th semester	9 th semester	10 th semester
Design	Regionalism	Ethics	Town Plan	Civility	Housing	Virtuosity	House	Elegance	Villa	Thesis
History	History of Arts	History of Arch.	History of Urban Form 1	History of Urban Form 2	History of Vernacular Buildings 1	History of Vernacular Buildings 2	History of Canonical Pre-Modern	History of Canonical Modern & Post-Modern	Precedents Thesis Research	
Technology	Sustainability 1	Materials & Methods	Materials & Technology	Elements & Tectonics	Intuitive Structures	Quantative Structure	Environments Science1	Environments Science2	Sustainability 2	
Skills	Model Building	Drawing1	Painting2	Graphics 3	Graphics 4	Professional Practice 1	Professional Practice 2	Construction Drawings & Specifications 1	Construction Drawings & Specifications 2	Construction Drawings & Specifications 3
Liberal Arts	Well-Being	Philosophy 1	Philosophy 2	Sociology 1	Sociology 2	Marketing	Politics & Patronage	Theology	Economics	Economics(real estate)

facilitate the forum discussion containing five educational subject types; Design, History, Technology, Skills and Liberal Arts. Further, a five year/ ten-semester program structure was suggested. As a result forum made two of five-year program curriculum matrix, one six-year program curriculum and two of three year program curriculum. For initial discussion, twelve education model studies were presented including a classical model, the beaux-arts model, a current European model, the vernacular model and etc. After presentation of twelve education model, five curriculum models were proposed through curricula development charrette. The five proposed curriculum, are two 5-year programs, one 6-year program and two 3-year programs. Discussion teams made ideal curriculum with characteristic intention. But these discussions were followed experience of participants and there were no comparable studies.

(2) NAAB Task Group Research

The International/Global Task Group of NAAB completed a process from October 2007 through January 2008. And the group published and entitled Overview and to architectural education as viewed from a global process,

which resulted in a prioritization of issues related perspective. (Steidl, et al, 2008) This report defined some issues in priority order and enumerates the parameters which should be considered in future “NAAB Conditions for Accreditation.” Through international e-mail survey and several conference calls, task group suggested prioritized Issues; Social Responsibility, Cultural Understanding / Ethical Differences, Climate Change/Sustainability, Urbanization, International Collaboration/Integrated Practice, The New Role of the Architect as a Leader.

(3) NCARB Requirements

NCARB requires foreign educated architects to satisfy the NCARB Education for entry to the Architects Registration Exam (ARE). In addition to 120 semester hours in History, Human Behavior & Environment, Design, Technical Systems and Practice NCARB requires 40 semester hours of "general education", for which "foreign educated architects may not use secondary education or practical experience to satisfy the education

Table 2. NCARB Education Standard requirement of subject areas

Subject areas	Required
1. General Education	40 Semester Hours
2. History, Human Behavior& Environment	16 Semester Hours
3. Technical Systems	24 Semester Hours
4. Practice	6 Semester Hours
5. Design	50 Semester Hours
6. Electives	24 Semester Hours

requirements". US architects generally satisfy this requirement by completing architectural degrees that include extensive general education and less architectural subjects. Most NAAB-approved US courses are a 5-year B.Arch that includes a General Education component. Another option is a 4-year liberal arts degree plus a 3½ year M.Arch, or a 4-year preprofessional degree and a 2-year M.Arch. (NCARB, 2008) This requirement could be used as a guide of substantially equivalence for Architectural education of foreign country.

(4) Canberra Accord

The Canberra Accord was established as an international organization for architectural accredited/validated institution in 2008. Through the review of each education and accredited system, the Australian Institute of Architects (RAIA), the Canadian Architectural Certification Board/Conseil canadien de certification en architecture (CACB/CCCA), the National Board of Architectural Accreditation (NBAA) of China, the Korea Architectural Accrediting Board (KAAB), the Consejo Mexicano de Acreditación de Enseñanza de la Arquitectura (COMAEA; . Mexican Accrediting Board of the Teaching of Architecture), the National Architectural Accrediting Board (NAAB) of the USA, and the Commonwealth Association of Architects (CAA) agreed to be considered substantially equivalent by those agencies. Having exchanged information on, and examined their respective criteria and procedures for accrediting/validating academic qualifications in architecture, the signatories have concluded that their systems are substantially equivalent. Through the Canberra Accord, the

signatories recognize the substantial equivalence of their systems in terms of accrediting/validating the academic requirements for the practice of architecture at the professional level. For comparative analysis 7 questions were reviewed as below.

