

Promotion of University-Wide e-learning as Part of Faculty Development Activities

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ABSTRACT

This paper, through analysis and discussion based on questionnaires and interview surveys, aims to examine the effects of promotion of university-wide e-learning as part of Faculty Development (FD) activities. Specifically, it divides the process of e-learning promotion into three (3) stages of “introduction,” “diffusion” and “establishment” and introduces unique efforts at each stage. By discussing consciousness reform of faculty members observed in their interview responses and other materials as a result of abovementioned efforts, the study reports on successful cases to show that the promotion of e-learning can serve as a factor to facilitate FD activities.

Keyword : Higher education, e-learning, FD, ICT literacy, diffusion process

1. INTRODUCTION

In recent years, utilization of e-learning has attracted attention at higher education institutions as a method to achieve learning effectiveness. Against this backdrop, introduction of e-learning into higher education seems surely in progress. However, in many cases in reality, the introduction is dependent on the personal efforts of faculty members or the promotion is nothing more than mere unilateral attempts of universities (Yoshida et al, 2005). In addition, at the current stage, multiple universities are undecided about the implementation of e-learning while no precedent paper has been released that summed up the process of introduction, diffusion and establishment regarding the measures to involve whole universities.

Under the current situation as such, the Ministry of Education, Culture, Sports, Science and Technology mandated the improvement of contents and methods of courses at higher education institutions, or, so-called FD activities in 2008. Therefore, the significance to introduce successful cases of e-learning promotion is now regarded highly in relation to its effects expected in the future including activation of FD activities. In this regard, this research, which places an emphasis on the consciousness reform of faculty members, is sufficiently qualified as a study to present successful cases for universities examining promotion of e-learning in the future.

The promotion of university-wide e-learning is defined as the university-wide diffusion of the faculty’s activities to adopt learning methods utilizing Information and Communication Technology (ICT) into their classes in order to improve their courses, or, in other words, the increase of those faculty members who work on course development utilizing ICT. Therefore, e-learning in this paper refers to, in a broad sense, the “learning process conducted with use of information technology such as learning-support systems.” The university targeted in the research invented the following three (3) steps of attempts as a model to promote understanding and practice of e-learning as defined by this broad sense among faculty as well as for university-wide diffusion of e-learning:

First Step: Facilitation of the faculty members’ participation in the development of the “Course Guidance Video on Demands (VODs)” to motivate them to adopt e-learning into their courses;

Second Step: Once the VODs served as a stepping stone to introduce e-learning into

courses, presenting ways to develop courses by utilizing Learning Management System (LMS) functions (functions of LMS such as tests, BBS and questionnaires) and supporting practical use of them; and

Third Step: Proposal of “blended instruction courses”—a teaching method which combines various functions including LMS with conventional face-to-face courses—and support in practical use of them while providing technical knowledge so that the faculty can adopt e-learning into their courses in a continuous and developing manner.

This study targeted a private university with six departments of humanities, one correspondence education department and four graduate school facilities where 175 faculty members, 120 workers and approximately 13,000 students were enrolled (as of 2008).

At the targeted university, as a result of emphasizing the reform of faculty’s consciousness of e-learning, I was able to clarify that the following three measures were effective and essential in promoting e-learning during the First Step of facilitation of faculty’s participation in the VOD development (Nakamichi et al., 2009):

(1) Including for the development of the VODs, to arrange a sufficient development support system for faculty’s course development utilizing ICT. The targeted university set up the “education design lab” in 2007 and assigned three full-time teachers to discuss and secure the quality of e-learning contents and one full-time worker who served as a project manager supervising development and administration in coordination with people in charge of educational design at respective departments. In addition, it secured one full-time subordinate worker engaged in copyright-related tasks and six subordinate staff members to assist the faculty members. Other tasks such as editing of visual educational materials as the e-learning contents were outsourced.

(2) To produce and present to the faculty members prototypes of course development utilizing ICT skills and promote their understanding of additional utilization methods of e-learning. Specifically, to prepare six types of prototypes based on four types—faculty members with/without ICT skills and positive/negative about introducing e-learning—and the complex types. In addition, to calculate the time and expenses used for meeting, filming, modification and confirmation for creation of the prototypes so that the results can be presented as reference materials for the faculty members who will examine course development in the future.

(3) To present incentives to faculty members to enhance motivations for introduction of e-learning. For example, that e-learning helps to avoid mismatches in registrations, to reduce burdens of individualized consultations on selection of courses and to directly convey faculty’s own thoughts and feelings toward their classes.

