THE IMPLEMENTATION OF E-LEARNING-BASED LEARNING PREPARATION MODEL BY PRIMARY SCHOOL TEACHER EDUCATION STUDENTS OF UNIVERSITAS TERBUKA IN ISLETS AREA

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ABSTRACT

The open and distance learning system implemented in Universitas Terbuka (UT) requires students to do self-learning, individually or in groups. Therefore, the students of UT must be able to motivate themselves to self-study and use their time effectively. The use of integrated learning media as one of the learning resources can support them in their learning activities. The use of internet, as a part of e-Learning-based Learning Preparation, is one way for students to perform learning activities. In the study group, students can use the internet services provided in mobile telecenters and local government offices. The implementation result of this model in Kepulauan Seribu, a group of islets located in the Jakarta Bay, in which the sample were taken from students living in Pramuka Islet, Harapan Islet, Tidung Islet, Panggang Islet, Untung Jawa Islet, and Pari Islet, showed that e-Learning-based Learning Preparation Model can motivate distance students to actively study in their groups. Due to geographical constraints of those islets, it is difficult to meet their peers in groups frequently. Using the regularly scheduled study groups and the computers connected to the internet, students can easily access the information and minimize the frequency of transportation for face-to-face meetings. About 70% of the students have accessed the learning resources through internet and get experiences and knowledge during eight months period of the study in 2006.

Key Words: e-learning-based, in-service primary school teacher students of UT, islets areas, learning preparation model

The quality of human reseources in the education sector, particularly teachers, in Indonesia is still low (Fuad, 2005). This can be shown through some indicators relating to factors such as income, competencies, work ethics, unaccessible living cost, as well as economic and social diversities among regions. The current phenomenon and challenges require teachers to be part of the globalized era. This era involves improving the country's competitive capacity which is determined by the mastery of competitive knowledge in creating high added values of innovations.

Students' success in learning is subject to internal and external factors. Among various factors, academic integration is perceived to greatly influence student persistence in learning (Tinto, 2002; Terenzini & Wright, 1987). They argue that in spite of difficulties encountered in learning, students who are well integrated academically tend to persist in their efforts to complete their

studies. Academic integration is indicated by how well a student immersed in the academic life and activities.

Students of distance learning programs have been noted for having a lower rate of completion and a lower level of achievement. This problem is pervasive due to various conditions typically faced by distance learners. In most cases, the lack of persistence in learning leads to non completion of studying. Studies to identify causes for non-completion have centered on application of a variety of traditionally-based theoretical models to the distance education setting, such as learning styles and self-motivation. A study conducted by Napoli and Wortman (1998) concluded that academic integration is a mandatory condition for persistence to occur.

Academic integration has the potential to explain the problem of distant learners and provides opportunities for exploring new avenues of student service to improve learning. Regardless of the different nature of learning modes, there are basic factors underlying learning, such as motivation to learn and persistence to learn. In the context of distance learners, however, indicators which constitute academic integration will need to be redefined to be more relevant to distance learning.

Reinforcing the challenges and hope for the future, the development of human resources for teachers in Indonesia has synergized with the enforcement of the Law in Teachers and Lecturers. This law applies an innovative program of increasing teachers' work ethic by facilitating them with e-Learning-based Learning Preparation Model which has been implemented in some regions in Indonesia.

From the implementation of the e-Learning-based Learning Preparation Model, it can be identified that teachers were interested and highly motivated to know about information technology especially the internet. The data showed that approximately 70% of teachers surveyed accessed web available at e-Learning-based information facilities when they were involved in the activity. They were psychologically confident of being skillful in operating the internet-connected personal computer to gain some information about teaching and learning. Thus, their experience could be directly applied in teaching-learning activities in the classroom.

The facilities of e-Learning-basedLearning Preparation Model had significant effect as an effective learning facility to solve the quality problems and to enhance teachers' knowledge about information technology especially for those who lived in remote areas. This program is expected to overcome disparaties in teaching-learning competencies among teahers in different regions.

Student Learning at Universitas Terbuka

UT has four Faculties and one Graduate Program offering diploma, undergraduate and graduate programs. The number of students taking programs in teaching and educational science offered by the Faculty of Teacher Training and Educational Science constitutes more than three quarters of the total UT student body. UT served more than 450,000 students in 2008. The Programs in teacher training and educational science are designed to meet the needs of in-service teacher education, particularly for primary, secondary, and pre-school teachers.