1. What are the mission statement, goals, and objectives of your accreditation agency?
2. How do you achieve effectiveness in accreditation without unduly burdening the institution under review?
3. How do you respect diversity of culture and mission of institutions under review while maintaining minimum standards for the profession?
4. How does your agency inform itself about the needs of the profession, worldwide developments in the discipline of accreditation, and developments in education?
5. In addition to the assessment of institutional resources and how they are allocated with respect to the institutional mission, how does your agency assess student performance outcomes?
6. How are your governance and secretariat functions organized to assure integrity and professionalism in the conduct of their operations?
7. What are your mechanisms to insure that expertise and experience in the applications of standards, procedures, and values are present in members of visiting teams, commissions, and staff?

3. COMPARISON OF PROFESSIONAL ARCHITECTURAL EDUCATION ACCREDITATION SYSTEM

The systems for accreditation of architectural education of both countries are similar. But history of accreditation and the number of accredited institutes are different. NAAB in US was established in 1932 and KAAB was established in 2005. There are 148 accredited architectural programs in US and 29 accredited architectural programs in Korea. In US common professional architecture degrees are M.Arch and B.Arch. Graduate schools require 2+ or 3+ graduate academic training for M.Arch. Students holding a bachelor's degree in a discipline other than architecture can take a three+year M.Arch and students with a pre-professional B.S. or B.A. in architecture or environmental design pursue a two+year M.Arch program. For professional bachelor degree schools offer 5+ undergraduate years for B.Arch. And there is another possibility to get a professional architecture degree which is 4 years architecture related education; like B.A. and 2 years graduate education. Very rare school offer 4+1 system; 4 years undergraduate study and 1 year graduate study. Also 1 D.Arch program is offered in University of Hawaii.

Korean professional architecture education system is simpler. Most of schools choose 5 year B.Arch structure except 1 graduate architecture school in Korea. Also most of schools also offer bachelor of engineering in architecture degree. These were traditional structure of architecture education in Korea. Master degree has been recognized traditionally as more academic education than professional education in Korea. And profession emphasized practical training. Formal regulation of architect licensing required 5 years working experience in architecture field after education to take the first ARE. But the regulation changed to 3 years internship in accreditation system.

Table 3. Accreditation System of both Countries (2010)

	U.S.A(NAAB, 2004)	Korea(KAAB, 2005)
Accreditation Organization	NAAB(Established 1932)	KAAB(Established 2005)
Accredited Architecture Programs	B.Arch 54 programs M.Arch 93 programs D.Arch 1 programs	B.Arch 28 programs M.Arch 1 programs
Number of Architects	Approximately 97,000	Approximately 16,000 (registered 10,000)
The Members	2 non-architects, one with a background in academia and the other a generalist who together represent the public interest, 4 representatives from the four organizations that serve the profession of architecture: <ul style="list-style-type: none"> • The Association of Collegiate Schools of Architecture. • The American Institute of Architects • The National Council of Architectural Registration Boards. • The American Institute of Architecture Students. 	15 directors of whom are 6 architectural educators (from Architectural Institute of Korea), 6 practicing architects (from both Korea Institute of Registered Architects and Korean Institute of Architects), and 2 directors nominated respectively by the Ministry of Education and Human Resources, and the Ministry of Construction and Transportation The last seat is nominated in agreement by the board members, to represent public.

(1) Institutional Comparison

Three public institutes of each country were selected for comparison. A private institute could be shown very large spectrum of size of education, financial condition and reputation between institutes. But public institutes could be stable in financial, physical and human resources. University of Washington (UW), University of Illinois at Urbana-Champaign (UIUC) and California State Polytechnic University at Pomona (Cal. State at Pomona) were selected for US programs and Seoul National University (SNU), University of Seoul (UOS) and Seoul National University of Technology (Seoul Tech) for Korean programs. APR of each program was collected on request and analyzed.

(2) General Conditions of Institutes

The history of most university at the list are around 100 years or older. The mature education came from its old history. The oldest history of institutes is UW (since 1861) and the oldest history of program is UIUC (since 1867). Size of program varies from 206 students (UOS) to 667 students (UIUC). Every program has been currently accredited between 2006 and 2009.