On the other hand, although these measures were effective in promoting e-learning, their effects were yet to be fully produced and there remained tasks, especially, regarding the consciousness reform of the faculty members. I mean, those faculty members existed whose awareness of e-learning was merely limited to VODs or who were negative about e-learning due to their reluctance for VODs. It was necessary to handle this problem in a prompt manner, considering that the definition of e-learning promotion was the university-wide increase of the faculty members participating in the efforts.

Thus, in relation to this problem, with a goal of promoting further consciousness reform of the faculty, I implemented attempts in the Second Step of diffusion of e-learning. First, I anticipated that this problem could be solved by publicizing that e-learning had various ICT utilization methods other than the development of VODs, and then, by providing multidirectional support to facilitate the faculty members to adopt e-learning into their courses. Moreover, based on the effective measures obtained from the previous outcomes of the study, this time I prepared two devices and carried them out—production of the “collection of ICT utilization examples” and implementation of questionnaires on the “standards of ICT utilization

capabilities.”

This paper, by introducing the abovementioned two (2) devices and examining their effects based on a hearing survey targeting the faculty members, discusses the promotion of FD activities through the diffusion process of e-learning.

2. Devices to Diffuse e-learning

2.1. Production and Distribution of the “Collection of ICT Utilization Examples”

There are a number of examples of course development based on the introduction of e-learning other than VODs, such as cases utilizing various functions of learning-support systems (tests, BBS, attachment of informative materials, discussions, questionnaires, etc.)

As the first “device,” for the purpose of publicizing among the faculty the methods of course development utilizing ICT including abovementioned learning-support systems other than VODs, I planned the production and distribution of the “collection of ICT utilization examples” which introduced practical methods and effective examples of ICT utilization along with a video (VOD) which visually introduced their prototypes.

In order to summarize a number of examples in the process, we established the “ICT-utilizing educational effort support system” (cf. Table 1) and supported cases of educational development utilizing ICT conducted by the faculty members as well as utilization methods and concepts proposed by students. We added students to the subjects of support in order to comprehend actual utilization of e-learning by students by collecting utilization examples from students who were using the educational contents which utilized e-learning presented by the university and the faculty.

The actual cases adopted by this support system which started in 2007 are six (6) cases of faculty members in 2007, seven (7) cases of faculty members and nine (9) cases of students in 2008, and seven (7) cases of faculty members and 13 cases of students in 2009; the adopted cases total 20 of faculty members and 22 of students (support for students started in 2008). The ICT utilization examples collected by this system included studies on the educational method utilizing learning support systems and Social Networking Services (SNSs) and an educational development plan utilizing various media and websites as practical educational materials.

In addition to these examples of utilization, I produced the “collection of ICT utilization examples” which covered information on various functions and usage of learning-support systems, utilization examples and clues for utilization. Moreover, I also produced a “prototype video (VOD)” to introduce practical examples in a comprehensible manner and distributed it with the collection of examples.

Table 1: *The contents of the ICT practical use educational measure support system*

	Teacher	Student
Object enterprise	(1) Education / study practice which took in blend study (2) Education / study practice which utilized a study supporting system and intramural (3) Education / study practice which utilized the SNS Internet (4) Others、 Education / study practice which utilized ICT	
The contents of support	One affair : Up to 300,000 yen	One affair : Up to 30,000 yen
Candidate	A full-time teacher、 Part-time-service teacher、 What the head of the other educational design laboratory accepted	The undergraduate student • Graduate student
Adoption number	About seven affairs	About ten affairs

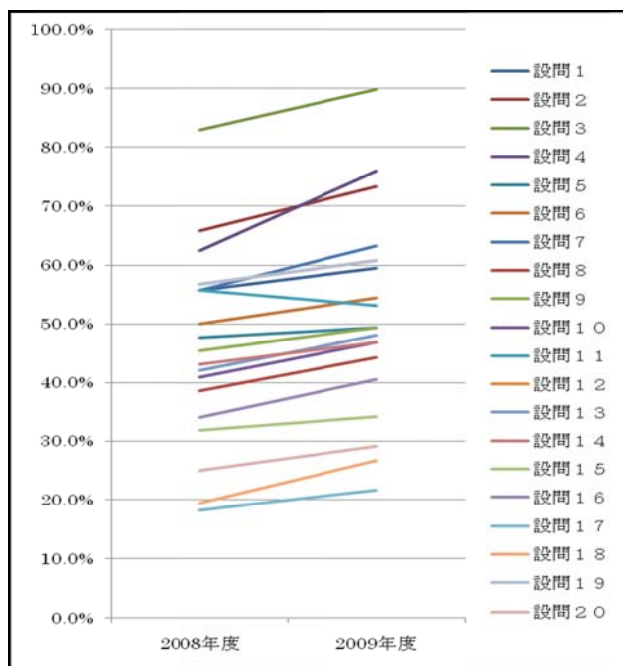
2.2. Implementation of Workshops to Improve ICT Skills and Questionnaires on the “Standards of ICT Utilization Capabilities”

