University Faculty Development in Japanese Context

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This paper describes trends and issues of university faculty development (FD) in Japan. In order to assure quality of university education, the Japanese government made FD a required activity in all higher education institutions in 2008. The most frequent FD activities include student questionnaire to evaluate university courses, observations of lectures among faculty members with a discussion session, and seminars and workshops on various active learning methodologies. As we go into universalization of higher education, more systematic effort has been needed to accommodate less qualified university students, while maintaining a high standard as the diploma policy for graduation. Learning technology must be integrated into university education, as well as open resources that the network technology have made available for students, in order to improve and maintain the quality of our university education. An ICT utilization model will be proposed to differentiate roles of e-learning and e-portfolio systems to create a university with application emphasis over basic knowledge transmission.

Keywords: faculty development, learning technology, e-learning, e-portfolio, Japan

Introduction

It is said that the word "Faculty Development" first appeared in a Japanese academic journal in 1985 (Murakami & Yamada, 2012). University seminar house initiated a series of capacity building seminar for university faculty in January 1990¹, with a title of "Practices of FD Programs," and published "Faculty Development Handbook: Toward better educational methodologies in universities" in 1991. Ministry of Education of Japan (MEXT) published Education White Paper FY1995 with a special emphasis in "Remaking Universities: Continuing Reform of Higher Education," in which FD was mentioned as an important way to enhance quality of teaching in universities². It said as follows:

Faculty development plays an extremely important role in activities designed to improve universities' educational functions. Japanese universities, however, have just begun to make organized efforts to improve class content and teaching methods. Efforts in this area are still not as widespread as the above-mentioned measures relating to curriculum structures and the compilation and publication of syllabuses. As of fiscal 1993, slightly more than 10% of universities had established faculty study groups.

Note: from http://www.mext.go.jp/b_menu/hakusho/html/hpae199501/hpae199501_2_016.html

¹ http://www.seminarhouse.or.jp/seminar_kaisaiichiran/ichiran_dkkp.html

² http://www.mext.go.jp/b_menu/hakusho/html/hpae199501/index.html

Class evaluation questionnaire by students preceded any other systematic efforts of FD in Japan. The continuing revision and improvement of class content and teaching methods rely on self-monitoring and self-evaluation by teachers and on feedback based on the results of those efforts. As of fiscal 1994, 138 universities (approximately 20% of all universities) were implementing class evaluation by students. This represents a dramatic increase from fiscal 1992, when only 38 universities had such a system. The specific items for evaluation differ from university to university, but in most cases students are asked to assess the extent to which classes meet their expectations, the efforts of teachers to make classes systematic and easy to understand, the use of teaching materials, and the characteristics of teachers, such as enthusiasm and diction.

Inoshita (2008) analyzed a total of 219 papers presented at Kyoto University Conference on Higher Education between 2002 and 2007 based on an analytical framework of research on faculty development. In 2002, there were only 11 presentations. The recent trend, however, has been consistent at 30–48 papers per year in the period 2003–2007. Among these, more than half (126 papers) can be categorized into the following 10 groups, representing major trends in FD: (1) Class evaluation by students and improvement of teaching; (2) Utilization of Information and communication technology; (3) Specified area of study such as intercultural communication, multicultural education, information sciences, medical education, social and political sciences; (4) Open classes and analysis of the teaching process; (5) Methods of teaching and learning; (6) Study of students' and teachers' roles and behaviors; (7) Improvement, enrichment, and development of teaching and curricula; (8) Facility management; (9) Trends in higher education outside Japan; and (10) Theoretical analysis of faculty development.

On January 28, 2005, the Central Council for Education report "The Future of Higher Education in Japan" was released. With a declining number of potential university applicants (prospective population of the 18-year-olds becoming less than the total capacity of all universities and junior colleges in Japan in 2007), interest in the quality of university education was aroused. While, as a whole, higher education diversifies, it is necessary to further make clear the individuality and distinctiveness of each school in order to accurately respond to the various needs of learners. Guaranteeing the quality of higher education in order to protect learners and maintain international validity was regarded an important issue. Development of faculty capacity for good quality education for wider range of university students was of high priority. For this reason, accurate operation of the approval system for establishing new departments and enhancement of the third-person evaluation system became necessary³.