Most different factors between programs are size of faculty and library collections. Size of faculty can compare the ratio of full time faculty and total number of students. The most small ratio of is 5.15(UW) and most large ratio is 36.86(Cal. State at Pomona). The ratio of faculty and students in Korean Universities shows 17 to 27.

And the size of library collection for architecture library is very different. The largest collection is UW (105,000 volumes) and the smallest collection is UOS (23,500 volumes).

The oldest program in accreditation of professional degree

¹ These are the courses which were shown in Graphic Matrix for Required Courses and Performance Criteria in APR

Table 4. Course Structure of 6 Programs

	UW	UIUC	Cal. State at Pomona	SNU	UOS	Seoul Tech
Academic Period	Quarter	Semester	Quarter	Semester	Semester	Semester
Professional degree	3+ M.Arch 4+2+ M.Arch	4+2 M.Arch 3 M.Arch	5 B.Arch 4+2 M.Arch	5 B.Arch	5 B.Arch	5 B.Arch
Graduation Credits	145 credits in 10 quarters 91 credits in 7 quarters	127 semester hours for B.S 62 for M.Arch	246 quarter hours for B.Arch	160 semester hours for B.Arch	164 semester hours for B.Arch	160 semester hours for B.Arch
Credits in the Arch. program	120 for 3+ program (82.8%)	76 for B.S. (83.9%) 52 for M.Arch (73.0%)	168 (68.3%)	123 (75.0%)	130 (79.3%)	134 (83.8%)

history is UIUC (since 1913) and the second oldest is UW (since 1925). Korean program are relatively young and accredited since 2006 which is the initial year of Korean accreditation system in architecture education.

4. CURRICULUM ANALYSIS

According to NCARB requirement, each curriculum of architecture program could be divided with 5 realms; 1.history, human behavior, and environment, 2.Technology, 3.Practice, 4.Design, 5. Electives.

(1) Course Structure

There were two quarterly operated programs and four semester programs in study. All US programs provided professional undergraduate and graduate programs but Korean's only provided professional undergraduate programs. For diversity study, the curriculum of 3+ M.Arch (UW), 4+2 M.Arch (UIUC), 5 years B.Arch (the others) were analyzed. The portion of credits in architecture program in M.Arch (83.75 for UW and 83.9% for

² Includes TAs

Table 5. General Conditions of Programs

	University of Washington	University of Illinois at Urbana-Champaign	Cal. State at Pomona	Seoul National University	University of Seoul	Seoul National University of Technology
College	College of Built Environment	College of fine and applied arts	College of Environmental Design	College of Engineering	College of Urban Sciences	College of Engineering
Department	Architecture Department	School of architecture	Department of Architecture	Architecture Department	Architecture Department	School of architecture
Professional degree	Master of Architecture	Master of Architecture	Bachelor of Architecture/ Master of Architecture	Bachelor of Architecture	Bachelor of Architecture	Bachelor of Architecture
Established year	1861	1867	1938	1919	1918	1910
-Program-						
Established year	1914	1867	1969	1919	1975	1912
First accredited	1925	1913	N/A	2006	2006	2007
Current accreditation	2007	2009	2008	2006	2006	2007
Student Enrollment	39,000	42,728	20,340	26,000	11,000	13,000
Faculty & Staff	27,600 (teaching only 4,000)	10,924	1,281 faculty and 1,431 staff members	26,000(1,700 full-time faculty)	700(420 full-time faculty)	700(330 full-time faculty)
Size of program(no. of students)	Undergraduate 102 Graduate 132	Undergraduate 547 Graduate 220	Undergraduate 420 graduate 70	Undergraduate 139 Graduate 81	Undergraduate 171 Graduate 35	Undergraduate 200 Graduate 97
Human Resources -Faculty	26 permanent faculty FTE	36 permanent faculty (assistants, associate, professor)	16 full-time faculty	9 permanent faculty	10 tenure track faculty 2 non tenure track faculty	10 tenure track faculty 1 non tenure track faculty
Students/ Full time Faculty	134/26=5.15	667/36=18.52	590/16=36.86	219/9=24.33	206/12=17.16	297/11=27.00
Students/ Faculty of studios	Arch 300 – 48/4 Arch 400 – 32/3 Students/Section	Sophomore ¹ -1:14 Junior -1:15 Senior -1:15 Grad 1-1:13 Grad 2 -1:5	studio size varies from 12 – 20 students	Arch Design 1 24/2 Arch Design 3 20/2 Arch Design 5 20/2 Arch Design 7 16/2 Arch Design 9 16/4	Arch Design 1 113/5 Arch Design 3 77/5 Arch Design 5 33/3 Arch Design 7 2/30 Arch Design 9 19/2	Arch Design 1 – 48/4 Arch Design 3 – 37/3
Library (Books classed Architecture related)	The Architecture-Urban Planning Library (AUP) 45,000 volumes Main Library 60,000 volumes	RICKER LIB. OF ARCHITECTURE AND ART 35,000 volumes Main Library 42,000 volumes	Environmental Design Resource Center 2,000 volumes Main Library 27,000 volumes	Architecture Library 10,000 Main Library 35,000 volumes	Architecture Reading Room 2,500 Main Library 21,000 volumes	Architecture Library Center 4,500 volumes Main Library 23,000 volumes