As the second “device,” with a goal of promoting ICT utilization among the faculty members,

I first convened workshops and training sessions for improvement of ICT skills respectively targeting beginners and advanced users in 2008 and provided technical knowledge and learning support for ICT skills. Specifically, we were able to conduct trainings appropriate to the needs of attendants by offering beginners' basic courses (for word-processing and spreadsheet software) and advanced users' application courses (for SPSS analytical software) based on the setup of on-demand trainings on word-processing/spreadsheet software as well as instruction trainings on presentation software and learning-support systems.

In addition, in parallel with the implementation of workshops, I formulated unique "standards of ICT utilization capabilities" to measure the ICT application abilities of the faculty and carried out actual research. For the "standards of ICT utilization capabilities" used herein, I formulated unique evaluation standards intended for university faculty members by reference to the "Teacher Checklist for Teaching Capability Utilizing ICT" which targeted the existing elementary schools, junior and senior high schools (Ministry of Education, Culture, Sports, Science and Technology in 2007). As the competency for university faculty members, I prepared a total of 20 questions from the following five (5) categories presented by the "Teacher Checklist for Teaching Capability Utilizing ICT": (A) Capability to utilize ICT for preparation and evaluation of research on educational materials/guidance; (B) capability to instruct with use of ICT during classes; (C) capability to guide students in ICT utilization; (D) capability to give instructions in information moral; and (E) capability to utilize ICT for school duties. I conducted questionnaire surveys using this "standards of ICT utilization capabilities" twice in 2008 and 2009 and obtained responses from 88 people in 2008 and 79 people in 2009.

The general trends indicated the improvement of ICT skills of the whole faculty members; the responses to 18 out of 20 questions on different ICT skills showed high rates of them being "capable" (cf. Figure 2). Especially, the response rates of three questions on capabilities to utilize "the Internet and database," "word-processing software" and "spreadsheet software" in



preparation of course materials indicated significant rises. Although I cannot assert the direct influence of the workshops and training sessions implemented in 2008 as the causes for improvement in ICT skills indicated by these survey results, I cannot say there is no connection either, considering that we satisfied to the needs of attendants by offering courses respectively for zero-level beginners and advanced users who aspired for improvement of their existing skills. Furthermore, the implementation of these questionnaires with use of the "standards of ICT utilization capabilities" itself may have enhanced the awareness of e-learning (enlightenment effects).

On the other hand, only the question whether one is capable of utilizing "presentation software" in

preparation of course materials has a lower affirmative response rate. I would like to point out the reasons for this in the hearing results of the faculty members described later in the paper.

As mentioned above, the improving effects on the ICT skills of the whole faculty resulted from the “devices” such as production and distribution of the collection of ICT utilization examples, implementation of workshops and training sessions for improvement of ICT skills and questionnaire surveys on ICT utilization capabilities. In addition, such “devices” increased the number of those faculty members who showed interest in “blended instruction courses” or the course development utilizing ICT, which corresponds to the Third Step of diffusion of e-learning (Table 2). Support has been already provided to those faculty members who hoped to develop their courses as “blended instruction courses” and this is also reflected in the sharp increase in the number of contents actually prepared for the last a few years.

These increased attempts in “blended instruction courses” are deemed as the indication of reform of the faculty members’ consciousness of e-learning. Thus, I conducted a hearing survey targeting the faculty members in order to examine the effects more particularly.

Table2: The number of blended type contents work (Unit : Contents)

	2007	2008	2009	2010	2011
The number of work	8	16	25	69	96

3. Examination of Effects

3.1. Consciousness Reform of the Faculty Observed in Hearing Results

In order to comprehend the reform of faculty’s consciousness of e-learning, I conducted a hearing survey. Hearings were conducted by the author by means of face-to-face interviews. The targets were six young to highly-experienced faculty members from three departments who got first involved in the production of contents for “blended instruction courses” in 2011.