Therefore, Article 25-3 of Standards for Establishing Universities (Organized Training for Improving Educational Contents) has been changed in 2007 to require FD that "A university shall conduct organized training and research for improving the contents and methodology used to give classes at said university⁴." The article was made effective from 2007 for all graduate programs, and from 2008 for all undergraduate programs.

Current Practices of FD in Japan

Figure 1 shows that almost all universities are currently engaging in FD. 746 universities (99%) reported

³ http://www.mext.go.jp/english/highered/1303556.htm

⁴ http://www.mext.go.jp/component/english/__icsFiles/afieldfile/2011/06/20/1307397_1.pdf

that they engaged in FD in 2009. Figure 2 shows kinds of FD activities carried out. The most frequent FD activities were to conduct workshops and seminars, while peer evaluation of lectures among faculty members was the least popular activity⁵.



Figure 1: Numbers of Universities engaged in FD



Figure 2: Kinds of FD activities (2009)

The Japan Association for Educational Development in Higher Education (JAED)⁶ was established in September 2009, based on the outcomes of the "Research on the Support for FD Program Construction and the Development of FDer Capacity" conducted by the National Institute for Educational Policy Research (NIER). JAED, as a member of the International Consortium for Educational Development, aims to contribute to the enhancement of quality of teaching and learning in higher education institutions in Japan through the activities related to higher education development, while strengthening the solidarity of higher education developers. It also intends to improve the quality of higher education developers and enhance their professional capabilities backed up by academic research.

Kawashima (2010), who lead the research project by NIER and also the creation of JAED, felt redefinition of the scope of FD was needed to expand its role: "We need to improve our skills and knowledge in 3 areas:

⁵ http://www.mext.go.jp/a_menu/koutou/daigaku/04052801/__icsFiles/afieldfile/2011/08/25/1310269_1.pdf

⁶ http://jaed.jp/jaedweb/?q=en/node/11

a micro-level, where individual instructors aim to improve their teaching skills; a middle-level, including curriculum reform and management; and a macro-level concerned with organizational development. (p. 9)" The FD Map and its utilization guideline were developed by the NIER research project as an FD support tool in response to that need for a new definition of FD⁷. Specific activity areas defined by JAED also represent the expanded view of FD as shown in Table 1.

Teaching and	to improve classes and teaching methods of individual teachers or a group of professors.
Learning	These efforts include mutual class visitations between teachers, open classes, class
Development	consultation, development of teaching tips and utilization of class evaluation questionnaires.
Curriculum &	to improve curriculum and educational programs provided at departments and faculties, etc.
Program	These efforts include educational programs other than the regular curriculum. Specifically,
Development	they are the creation of curriculum maps and curriculum trees, examination of the entire study
	course of a bachelor program and its consistency, evaluation of curriculum and educational
	programs and development of new programs, etc.
Organizational	to enhance the structure and function of organizations responsible for education and to
Development	activate the role of managerial officials and persons in charge. Specifically, these efforts
	include the establishment and operation of various committees, examination of the entire
	design of organizations, evaluation of organization structures, development and
	implementation of training programs designed for managerial officials.
Staff	to improve the skills of faculty members of the departments at all levels of universities. These
Development	efforts include the development and systematization of training programs designed for
	teaching assistants, university teachers, managerial officials, persons in charge of FD and
	clerical staff, and the implementation of various consultations.
Teaching and	to systematically produce educational improvements, making use of TP systems, where
Learning	teachers organize and use the records of educational achievements, and LP systems, where
Portfolio	students evaluate and use learning outcomes including learning processes. Specifically, these
Development	efforts include the support for building structures to introduce TP and LP systems, creation of
-	guidelines to promote understanding of the portfolios, planning and operation of mentoring
	workshops and training of mentors.
Educational	to educational development at individual class level such as class improvement by use of
Development	clickers, support for education and students, establishment of basic educational infrastructure
with ICT	systems related to educational capacity building and increase of the functionality of the
	relationship between existing systems. Specifically, these efforts include training programs
	for developing skills to use ICT, support for education and students, development,
	introduction and operation of information systems related to development of educational
	capacity, training programs for such systems and planning of a grand design for
	university-wide information systems.

 Table 1: What is higher education development? (Specific activity area)

Note: from JAED Website, http://jaed.jp/jaedweb/?q=en/node/26

Japan Private Universities FD Coalition Forum⁸ was established in 2008 with Ritsumeikan University's Institute for Teaching and Learning as representative managing institution. Its scope is to cover 22 middle to large size private universities (3% of universities in Japan) that hold a total of 0.54 million students (20% of university students) to be accountable for the quality of private universities, which has such unique challenges as larger class sizes, heavy teaching load for faculty, diversity of students' abilities and motivation for learning, among others.