UIUC) were higher than B.Arch (68.3% for Cal. State at Pomona and 59.8% for UIUC undergraduate). But Korean B.Arch program provided more than 75% of total mandatory credits by architecture program. The Course structure of Korean programs was comparatively more rigid than US programs.

(2) History, Human Behavior and Environment Requirement

The most emphasized program in cultural context field is SNU with 19.6% of cultural context course ratio. Usually most school educates this area in early part of education. And some programs offer dipper and wide courses of cultural context for elective courses. Some programs offer this area with specific name of studies, like Romanesque, Gothic & Renaissance Architecture (UW) and A Modern Architecture Since 1750(Cal. State at Pomona) but others prefer general definition of this area, like Architecture History 1, 2(SNU). But contents of history curriculum generally follow the time period of history in most programs.

(3) Technical Systems Requirement

Technical system requirement consists of structure, environment control, building materials and construction technology. Most of school offered similar curriculum in this field but wood structure and seismic knowledge are not common subjects for architecture study in Korea.

The most technical education oriented curriculum is UIUC. 36 credits of technical courses are required for students and it is 26.1% of 138 total credits architecture program provided. The least mandatory credits of technical area are 16.4% (Seoul Tech). Generally Korean programs required to students less credits than US programs in technical system area.

(4) Practice Requirement

In practice area, Korean programs required to students more credits compared to US programs. They required around 5% of total credits for practice area. US programs asked less credits in practice area, around 2% of total credits, except one program (UW). The reason of this situation could be a very complex code regulation of architecture practice in Korea. Most of all Korean programs required at least one architecture code course. It is very important part of practice of Korean architects to analyze the code of specific site or region.

(5) Design Requirement

Design requirement includes design studio, graphic instruction and computer graphic technique. Most of schools required at least one course in design area every quarter and semester. So design courses are spread very evenly through the education period.

The most design course oriented curriculum is Cal. State at Pomona, 96 design related courses are required and it is 57.1% of 168 total credits architecture program provided. This program very emphasizes design studios and design studios of Cal. State at Pomona are taken major part of SPC matrix. The least mandatory credits of design area are 39.2% (UOS). Generally Korean programs required to students less credits compared to US programs.

Most of samples of this research named design studio with number of studios, like Architectural Design Studio 501(UW) and Architectural Design V (UOS). But some program outside of these samples use very specific name of design studio, like Design Studio 3A: House and Housing.

(6) Architectural Elective Subject

Professional elective requirements are varied by programs. Most of school organized curriculum to be taken elective course at the end of education period by students. Program which required the most elective credit is UOS with 34 credits and 26.5% of total credit in professional program for graduation. And the least required credit ratio is 9.5% (Cal. State at Pomona) of total credits which is required in professional program.

But the variety elective courses offered by program are very different. 65 available architecture electives were provided by UIUC, 60 elective courses by UW, 21 courses by Cal. State at Pomona. For Korean Program, 18 courses were provided by Seoul Tech., 15 courses by SNU, 19 courses by UOS. Koreans programs offered less architectural elective courses than US programs. The reason of this limitation of architectural electives is the difference between graduate programs and undergraduate programs. In addition, financial reason also affects this limitation. For undergraduate program the minimum number of students of each class is usually around 15 or more in Korea.