The learning materials are delivered to distance students in the form of printed learning materials, supplemented with multimedia programs. During the learning process, students attend face-to-face tutorials, which are conducted eight times per semester. Nearing the end of the program, after submitting a report on teaching practice, the student will also take special tutorials for completing the program final projects or assignment required for program completion. During the semester activities, students are encouraged to establish study groups for doing group work, sharing information and supports.

Sample of the survey were the students registered at the Faculty of Teacher Training and Educational Science in 2006. A purposive sampling scheme was employed to select 30 students of In-service Primary School Teacher Education (PGSD) program.

Demand of Competence and Teaching-Learning Gap of Teachers

The Law Number 14/2005 Article 10 and the Government Regulation Number 19/2005 Article 18 state that teacher must have integrated competences such as pedagogic competence, personality competence, social and professional competence. These competences should have been acquired by teachers who have graduated from teacher education institutions. In order to perform their job as teachers professionally, these competences must be maintained and upgraded continually. However, not all teachers have equal opportunity to improve their professional and social competences. There are still many teachers who have limited capability in the use of teaching kit in the classroom using advanced technology. Beside that, they also have limited access to upgrade their knowledge through seminar, training and required reference readings and reference materials (Sunaryo, 1998; Wardani, 2002). The law and government regulations have required teachers to improve and upgrade their knowledge and competences. Teachers must be creative, but they do not yet have the adequate skills to conduct research to express ideas (Suroso, 2000).

These conditions may have been due to the lack of educational facilities and infrastructure in supporting the development of teachers‘ quality, profession and prosperity. Therefore, teachers themselves must take initiative to learn. One model to improve the quality of teaching and learning is *reflective model*. Through this model, teachers are stimulated to do activities such as reading, sharing and exchanging opinions and ideas, observing each other learning activities, analyzing critically and reflecting practical experience in teaching and learning (Danim, 2002).

A government program through the Director General of Higher Education has made effort to improve teaching and learning at school in which teachers are encouraged to do *classroom action research*. Teachers must have competences in classroom action research, and online instructional clinic can be used as one way of improving the teachers' competences. This is a gradual process for teachers to familiarize themselves with classroom action research activities.

The Use of Internet by Primary School Teachers

Up to this moment, most of the people in Indonesia are not familiar with the internet. Based on data in 2004, only 11, 2 millions of 220 million people in Indonesia access the internet (Investor Daily, 2005). Most of the people who access the internet are professionals and academicians. It can be assumed that internet access by teachers particularly those living in remote areas are even lower. For many teachers in remote areas, the internet is still a luxurious good, and information technology is still far away from becoming the daily need for them to gain information.

The challenge in the use of internet by school teachers is to make them aware of the importance of information technology in enhancing teaching and learning. Internet is not luxurious good and it is very important for them to obtain up-to-date and accurate information. The existence of internet shop called *warung internet* or *warnet* in sub-district areas will enable teachers to have access to information via the internet without restriction of distance and time. Teachers are expected to use the facility of cheap internet through *Telkom Internet Goes to School by Fleksi* program to 70,000 areas.

The Use of E-Learning-Based Learning Preparation Model by Primary School Teacher Education Students

Previously the e-Learning-based Learning Preparation Model concept has been used mostly by health workers to improve their skills and competences. In e-Learning-based Learning Preparation Model, the health workers learn from fellow health workers' experience in handling certain health cases. The essential of e-Learning-based Learning Preparation Model is how professionals seek and find the solution of work problems they face. The E-Learning-based Learning Preparation Model is offered as an alternative means to overcome teaching and learning gap of teachers. The module is based on experiential learning concept. Teachers learn from other teachers' experience and they use it to solve the problem they face. Pannen (2001) state that by using this approach, teachers form and build a new concept of teaching and they can use it to improve the situation and condition in the classroom.

Another characteristic of learning is the existence of collaboration and cooperation aspects. They are necessary for teachers to build insight and a base to do classroom action. The impact of collaboration and cooperation are not only on teachers but possibly also on educational communities, in which they can take a role in overcoming learning and teaching gap of teachers.