As of 2013, it offers a series of Practical FD Program for entering faculty members that combines 15 required and 18 optional on-demand lectures online (45 minutes each), 10 required and 5 optional

⁷ http://www.nier.go.jp/English/departments/menu_5.html#Research

⁸ http://www.fd-forum.org/fd-forum/

face-to-face workshops (2 hours each), and educational consultation sessions (dealing such issues as class planning, implementation, and evaluation, communication with students, and other topics related to study and education). A sample on-demand lecture in English⁹ and Course Guidebook in English¹⁰ are available on its Website. Table 2 shows areas and instructional competencies assured by the Practical FD Program.

Area	Instructional Competencies
1.	1-1. Understands general theories of teaching and learning.
Designing	1-2. Can design courses with an appreciation of how students learn.
teaching	1-3. Can design and plan learner-centered classes.
C	1-4. Can set goals necessary for learner-centered classes and formulate statements
	appropriate for them.
	1-5. Can design evaluation approaches and select evaluation methods appropriately for
	learner-centered classes.
	1-6. Can design and plan classes employing active learning methods.
2.	2-1. Understands teaching and learning strategies and methods for conducting
Implementing	learner-centered classes in the context of higher education.
teaching	2-2. Understands the features and applications of a range of learning support technologies,
	and can use them in class.
	2-3. Can modify and transform classes flexibly in accordance with learning developments.
	2-4. Is motivated to operate classes in collaboration with students.
	2-5. Actively applies research and practical processes and outcomes from one's own
	specialist field in the classroom.
	2-6. Can conduct classes employing active learning methods.
3. Testing and	3-1. Understands how to evaluate educational effects in accordance with teaching and
evaluating	learning strategies and methods.
teaching	3-2. Can undertake objective and rigorous evaluation of student performance.
	3-3. Can provide effective feedback to students on the outcomes of evaluation of educational effects.
	3-4. Can reflect on one's own classes and practices, and work to improve them.
	3-5. Can evaluate classes employing active learning methods.
4. Organize	4-1. Can promote the formation of learning communities.
and coordinate	4-2. Can apply a range of media and tools to develop effective learning environments and
the learning	learning support.
environments	4-3. Can develop tools and environments for learning support.
5.	5-1. Appreciates and respects diversity among students.
Professionali-	5-2. Applies oneself to the design and ongoing development of one's own career.
sation	5-3. Works as a member of the university faculty group.
	5-4. Applies oneself constantly to the assimilation of new knowledge concerning higher
	education and teaching methodology
6. Policy	6-1. Understanding one's own University's educational policy.

Note: from Course Guidebook in English, p. 4. http://www.fd-forum.org/fd-forum/tpl/common/img/deta/fdp_guide_eng2010.pdf

Impact of Learning Technology and Open Educational Resources

e-learning

Distance education has officially been in existence in Japan since 1950. Correspondence programs with print materials were the only alternative until the University of the Air (renamed in 2007 as the Open University of Japan, OUJ) was established in 1985 as a dedicated national distance teaching university,

⁹ http://www.fd-forum.org/fd-forum/html/practice_lec_en.html

¹⁰ http://www.fd-forum.org/fd-forum/tpl/common/img/deta/fdp_guide_eng2010.pdf

using radio and TV broadcasts as the main means of delivery. OUJ offers around seven hundred courses a year to its approximately eighty thousand students across various study fields.

Since 2002, governmental deregulation and technological advancement have led to the establishment of a number of online programs and institutions (including for-profit). The Shinshu University's Graduate School of Science and Technology¹¹, founded in 2002, was the first to offer a fully online option to its master's program. The Tokyo University of Career Development¹² was established in 2004 (but unfortunately had to close its door to new students from 2010), the University of Digital Content¹³ in 2005, the Kenichi Ohmae Graduate School of Business¹⁴ in 2005, the Kumamoto University's Graduate School of Instructional Systems (GSIS) in 2006, the Cyber University¹⁵ in 2007, and the Business Breakthrough University¹⁶ in 2010.