Table3: The teacher for a hearing

No	Object	Age	Period of service	Affiliation faculty
A	Young faculty	40s	~5 years	Department of Social Welfare
B	Young faculty	40s	~10 years	Department of Economics
C	Well-experienced faculty	50s	~20 years	Department of Economics
D	Well-experienced faculty	50s	~20 years	Department of Social Welfare
E	Highly-experienced faculty	60s	~30 years	Department of International Welfare Development
F	Highly-experienced faculty	60s	~30 years	Department of Social Welfare

In the hearings, the author asked questions including “awareness of e-learning,” “impression of participation in the VOD development,” “evaluation of ICT utilization,” “possibility of ICT utilization for course development,” “evaluation of faculty support,” and “description of desired support in the future.”

1.) As the impression of participation in the VOD development, some people expressed correct understanding and recognition of e-learning such as: “My first understanding of e-learning was limited to classes utilizing VODs, but I came to understand that e-learning includes learning-support systems and educational development utilizing ICT” (F) and; “Various questions and anxieties I first had about e-learning were resolved” (B).

Moreover, although all the interviewees answered that they wanted to utilize ICT for their future course development, some faculty members still feel anxious and expressed comments such as: “I myself cannot acquire the skills to create eye-friendly informative materials” (B) and; “I enjoy planning course development” but “I am not confident in learning the skills by myself” (F).

2.) Regarding the evaluation of course development utilizing ICT and the possibility of future

practical use of it, many faculty members consider that it is necessary to understand both merits and demerits in introducing e-learning and make creative distinctions in use of e-learning and face-to-face classes instead of merely utilizing it (C, E and D). As a merit, there was an opinion such as: “e-learning secures the quality of classes. It helps to uniformize the quality of classes” (A). As the demerits, some pointed out problems attributable to students’ negligence in taking notes, and thus, falling into passive learning: “Students do not prepare their own notebooks or move their own hands. So, I doubt it is useful in helping memorization or to keep learned information in mind” (C) and; “I think it will become important what we make (the students) to think” (D). As countermeasures for these demerits, I believe introduction of successful cases and course consulting will be effective.

3.) Their hands-on experience of e-learning has naturally enhanced their evaluation and awareness of the support system. On the other hand, in examination of the future course development, such opinions were expressed that require more specialized technical support and assistance to contrive course contents with the faculty members, both of which are expected to increase more in the future accompanying the diffusion of e-learning. As concrete requests, some required technical support by saying comments such as: “(Due to my insufficient capabilities), I want a secondary system which I can fully utilize” (F); “I have a certain extent of skills, but I need them to prepare a system which I can fully use with my existing skills” (D) and; “Because it takes time for those faculty members who do not have ICT capabilities or instructional designing abilities to improve courses” (C). Especially, many faculty members point out lack of time (B, D, E and F) and consider: “While receiving technical support, faculty members hope to plan the contents and development of classes themselves.”

Among opinions desiring the management of course contents, a high degree of expectations toward support for course planning is observed during those periods without enough accumulation of class contents. This is expressed in the voices of young faculty members such as: “I decided to utilize the learning-support system and VODs when I was introduced to them during the orientation for new faculty members”; “It becomes possible to accumulate class contents (by creating them under the support)” (A); and “The vision for course development expands” (B). On the other hand, while some well-and highly-experienced faculty members show their willingness to improve their courses by remarks such as “I want to structure my courses by utilizing the most-advanced technology” (F), others say, “I don’t know what I can ask for” (E). For these requests, we should aim to fulfill and reinforce the support system and consider providing individual advice including class coordination while creating menus of support contents and presenting models.

According to the above, all faculty members indicated their wills for some kind of course development, and therefore, enough effects were recognize in the “devices” which aimed for publicity of course development methods utilizing ICT other than VODs and promotion of participation in the attempts. However, as a future challenge, we can point out a demand for support in a wider range. Furthermore, support by specialists such as instruction designers, who cover (or substitute for) lack of skills on the side of faculty members, is also demanded. Although the support system related to technical aspects has been already constructed so far, a higher degree of support is inevitable when faculty members spontaneously attempt to handle the next stage. It will be necessary to examine countermeasures for the new challenges mentioned here and proceed with fulfillment and reinforcement of support systems by assigning, for example, instruction designers while organizing continuous and developmental training sessions.

3.2. Discussions over the Effects of the Devices

In this research, some “devices” are embedded at each stage of e-learning promotion. For instance, I proactively contrived some devices so that the faculty members would participate in

the preparation of the VODs, and their effects were observed in the aspect of consciousness reform of the faculty as was seen in that the faculty members themselves reviewed the courses during the preparation process. I described in detail the effects on the conscious reform brought about at this introduction stage in my previous study (Nakamichi et al., 2009).

