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# A Model for “Student Learning Outcomes Space” and Mobilization of International Exchange Programs, With Reference to Recent Reforms in Japanese Higher Education

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## 1. Japan’s Educational Reform: From a *Senmon Gakubu System* to a *Gakushi Katei System*

The Central Educational Council of Japan, an advisory board for the Ministry of Education, Science and Technology, released in December 2008 its final report on the comprehensive educational system of Japan. The report, titled “Toward Building Undergraduate Education in Japan”<sup>(1)</sup>, focuses on emphasizing that higher education in Japan change its objectives and structure from the established 100-year old “*Senmon Gakubu*” (SG-専門学部) system of education to one it calls a “*Gakushi Katei*” (GK-学士課程) education system.

The existing SG system of education is characterized by the following: 1) students and faculty are rigidly placed into academic departments, 2) applicants (high school students) declare their choice of department (faculty/major) when they take university entrance exams, 3) the content of entrance exams differs depending on the department a student hopes to enter, and 4) after entering the department stated for their entrance exam, students stay in that department until graduation, with little possibility of changing departments. In this system, students take designated courses for their bachelor’s degree with some room for electives. By graduation they are expected to have gained expertise for given professions.

The GK system advocated in the report emphasizes levels of learning outcomes for students to attain regardless of their department. In the report, learning outcomes that students are commonly expected to attain are defined in levels from basic to advanced, including such levels as: (1) knowledge and understanding; (2) universally applicable skills (e. g., communication skills, information technologies); (3) attitude and behavioral skills; and (4) comprehensive learning experience and creative thinking, in that order. Students, regardless of their department/major, are expected to obtain the above abilities/attributes.

Changing emphasis of the objectives and structure of higher education in Japan from the SG to the GK system has raised a series of discussions among Japanese colleges and universities. Some believe the direction advocated by such reforms appropriately provides what Japanese society needs to move forward with the globalized society of the 21st century. Others express great confusion and resistance. Confusion appears to stem from the fact that the report focuses mainly on the U. S. model of education, that it remains abstract and conceptual, and that it pays insufficient attention to the reality of Japan’s system of higher education, which is still SG centered.

This paper examines the problems and prospects of today's higher education in Japan. Furthermore, by proposing a three-dimensional "student learning outcomes space" it attempts to formulate a generic model of higher education curriculums applicable to any department/major at a Japanese university. The paper also indicates the importance of the course numbering system and proposes a possible path for Japanese higher education towards international student exchange and a credit transfer system, which are indispensable for the internationalization of university education in the 21st century.

## **2. 1991 Reforms: New Freedom in Curricular Changes (With Confusing Results)**

The year 1991 is often seen as a landmark in the history of Japan's higher education. Before that, Japan's "School Education Law" and "Standards for the Establishment of Universities" strictly regulated university educational programs to a specific level of detail. In 1991, the then Ministry of Education relaxed the regulatory intensity of these laws and standards, allowing freedom to universities to develop flexible curricula, including freedom for universities to combine general education courses and specialized courses. This resulted in a shift of who is responsible for assuring the quality of a university's education, namely, the university is now responsible and not the regulations of the Ministry of Education or its detailed system of control over schools. Each university is now to be primarily responsible for assuring the quality of its education, which is reviewed and accredited by Japan's current university accreditation system. A positive consequence of this change has been the increased freedom with which universities may now develop or reform their curricula. However, problems persist, including one that influences the character of Japanese higher education, viz. after the 1991 reforms, many universities moved their previous general education courses to specialized courses, majors, and programs. This resulted in universities' general education programs disappearing and being absorbed across their specialized areas, thus jeopardizing the balance between general education courses and specialized courses and majors. Reports assert that the freedom granted to the universities in the combination of general education courses and specialized courses and majors has made it possible for them to develop so great a number of new programs that Japanese universities now offer more than 800 different types of undergraduate degrees.

## **3. A Second Report from the Central Educational Council (2008): It's Aftermath and Recommendations for Returning the "Whole Person Education" to the University Curriculum**

By emphasizing the importance of general education, the Central Educational Council's 2008 report, the aforementioned "Toward Building Undergraduate Education in Japan," was critical to remedying this confusion. The report stressed the fact that universities were ignoring the important role of general education and appealed to universities to strengthen efforts to return general education programs to their previous position vis-à-vis specialized courses.