Table 6. Curriculum composition ratio by area

School/Area	History	Technical	Practice	Design	Elective
UW	12.5%	20.0%	5.0%	42.5%	20.0%
UIUC	14.1%	28.1%	<u>2.3%</u>	43.0%	12.5%
Cal. State at Pomona	11.9%	19.0%	2.4%	57.1%	<u>9.5%</u>
SNU	19.5%	19.5%	4.9%	45.5%	10.6%
UOS	<u>11.5%</u>	18.5%	4.6%	<u>39.2%</u>	26.2%
Seoul Tech	17.9%	<u>15.7%</u>	6.7%	48.5%	11.2%

These 5 realms credits were summed and each realm credits portion of architecture program could be calculated. With these data, the curriculum composition area was analyzed.

The most design oriented curriculum is Cal. State at Pomona with 57.1% design credits of architectural program units. The most evenly balanced program is UW without bias.

5. STRUCTURE OF CURRICULUM

(1) Course and School Years

Each curriculum was analyzed by school years and graphical analysis shows visual structure of 5 realms with education steps.

The curriculum of 3+ year M.Arch program(UW) can be divide clearly 2 year for core courses of history and technical area and 1 year for practice and elective courses. (Fig. 2)

5 years B.Arch program of Cal. State at Pomona could be analyzed that the courses in history area are provided in the lower grade of school years and technical area is in the middle and practice area is in the end of school years. And design area is spread very evenly through whole education period. Graph shows very similar pattern

³ Note: Bold cell pointed the highest ratio of the field and under line cell showed the lowest ratio of the field.