These kinds of “devices” were also prepared in the efforts at the diffusion stage treated this time.

(1) Production and Distribution of the Collection of Practical Examples as Part of the ICT-Utilizing Educational Effort Support System

By producing and distributing the “collection of ICT utilization examples,” I introduced various utilization methods of ICT-based learning-support systems other than the development of VOD educational materials including small testing, the BBS function and the provision of discussion opportunities so that those faculty members who had considered e-learning as mere VODs would acknowledge e-learning by a broad definition as described at the beginning of the paper. In addition, support for the improvement of the courses of the faculty members and further encouragement of the betterment of their consciousness consequently expanded the e-learning utilization possibilities in their own classes, and this served as a cause to increase those faculty members who became interested in new ways of ICT development.

(2) Implementation of Workshops and Training Seminars and Questionnaires on ICT Utilization Capabilities

The possibility was pointed out that thanks to the implementation of the questionnaire surveys to measure ICT utilization capabilities in addition to the offer of practical support on technical aspects such as for improvement of ICT skills, the faculty members themselves, as the targets of the surveys, came to be aware of the possibilities of e-learning utilization, or especially, ICT utilization in their courses. For the university-wide promotion of e-learning, it becomes significant to bring about the enlightenment effects, or, how to bring about a higher level of awareness to the faculty members. Thus, as was revealed in the hearing results, what is needed in the next step is the management ability of the staff members involved in the support system for the faculty members.

(3) Support for Course Preparation of the Faculty Members Who Hoped “Blended Instruction Courses”

The number of those faculty members increased who spontaneously hoped to approach “blended instruction courses” and asked for support for that purpose. This is indicated in the increase of the number of the contents actually created as well as the number of the participating faculty members. In addition to these movements, I would like to add that I also observed a slight increase in the number of those faculty members who hoped to receive class consultation to review their own teaching methods.

Based on the analyses as above, in universities’ promotion of e-learning, it can be said that attempts similar to the case examples treated in this paper are effective for the consciousness reform of the faculty members such as preparation of the “Course Guidance Video on Demands (VODs),” issuance of a collection of examples and questionnaire surveys based on the “standards of ICT utilization capabilities.” It will be necessary to modify the “devices” in accordance with the cultural characteristics, spread of e-learning, and the establishment statuses of developmental support systems of respective universities. On the side of the faculty members, they are deemed to have introduced e-learning as long as they implemented any of the “devices” at the introduction/diffusion stages and they do not have to participate in all attempts. The importance lies in the “devices” to promote the introduction and diffusion of e-learning and the support systems by the staff members; the key to make the efforts successful is the preparation of “devices” aimed to “bring about a higher level of awareness to the faculty members regarding the diversity and convenience of e-learning” and the establishment of highly specialized supportive sections which can manage not only technical aspects but also the courses

themselves.

4. Concluding Remarks and the Future Development

This paper introduced the “devices” implemented at the targeted university at the diffusion stage of e-learning promotion which made e-learning promotion successful. Their effects are expressed in the reform of the faculty members’ consciousness of ICT utilization, or for example, in the increase of the number of those who are interested in “blended instruction courses” as well as the large amount of requests for professional support observed in the hearing responses. Thus, we can say that they surely established awareness of the support system for e-learning utilization among the faculty members. As the author has so far clarified in his research reports, the consciousness reform of the faculty is essential to this diffusion of e-learning and the practical research conducted this time suggested that the efforts for diffusion were also effective as a means of activation of FD activities.

As for the future development, it is necessary to expand the support system for courses utilizing e-learning in the form of course consultation and proposals of course strategies emphasizing the quality assurance of the course contents. At the same time, it is also important to continue hearing surveys targeting the faculty members and use the results as objective validation materials.

Moreover, it is assumed that instead of leaving the planning and administration of courses to individual faculty members, it will be further required after this point to promote cooperation in course preparation based on ideas and models for course development and strategies provided by teams and projects supportive to the faculty members who contrive the courses. The hearing results also clarified that while the faculty members possessed the sufficient expertise on the educational contents, they felt anxious about not having skills and techniques to plan and administrate courses. It is necessary to expedite the coordination or reinforcement of such a system where one united team consisting of a faculty member, professional technicians and instructional designers (IDer) handle the planning of a course as a team project. In addition, the next challenge is to construct a more versatile model through repeated experimental practices and verifications in other universities.

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