The Kumamoto University's GSIS started to provide a fully online program in April 2006, becoming Japan's first graduate school to train e-learning specialists through e-learning (Suzuki, 2009). Although the Kumamoto University, founded in 1887, is an on-campus university with about ten thousand students and one thousand academic staff across seven colleges and nine graduate schools, GSIS was created as its first fully online program. It is one of the University President's special projects to investigate the potential of e-learning in higher education, and thus is of an experimental nature. As of April 2011, it has 60 degree seeking (including 14 in the doctorate program) and 36 non-degree seeking students who are scattered across Japan. Most students work full-time in a corporate training or higher education sector. The admission quota is controlled by the government at 15 per year for a master's program and 3 per year for a doctorate program, with no limit in accepting non-degree seeking students.

GSIS offers four areas of study to train well-rounded e-learning professionals:

- Instructional design (ID);
- Information technology (IT);
- Instructional management (IM); and
- Intellectual property (IP).

GSIS's master's program, which is equivalent to any other regular on-campus master's program, requires two years of study and a minimum of 30 credit hours of courses. To complete the master's program, students take 12 required courses and four or more from a list of 16 elective courses. GSIS added a fully online doctoral program in April 2008 (Suzuki, 2012a).

While e-learning in the form of fully online programs and courses has been slowly increasing in Japan, most of the uses of learning technology have been in the forms of blended approaches. That is to say, learning technology has been used, not to create an online program/course, but to enhance existing on-campus programs/courses, while maintaining weekly face-to-face classes. According to a national

¹¹ http://cai1.cs.shinshu-u.ac.jp/xoops/

¹² http://www.lec.ac.jp/english/

¹³ http://www.dhw.ac.jp/en/

¹⁴ http://www.ohmae.ac.jp/gmba/

¹⁵ http://www.cyber-u.ac.jp/

¹⁶ http://bbt.ac/

survey¹⁷, only 16% of Japanese universities had one or more fully online course(s). On the other hand, as shown in Figure 3, the ratio of Japanese universities having one or more blended e-learning courses has been around 30 - 40%. The same survey reported that only 40% of Japanese universities used learning management system (LMS), which was lower than that of United Kingdom (almost 100%), USA (more than 90%), or South Korea (70%).



Figure 3: Japanese universities offering distance education courses using the Internet

JOCW

On May 13, 2005, the start-up of open courseware (OCW) activity in Japan was officially announced on the joint press conference by presidents of six universities and also the establishment of Japan Opencourseware Alliance (ex-JOCW, predecessor of the current JOCW) was declared. On April 20, 2006, Japan Opencourseware Consortium (JOCW) has been established with the aim to assist and disseminate the OCW activity, which is an open and a free publication of formal course materials of higher educational organizations, through mainly exchanging information among consortium members¹⁸. Kumamoto University joined JOCW as the 26th universities in August 2011. Figure 4 shows increasing numbers of courses made available by JOCW, but the majority of the courses is written in Japanese.

When Kumamoto University joined JOCW, four courses had been made public on the official Website of GSIS¹⁹ in both English and Japanese, by copying all the contents on the LMS to static html files. It can be said that a duplicated course written in a static html is resemble to the original course on LMS, trying to imitate what you would see if you registered to the target course in the target term when the course was completed at the end of the term (Suzuki, et al, 2011).

¹⁷ http://www.mext.go.jp/a_menu/koutou/itaku/1307264.htm

¹⁸ http://www.jocw.jp/AboutJOCW.htm

¹⁹ http://www.gsis.kumamoto-u.ac.jp/en/opencourses/



Figure 4: Numbers of Courses published from all JOCW universities

The intents of opening these courses were different from a course to another. The first course was made available for the publicity's sake, because it is an introductory course in thesis writing, which introduces what can be done if somebody would be enrolled in our Master's program. The second and third courses were made available for providing self-study opportunity for the students prior to the start of the graduate program, because they deal with basic skills and knowledge of pedagogy and information technology. The fourth course was made open when major renewal of the course was undertaken so that the older version was to be archived as a historical reference.

From Japanese participation to MOOCs to JMOOC

Year 2012 marked the start of Massive Open Online Courses (MOOCs) with Coursera, Udacity, and edX. On February 22, 2013, the University of Tokyo announced to offer two courses in Coursera²⁰, while on May 21, 2013, Kyoto University joined edX²¹. On October 11, 2013, Japan Massive Open Online Courses (JMOOC) ²² has been established to offer open courses in Japanese, from April 2014. At first, 13 universities, including the University of Tokyo, Kyoto University, Waseda University, and Keio University, are planning to offer various courses designed specifically to offer online, not video-recorded lectures converted from existing on-campus courses. JMOOC aims at serving more than one million users within three years, with an ultimate goal of "all Japanese universities will join JMOOC."