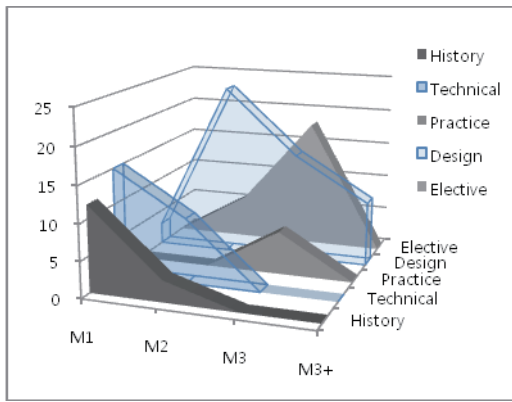


Fig. 2 Curriculum of UW

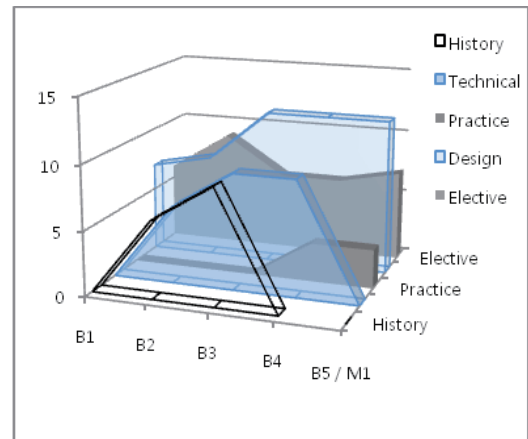


Fig. 6 Curriculum of UOS

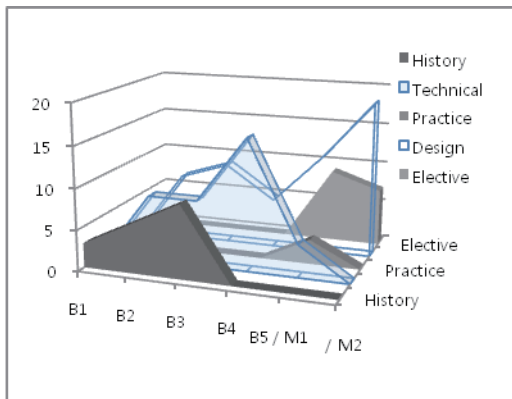


Fig. 3 Curriculum of UIUC

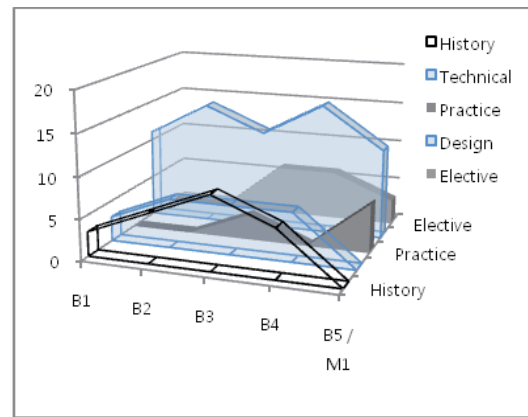


Fig. 7 Curriculum of Seoul Tech

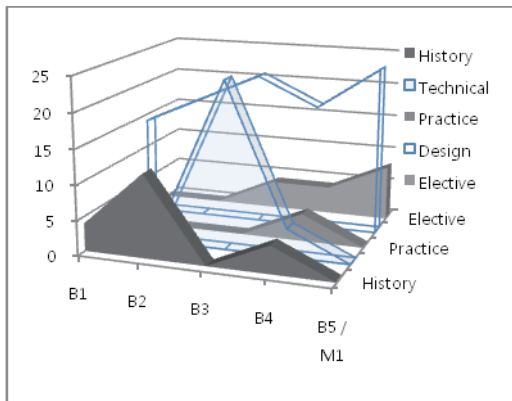


Fig. 4 Curriculum of Cal. State at Pomona

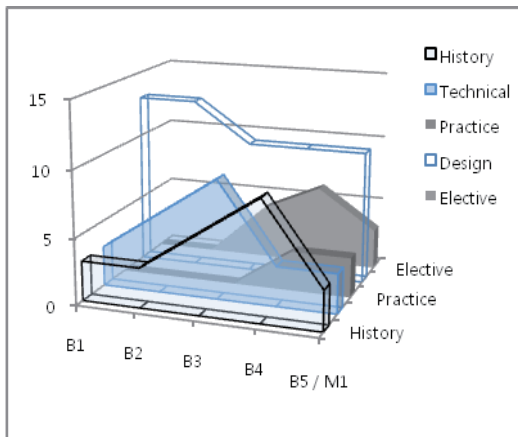


Fig. 5 Curriculum of SNU

with others. But design area covered more than 57% of total credits in Architecture Department offered.

A curriculum of Korea 5 year B.Arch program cannot be clearly divided by areas of courses. History and technical and design area are spread entire education period.

(2) Student Performance Criteria Analysis

Student Performance Criteria (SPC) is the very important for architectural education system. It can be building the character and structure of curriculum. Comparison of SPC regulations of both accreditation boards were compared below.

The NAAB criteria encompass two levels of accomplishment:

- Understanding – means the assimilation and comprehension of information without necessarily being able to see its full implication.
- Ability— means the skill in using specific information to accomplish a task, in correctly selecting the appropriate information, and in applying it to the solution of a specific problem.

The KAAB criteria encompass three levels of accomplishment – awareness, understanding, ability

- Awareness: acquaintance with particular information, including definitions, concepts, rules, methods, processes, or settings. Students can correctly remember information without necessarily being able to paraphrase or summarize it.

There are 34 SPC of NAAB 2004 Conditions. There are 12 SPC of Understanding levels and 22 Ability levels in NAAB 2004 conditions. And there are 41 SPC of KAAB 2005 Conditions. There

are 5 SPC of awareness levels, 19 SPC of Understanding levels and 17 Ability levels in KAAB 2005 conditions.

SPC tables of NAAB and KAAB are almost similar and could be matched each other. The different items of criteria for NAAB are Research, Critical Thinking and Professional Development. The differences for KAAB are Construction Management, reusability study and relationship with other field.

For comparison study, the comparable SPC items of both systems were examined. Most of SPC items were comparable but there were 2 SPCs of NAAB and 4 SPCs of KAAB for very unique elements which could not be comparable. Course name which is covered each SPC would be listed and compared. SPC dots which were proposed in a matrix were counted.

Table 7. Number of Courses to Cover SPC

Area	No. SPC	UW	UIUC	Cal. State	SNU	UOS	Seoul Tech
Communication	4	62	43	63	22	29.5	19.5
		23.3%	18.2%	32.6%	19.6%	13.9%	16.5%
Cultural Context	7	70.5	49.5	60	22	73	29
		26.5%	21.0%	31.1%	19.6%	34.4%	24.6%
Design	7	65	68	28	22.5	47	27.5
		24.4%	28.8%	14.5%	20.0%	22.1%	23.3%
Technology	6	42	49	26	28	32	22
		15.8%	20.8%	13.5%	24.9%	15.1%	18.6%
Practice	6	26.5	26.5	16	18	31	20
		10.0%	11.2%	8.3%	16.0%	14.6%	16.9%
Total Number of Dots		266	236	193	112	212	118