In March 2012, the Central Educational Council released another report, this time focusing on the amount of time and level of intensity college students devote to their studies. It had been observed that the Japanese college students were not spending on their studies the minimum amount required by the standards by which Japan allows universities to be chartered<sup>(i)</sup> (i. e., one course credit is to equate to forty-five hours of course work per semester (typically 15 weeks), with fifteen of these hours for in-class lectures and thirty hours for work outside the classroom). The report also observed that in a comparison of the number of hours U. S. and Japanese students spend on their studies, the former exceeded the latter greatly. The report urged universities to realize and substantiate courses that met the criteria of the standards for their charters.

On the other hand, universities' faculty have been increasingly found to offer more courses than before. This reflects the increase in the number of university programs and degrees while decreasing the time which faculty have for research.

More seriously, the result of these trends on both sides — students' decreased engagement in their studies and faculty's increased teaching commitments — is believed to be the inevitable lowering of the standards,

quality, and intensity of university education in Japan.

#### **4. Use of Course Numbering System for Quality Assurance**

An orderly system of offering courses in Japan is also key to a discussion of assuring the quality of the country’s higher education.

U. S. colleges and universities have long used systems of representing courses with three-digit numbers: numbers in the 100s represent introductory courses, 200s intermediate courses, 300s advanced courses, and 400s capstone courses such as those for independent studies or writing senior theses. This course numbering system helps universities create an orderly and systematic structure throughout their programs. To both the students taking the courses and to the general public affected by the universities’ in their communities, the system helps to offer comprehensive information on the objective, structure, and content of each course and the curriculum, thus helping to make clear universities’ bodies of programs and the final level students must reach to obtain their degrees.

Japanese colleges and universities, however, rarely number courses. This results in a lack of structure in the way in which courses are positioned and, accordingly, a lack of structure in curricula and programs as a whole. In extreme cases, the curricula of some Japanese college and universities, particularly for those studying the humanities and social sciences, are simply composed of courses developed randomly and approved and listed by the faculty. It is for this reason that there is no assurance of the quality of higher education, and degrees granted by universities are not backed by any actual quality their educational programs may possess.

This ambiguity in the curricular structure is a serious concern for society, which is affected by its universities, and questions whether Japanese colleges and universities offer university-level education of a sufficiently high quality to meet the global move toward greater quality assurance in university education. Additionally, the deficiency in commitment among students in class participation and faculty in class management has been attributed in part to this absence of a course numbering system.

Why, then, has a course numbering system not been adopted, if it limits Japan’s ability to assure the quality of its educational programs? The Central Council of Education has observed that faculty, who in Japan are customarily seen as having authority over the development of their curricula and courses offered, are reluctant to have their courses reduced to a three-digit number due to a misconception that the numbers denote importance. Due to this misunderstanding they see teaching courses with low numbers as a loss of face.

#### **5. Components of Three Issues Confronting Japanese Higher Education**

Based on the above observations, higher education in Japan confronts difficulties largely in the following three areas: 1) difficulty transitioning from the *Senmon Gakubu* (SG) system to the *Gakushi Katei* (GK) system, 2) composition of general education courses vs. specialized/major courses, and 3) quality assurance through a course numbering system. These issues are largely technical and practical in the nature but fundamental for improving quality in Japanese higher education.

First, in changing the systems and principles of Japan’s higher education from a *Senmon Gakubu* (SG) system to a *Gakushi Katei* (GK) system, Japan’s Central Educational Council emphasized that instead of containing students in specialized majors (and thus equipping them with specific skills and knowledge), students are to achieve overall learning outcomes attainable regardless of their major. The council’s report classifies these outcomes conceptually into the four stages of: (1) knowledge and understanding; (2) universally applicable skills; (3) attitude and behavioral skills; and (4) comprehensive learning experience and creative thinking.

Second, although universities have been urged to achieve a balanced composition of general education courses and specialized/major courses in their curricula, the difficulty lies in the fact that Japanese universities further subdivide these two kinds of courses into the following four subcategories (from basic to advanced

courses) : (1) general education courses for first-year students; (2) foundation and/or intermediate courses for second-year students; (3) advanced courses for third-year students; and (4) capstone courses such as those for independent studies and writing senior theses.