Example of the form of e-Learning-based Learning Preparation Model can be viewed in website www.klinikpembelajaran.com. In this site, teachers can pose learning issues and give comments and opinions of issues. The consequence of learning clinic in website form is that teachers are demanded to have the skill to operate the computer and access the internet. Apparently, not all UT's primary school teacher education students have the skill yet. To use the internet, a good network is needed between provider, information source and site organizer.

The main aim of the use of internet is to overcome learning and teaching gap. Since many teachers have not been able to operate the computer, it is important to give orientation to them about using computers in teaching and learning. After having adequate skills in using computers, they are expected to access the internet independently.

METHODOLOGY

In 2006, a number of primary school teacher education students and other respondents were surveyed for the purpose of the study. They were 20 primary school teachers studying in UT, 5 teachers studying in Universitas Tirtayasa, and 5 respondents not studying in the university at all. They were invited to try using the internet in Pramuka Islet Telecenter. The study involved 3 computer instructors from Pramuka Islet Telecenter, lecturer from the Teacher Education Institution (LPTK) as informant and learning clinic organizer. This group of people has different capabilities in operating computers. They tried using the instructional clinic site three times from November to December 2006. The following is the result of the try-out of the e-Learning-based Learning Preparation Model in Pramuka Islet Telecenter.

Pramuka Islet Telecenter

Pramuka Islet Telecenter is located in *Kepulauan Seribu*. The Telecenter's local steering community has been established to oversee the activities of the Telecenter. The steering committee consists of formal and informal leaders such as head of representatives of fisherman group, women group, teachers, youngsters, etc.

Since its establishment, the Pramuka Islet Telecenter opens daily for the community. Among its activities is basic computer training on regular basis for the fisherman group, women groups, and students. Training for teachers by UT was also conducted in the Pramuka Islet Telecenter. In addition to the usual syllabus, the teachers who were the participants of the training received computer and internet training from the telecenter management team. Telecenter facilities are also being used as a venue for trainings for local government officials. The capacity of these local officials is enhanced so that they can better assist the community to improve their livelihoods to be healthier, more productive, and intelligent.

Learning Problem Solving by e-Learning-based Learning Preparation Model

Based on the survey, most of the teachers say agree very much (70-80%) that the Model can help teachers solve their learning problems, and only (10-20%) say agree. It means that there are 30 respondents giving the opinion that instructional materials can solve the problem that they face in the classroom, although it seems that most of the teachers have not yet identified their actual problems.

The Functions of e-Learning-based Learning Preparation Model Site

Teachers gave scores 3-4 of the score range of 1-4 to the web design of instructional material. This was contrary to the organizers or telecenter instructors who gave low score to the function of web in solving problems because they found that most of them had not been familiar with the internet.

Figure 1. The Map of Kepulauan Seribu

Means and Infrastructure in Pramuka Islet Telecenter

Teachers in average gave 2 scores of the score range 1-4 about feasibility of facilities and infrastructures in Pramuka Islet Telecenter. The aspects which got low score are the comfortable rooms, the number of computers, and the computer speed to access the internet. Respondents stated that the number of computers was only 4 units and the *Telkomnet Instant* as the internet provider had low speed.

Generally, the use of e-Learning-based Learning Preparation Model runs well. Teachers expect that the number and quality of computers can be improved. Teachers also expect the continuity of the activity in the Telecenter because it is important to expand knowledge. The most important thing in the Model is the commitment of facilitators and resource persons to respond to the questions via e-mails.

The Description of Participant Instrument

Questionnaires were used for data collection. Rate of return for the questionnaire was 70 %. Out of 150 questionnaires, 105 were completed and analyzed as data. The variables were measured using the Likert scale (1 to 4) and indicators as follows.

Student understanding of the study program is measured using statements such as: "I fully understand the kinds of knowledge and skills that I will obtain upon completing my study program"; "I fully understand my strategy for learning to be successful in my study"; "I fully understand the structure of my study program (curriculum and assignments)"; "The material covered in my study program provides a strong foundation for knowledge in the field"; "The learning material is relevant and applicable in my job".

Student perception of the program value is measured by statements such as: "I am not fully convinced of the value of the study program that I take"; "The program will improve my professionalism in teaching"; "Upon completing the program, my income will be substantially increased"; and "Upon completing the program my career will improve".