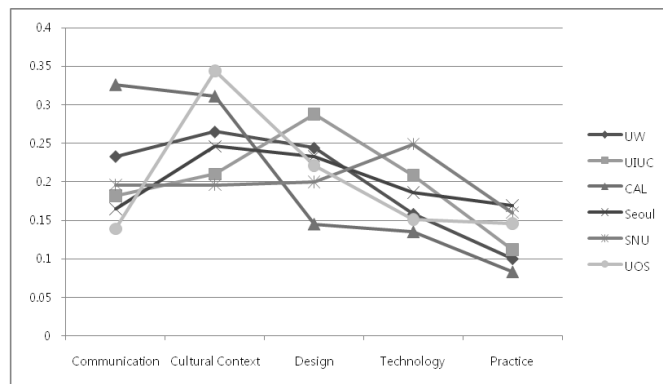


Fig. 8 Distribution of courses by area in SPC matrix

The number of SPC which were mentioned to prove SPC satisfaction was very different. Two US programs, UW and UIUC used more than 230 dots in SPC matrix, but Korean Program SNU and Seoul Tech used less than 120 dots in SPC Matrix. Cultural context and design area were the most concentrated area in the curriculum with more than 20% of dots for each area in matrix except Cal. State at Pomona (14.5% for design)

6. CONTEXT OF EDUCATION

There are non-countable context of education. In this study

program mission, studio culture, advising approach, grading, connection with profession and distribution of faculty efforts were compared.

(1) Program Mission

Most program emphasized responsibilities to society and community on their mission of education. US program touched their mission to the environment (UW and Cal. State at Pomona) and Korean program mention international attitude (UOS and Seoul Tech.). As an education point of view, US program mentioned the way to the goal; “Advancing architectural knowledge through research, scholarship, and critical practice. (UW)” and “synthesizing art and science through intellectual rigor, aesthetic judgment, and technical understanding. (UIUC).” The International/Global Task Group of NAAB reported in a prioritization of issues related to architectural education as viewed from a global perspective.(Steidl 2008) These Prioritized Issues included similar educational issues; Social Responsibility, Climate Change/Sustainability, International Collaborations.

(2) Studio Culture

The school is expected to demonstrate a positive and respectful learning environment through the encouragement of the fundamental values of optimism, respect, sharing, engagement, and innovation between and among the members of its faculty, student body, administration, and staff. The school should encourage students and faculty to appreciate these values as guiding principles of professional conduct throughout their careers.

US programs established several studio culture issues and managed regularly but yet Korean programs have not prepared yet.

Table 8. Comparison of Studio Culture

Area	UW	UIUC	Cal. State at Pomona
Studio Culture	<ul style="list-style-type: none"> • Space • Instruction • Culture • Enforcement 	<ul style="list-style-type: none"> • Innovation • Purpose • Respect • Collaboration • Engagement 	“Respect Your Colleagues,” “Respect the Physical Environment” (Re-titled from student handbook)
	SNU	UOS	Seoul Tech
	None	None	None

(3) Advising Approach

Most of US Program has a formerly assigned advising staff, like the faculty Director of Student Services and an M.Arch program Assistant. It is clear and ensures a responsibility and make easy access to get an advice from program and school.

Korean programs provide campus level advising and counseling service to students with a separate office but each program does not have advising position yet. In Korea informal relationship with students and faculty is more important. Usually students can visit faculty office in daytime. Even some professors like to spend their time in studio whole day. And the faculty members have to consult regularly with their students by the list which is assigned early of the school year. A cycle of consultation or interview is usually once a semester.

Table 9. Comparison of Advising Approach

Area	US	Korea
Advising Approach	<ul style="list-style-type: none"> • Advising staff(The faculty Director of Student Services, and an M.Arch. program Assistant, academic counselor(UW), Option Coordinators, Director and Associate Directors(UIUC)) the Student Affairs Coordinator(Cal. State at Pomona) • Informal advice from faculty 	<ul style="list-style-type: none"> • The faculty takes partial charge of students advising regularly • Informal advice from faculty

(4) Grading

Most of US Program applies ultimate grading methods for courses grading but some Korean Program use a relative grading method except design studio. Relative method means university guide grade level portion like A for 20%, B for 40 %, C for 20%, below C for 20%. But it is not easy to apply this method design studio because every student does their best in design studio and design could not be judged certain scale. So relative grading could be quite strict to judge this kind of education.