Third, a discussion on the adoption of a course numbering system grants insight into the systematic structure for curricula at colleges and universities. The three-digit course numbering system describes a course as belonging to one of four levels: (1) 100-level courses mainly for first-year students; (2) 200-level courses mainly for second-year students; (3) 300-level courses mainly for third- and fourth-year students; and (4) 400-level courses for fourth-year students (courses such as senior thesis writing).

These three urgent issues concerning Japan’s higher education are found to possess four subdivided and stepwise stages. The question arises as to how these three issues (and their four stepwise stages) can be integrated so that we can consider them altogether from a macro level examination.

### 6. Constructing “Student Learning Outcomes Space”

Figure 1 illustrates three axes with four stepwise stages, from basic to most advanced levels of academic achievement.

The first axis, at left, represents the *Gakushi Katei* education system, with four stepwise stages of the learning outcomes arrayed along it. The stages are: (1) knowledge/understanding; (2) universally applicable skills; (3) attitude and behavioral skills; and (4) comprehensive learning experience and critical thinking. The second axis, concerning the combination of general education courses and specialized/major courses, is also divided into four stepwise stages: (1) general education courses mainly for first-year students; (2) intermediate courses mainly for second-year students; (3) advanced courses for third-year and fourth year students; and (4) capstone courses for graduating fourth-year students. Finally, the third axis refers to the course numbering system by which all courses are assigned three-digit numbers, with the first digit indicating: (1) 100-level basic courses; (2) 200-level intermediate courses; (3) 300-level advanced courses; and (4) 400-level capstone courses. It becomes possible then to integrate the above three axes into one framework by forming a three-dimensional space as denoted in Figure 2.

Figure 1. Three Axes with Four Stepwise Stages

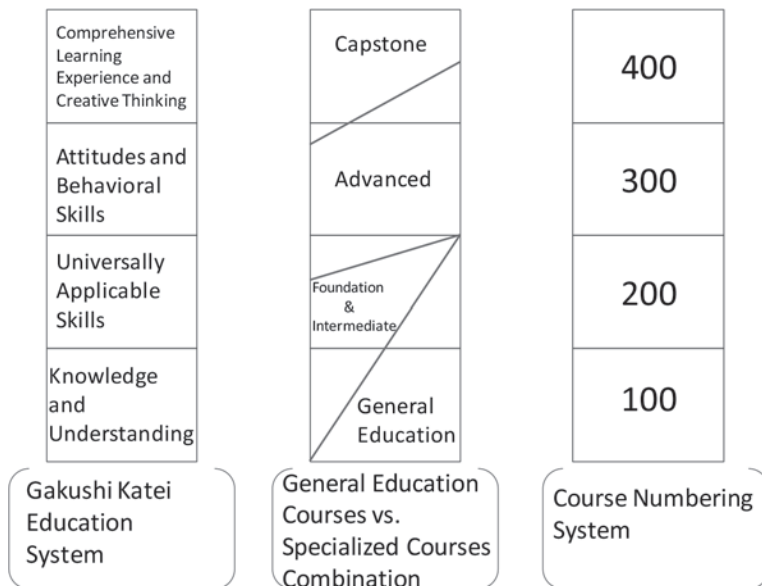
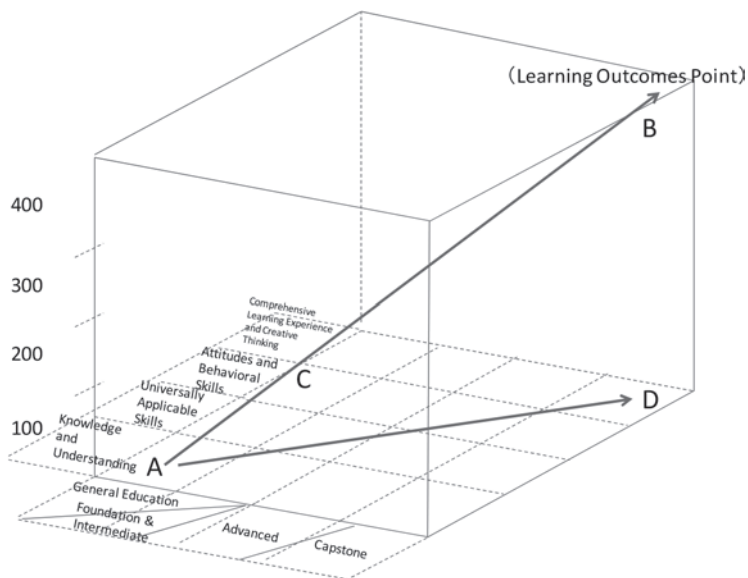