Sandwich Model of ICT Utilization

Based on an international consultation project at the University of South Pacific, Suzuki & Nemoto (2011) suggested an overall framework for promoting e-learning in a university. By expanding the framework, the Sandwich Model of ICT Utilization was proposed (Suzuki, 2012b) as shown in Figure 5. The framework shows the use of e-portfolio on the top of the diagram, while e-learning system (LMS) on the bottom, to promote ICT utilization by a sandwich of the two ICT systems to be used at a higher education institution, thus named as the Sandwich Model.

²⁰ https://www.coursera.org/todai

²¹ https://www.edx.org/school/kyotoux/allcourses

²² http://www.jmooc.jp/english/





It is important to distinguish two kinds of outcomes of university learning: application skill and basic knowledge. The former consists what will be showcased in an e-portfolio system as a student creates unique artifacts as the results of university learning, whereas the later shows each student understanding of basic knowledge, which can be stored as learning log in an e-learning system (LMS). To accumulate each student's understanding of the basic knowledge, such functions of an LMS as automated scoring of multiple choice quizzes can be used to allow multiple challenges until basic knowledge acquisition has been adequately shown. Once LMS can assess basic knowledge acquisition of each student at any given time, there is no need to wait until the final examination to test all that the students remember from the course. Thus, the final examination is not included in the Sandwich Model. The basic knowledge is not suitable to be showcased in the e-portfolio system, as they are the same across all the students; i.e., all the students result in the same answer if they understand the basic knowledge. The unique and original artifacts that are produced as course assignments as the evidence of application skills should be showcased, instead of the basic knowledge.

In order for a college or university to appeal good quality learning of its students, it is important to shift knowledge transmission model of teaching to creation of unique and original artifacts at an application level. This has been historically done in the last year as taking a capstone course or as writing a graduation thesis. However, the author recommend to start such emphasis to be in place from the earlier years, so that the students will have something original to put in the e-portfolio for their personal reflection of self-regulated learning via consecutive projects with increasing difficulties and complexity as they progress. It is the faculty's challenge to come up with a series of projects, from easy one to be manageable for freshmen, to more complex and challenging ones for more advanced students. In the series of projects,

more complex and more advanced knowledge should be introduced, just in time when they must be applied in the projects at higher levels.

This will lead to a shift in curriculum from "basic knowledge first then application project at the end" to "series of projects (from easy ones to difficult ones) with just-in-time knowledge acquisition on a needed basis," where open education resources can be utilized at appropriate times. Lecture time can be converted to projects, if basic knowledge acquisition will be done outside the class using LMS, before the lecture time, as advocates of "flipped instruction" show benefits of such a method.

The Sandwich Model also shows institutional graduate attributes on the left, and disciplinary attributes on the right, forming another sandwich vertically. Institutional graduate attributes, or diploma policy for aimed competencies, are those skills and knowledge expected for all the graduates. On the other hands, disciplinary attributes will be different among programs of study, reflecting on what is expected from the professional areas, such as civil engineering or nursing.

At the bottom of the Sandwich model, student learning support is included as a critical element in the university learning environment. As diversity among students' attitudes and basic academic abilities increases with universalization of higher education, a systematic effort should be institutionalized to provide help in learning skills and everyday study habits. Movement of learning commons to convert library from storage of books to a common place to get help in learning or as a place for collaborative learning is worth incorporating in establishing the student learning support. Student mentors for peer tutoring is another important element in student learning support, as junior students learn better from a little more advanced students, and senior students will benefit from teaching the junior students. Providing a systematic training to become skilled student tutors is critical for the student learning support, to form an official structured mechanism with professionally trained student learning support staffs.

Conclusion

This paper describes trends and issues of university faculty development (FD) in Japan. Assuring quality of university education is not an easy task, as ICT environment will bring changes in learning environment that should not be overlooked but utilized to benefit both faculty and students. Learning technology must be integrated into university education, as well as open educational resources that the network technology have made available for students, for which the author hopes the Sandwich Model of ICT Utilization to be useful for creative thinkers and leaders of university education worldwide.

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