(5) Connection with Profession

Cal. State at Pomona provides the strongest internship programs and program has an Internship Coordinator, as does the Department. And The College maintains a website, ENVjobs.com, where students can post their resumes and offices can post position announcements. A College Career day is held in late April; last year 120 firms attended, over half of them hiring in architecture.

UW is active in promoting internship opportunities for students through the AIA, Professionals' Advisory Council, state agencies, and local firms.

Table 10. Comparison of Internship during education

Area	UW	UIUC	Cal. State at Pomona
Internship during education	recommended	N/A	500 hours internship req. (non-credit)
	SNU	UOS	Seoul Tech
	internship req. (non-credit)	recommended (one-credit)	Internship On- campus internship required

Seoul Tech has mandatory credits for internship which are usually being done during vacation. This program managed with professional advisory council of program which is consisted with faculty member and several architecture firms in Seoul area. Student internship activities have to be evaluated by the chair of program. And there is on-campus internship training center in the department and students can join the real professional projects during semester and vacation.

SNU Students are encouraged to do professional internships during summer and winter vacations. Students are required to

complete non-credit internship prior to graduation. At the end of the internship, the Department requires an evaluation of their working experience.

(6) Distribution of Faculty Effort

In most of School, tenure-track faculty of University is expected to balance teaching and creative activities. All faculty members also contribute significant effort to program, college, and community service. These duties include student advising and counseling activity. Usually US University officially counts faculty work hours not only teaching but also variety service to students, University and society with using F.T.E. (Full Time Equivalent)

But Korean University counts only teaching hours for academic efforts of faculty except official position like a chair of department or a dean of school. Distribution of faculty effort is important factor of US accreditation system to evaluate a possibility and quality of student service by faculty. But there are no serious evaluating systems of teaching distribution in Korean Accreditation Conditions with non teaching service.

7. CONCLUSION

Through the study, the selected 6 programs could be evaluated as substantially equivalent in structures of programs, the curriculums and context of educations. University of Washington (UW), University of Illinois at Urbana-Champaign (UIUC) and California State Polytechnic University at Pomona (Cal. State at Pomona) were selected for US programs and Seoul National University (SNU), University of Seoul (UOS) and Seoul National University of Technology (Seoul Tech) for Korean programs. APR of each program was collected on request and analyzed. In spite of different education environment and history, these equivalencies are result of the efforts of international communication to expand exchange of education and profession.

I can find several differences of library contents, size of full time faculty and the accreditation history in quantitative view. And advising approach, connection with profession and studio culture are analyzed as differences between two countries. Also Koreans programs offered less architectural elective courses than US programs and The Course structure of Korean programs was comparatively more rigid than US programs.

In spite of these difference both education systems are equivalently verified with strong accreditation system.

But in different view point, there are clear differences between two countries in cultural history, climate, issues of concern in architectural fields, economic difference of building industry and the way of living in local environment. In spite of contextual difference, contemporary accreditation system forced to be a flatten education for every countries. It could be caused by a side effect of globalization. Korean architecture accreditation systems are going to start the second cycle of accreditation from 2011. In the second phase of accreditation of architectural education, a specialization of each education program could be a new issue of accreditation. Consequently, architectural programs should declare their

own nature and education qualities, and accreditation system should count on each program with the characteristic aspects.

REFERENCES

- Hetzel, Peter J., Dhiru A. Thadani, *Toward An Ideal Curriculum to Reform Architectural Education: Windsor Forum on Design Education*, New Urban Press Miami, 2004, pp194-195
- Steidl, Douglas L., et al. *Report of The International Global Task Group*, NAAB, March 1, 2008
- RIBA, *NCARB Education Standard For Foreign Education and Licensing*, RIBA-USA Board
- NCARB Education Standard*, National Council of Architectural Registration Boards, 2008
- NAAB, *Conditions for Accreditation, For Professional Degree Programs in Architecture*, 2004 Edition, NAAB
- KAAB, *Conditions & Procedures, For Professional Degree Programs in Architecture*, 2005 Edition, KAAB
- Architectural Program Report*, California State Polytechnic University, Pomona, 2007
- Architectural Program Report*, University of Seoul, 2006
- Architectural Program Report*, Seoul National University, 2006
- Architectural Program Report*, Seoul National University of Technology, 2007
- Architectural Program Report*, University of Illinois Urbana Champaign, 2008
- Architectural Program Report*, University of Washington, 2007
(Date of Submission : 2011.5.12)