Figure 2. Three-Dimensional Gakushi Katei Space



In Figure 2, the space at the far left-hand bottom is the point of origin (“A” in Figure 2). A course at this point has the following characteristics:

- (1) provided mainly to first-year students with basic knowledge and understanding;
- (2) a general education course; and
- (3) a 100-level course, according to the course numbering system.

On the other hand, a course represented by a point in the far upper right-hand corner (point “B”) has the following characteristics:

- (1) in terms of content, it teaches students comprehensive learning experience and critical thinking;
- (2) a capstone course; and
- (3) a 400-level course, the highest level course in the curriculum.

In Figure 2, a diagonal line can be drawn from A to B within the space. The direction of the diagonal is significant in that courses located along and/or near this diagonal may be assessed as a “well balanced” course. Point “C” along the diagonal, for example, would represent a course with the following characteristics:

- (1) aims to teach students “universally applicable skills”;
- (2) an intermediate course; and
- (3) a 200-level course.

A course located at point C, therefore, is regarded as well balanced in these three dimensions.

On the other hand, the direction of courses offered along the space from “A” to “D” in Figure 2 indicates courses that are poorly balanced and inconsistent because, for example, a course located at point D has the following unbalanced characteristics:

- (1) teaching students comprehensive learning experience and critical thinking;
- (2) a capstone course; but
- (3) listed as a 100-level (introductory) course.

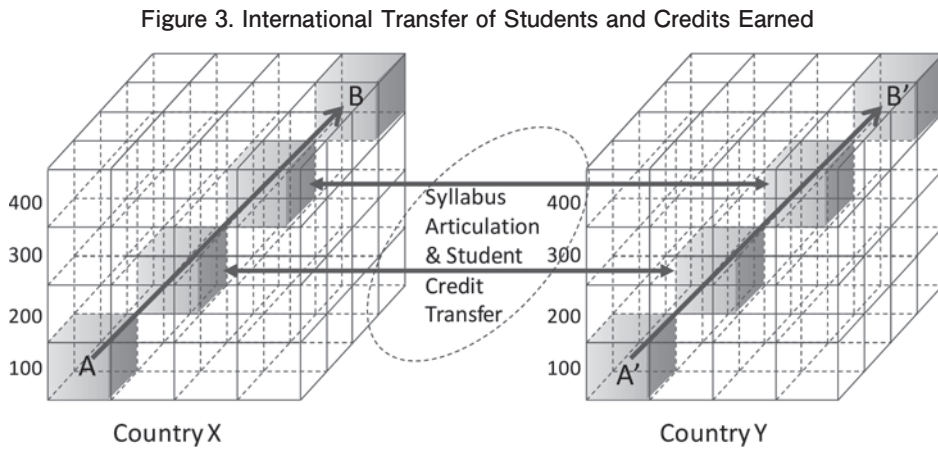
Thus, the curriculum and course offerings whose courses are located along and/or near the diagonal are balanced, whilst the curriculum and course offerings located far from the diagonal are unbalanced. It is important to note that this *Gakushi Katei* educational space contains 64 sub-spaces in it ( $4 \times 4 \times 4 = 64$ ). Additionally, in terms of so-called “curriculum reform,” such reforms should be regarded as a process of relocating the

curriculum/course offerings originally located far from the diagonal in Figure 2, to the sub-space along or near the diagonal.

### 7. Using *Gakushi Katei* Educational Spaces for International Exchange Programs

The *Gakushi Katei* educational space can be constructed for different curricula for different programs for any university. The positioning of courses within the *Gakushi Katei* educational space enables us to assess to what extent courses and curricula accord with or divert from the diagonal line indicating balanced courses in an undergraduate program. Assuming individual universities are equipped with their own conceptual *Gakushi Katei* educational space, student exchange programs between universities in different countries can be viewed as the transfer of courses taken by the students at an overseas host university to their own universities. Figure 3 illustrates a case of this transfer of courses and credits earned by students through study abroad programs between two schools in two countries.

In order for both universities to run their study abroad programs and thus offer an exchange of course credits, an articulation of the courses ought to be conducted. Faculty and administration of two schools need to examine the contents and levels of courses to be transferred and confirm that courses are equivalent or identical to one another. Figure 4 shows an example of the articulation of courses in the exchange program between



**Figure 4. ICU-UC Credit Transfer System through Student Exchange Program**

EDUCATION ABROAD PROGRAM CURRENTLY APPROVED ICU COURSES									
UC EAP Course No.	UC EAP Course Title	UC EAP Unit	ICU Course Title	ICU Course No.	ICU Dept.	ICU Unit	BEG	END	
ANTH 50	PRINCIPLS/ANTHRO	4.0	Principles of Anthropology	ANT 103E	Anthropology	3.0	1012	1511	
ANTH 142	MEDICAL ANTHROPOLOGY	4.0	Medical Anthropology	ANT 206E	Anthropology	3.0	0904	1403	
ARTHS 12	HIS OF EASTERN ART	4.0	Introduction to Eastern Art	ARA 101E	Art and Archaeology	3.0	0809	1308	
BUS A 10	INTRO: BUSINESS ADM	4.0	Introduction to Business Administration	BUS 102J	Business	3.0	0909	1408	
BUS A 115	MARKETING	4.0	Marketing	BUS 208E	Business	3.0	0812	1311	
CHEM 132 A	ORGANIC CHEMISTRY	2.5	Organic Chemistry I	CHM 231J	Chemistry	2.5	0804	1303	
COMM 102	INTERPRETING IN SOC	4.0	Interpreting in Society	MCC 102JE	Media, Communication and Culture	3.0	0909	1408	
COMM 128	TECH & COMMUNICATION	4.0	Technology and Communication	MCC 275E	Media, Communication and Culture	3.0	1004	1503	
CP S 25	INTRO TO COMPUTERS	4.0	Foundation of Computers	CSC 103E	Computer Science	3.0	0804	1303	
ECON 111	ECONOMIC GROWTH	4.0	Economic Growth	ECO 332J	Economics	3.0	0712	1211	
ECON 113	ECON DEVELMNT JAPAN	4.0	Economic Development of Modern Japan	ECO 253E	Economics	3.0	0909	1408	
ED 118	COMPARATIV & INTL ED	4.0	Fundamentals of Comparative and International Education	CED 205E	Comparative Education	3.0	1004	1503	
ED 124	APPROACHE TO TEACH	4.0	Approaches to the Subordination of Teaching	LED 211E	Language Education	3.0	1009	1508	
FR 10	ELEMENTARY FRENCH	5.0	French 1	WFR 101JE	World Languages	4.0	1004	1503	
HIST 100 C	HISTORY OF JAPAN	4.0	History of Japan (Modern) III	HST 106E	History	3.0	0812	1311	

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## 8. Conclusion

This paper endeavored to explain several issues that Japan’s higher education now seeks to resolve and presented a conceptual three-dimensional *Gakushi Katei* educational space in which courses offered in a curriculum can be positioned. To what extent the courses and/or curricula are balanced (or not) can be measured by their distance from the diagonal line in the space. Student exchange programs between schools in different countries (more concretely, the transfer of credits by students of such programs) are viewed as the inter-space moves of them across the countries as indicated in Figure 3. Ideally, student exchange programs should be carried out between schools whose curricula are both viewed as balanced and thus equivalent. Some joint effort needs to be made between two schools in order to install an articulation mechanism smoothly.

At present, discussions and proposals are being made for the future installment of double-degree and dual-degree programs among schools in different countries. The E. U.’s Bologna Process and its ERASMUS Project are creating a large flow of students moving within the E. U. In Asia, it is expected that a similar flow of students within Asia will emerge in the foreseeable future, for which analytical observations of higher educational systems in Asia will become meaningful and necessary.

## Notes

- (i) “*Gakushi Katei Kyoiku no Kochiku ni Mukete*” (学士課程教育の構築に向けて).
- (ii) Standards for University Chartering, article 21, clause 2.

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