Confidence and Independence in studying is represented by statements such as : "I am capable of understanding the content of the modules that I read"; "I make notes whenever I am studying the modules"; "I attempt to relate the content of my reading with the reality in the society"; "I always do the assignments and tests to measure my mastery of the material"; "As a distance learner I realize the importance of ability to learn independently"; "I understand the importance of self-initiatives in learning"; "I make effort to obtain information from mass media to enrich my understanding of the problem posed in the learning content"; and "I will seek help from my colleagues and fellow students when I encounter learning problem".

Involvement in study groups is represented by statements such as: "I enjoy working with fellow students in the learning process"; "I feel free to give and receive information from fellow students"; "I highly emphasize responsibility in working with fellow students"; "I get meaningful information from working together with fellow students"; "I am well prepared to join discussion in my study groups"; and "Being a member of study group is important for me as distance learners".

Involvement in tutorial is measured by indicators such as: "I am well prepared to join tutorial anytime", "I ask many questions during tutorial sessions", and "I am not reluctant to share information during tutorial".

The internal consistency of items used as indicators is reported in Table1.

Table 1. The Alpha Coefficient of the instrument

Variable	Number of items	Alpha
Student understanding of the study program	7	.76
Value of the program	4	.54
Confidence and independence in studying learning material	8	.74
Involvement in study groups	10	.83

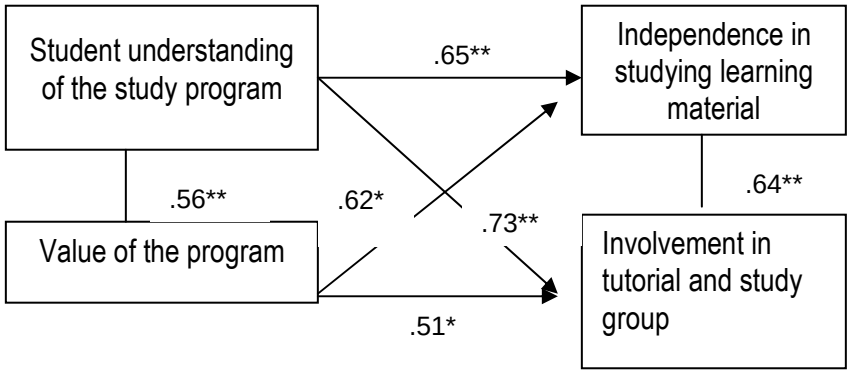
RESULT AND DISCUSSION

Demography

In terms of the study program attended, the respondents are evenly distributed. Total respondents who are the Primary School Teacher Education Students constitute 84 %. Male respondents are 50.8 %, and female respondents are 49.2 %. All respondents are married. Almost all respondents finance their study themselves. Only a very small percentage receives scholarship from the local education agency. The age range is 28 to 55, with an average of 42.

Associations of Variables

A pattern of association among various variables under study was identified, as seen from Figure 2.



* Correlation is significant at the 0.05 level
** Correlation is significant at the 0.01 level

Figure 2. Correlations between Variables

Student understanding of the study program correlates significantly with independence in studying learning material, $r = .65$ ($p < .01$). This finding indicates that if students have clear understanding about the nature of the study program and what kind of attitudes and behavior is expected of them to succeed, they make more effort to be more independent and to produce positive behaviors as independent learner. In other words they seem to be more willing to involve themselves in 'deep learning', while others generally will be satisfied by just doing 'surface learning.' In 'deep learning' while processing information, students will make effort to gain a comprehensive understanding by identifying key ideas and relate them with actual examples or real incidents. Whereas in 'surface learning' students feel sufficient just memorizing key ideas and formulating answers for the tests included in the modules.

Student understanding of the study program correlates significantly with involvement in tutorial and study group, $r = .73$ ($p < .01$). This association indicates that students, who have clear understanding about the nature of the program and what is expected of them, tend to make efforts for positive and productive behavior in tutorial and study groups. Many students attend tutorial sessions without any preparation, even prior reading of the learning material to be discussed during the tutorial. They expect the tutors to explain the material in an expository manner. This passive attitude and behavior clearly do not benefit students. Others did their homework prior to attending tutorial, by reading the material, preparing questions for discussion and other relevant information to share. This readiness to learn obviously contributes to student focus their attention, motivation and sense of achievement in learning.

Student understanding of the study program correlates with value of the program, $r = .56$ ($p < .01$). The value of the program refers to student perception in relation with the effect of completing the study program on their career, professional practice and income. Those who value the program better seem to have a better understanding of the nature of the program and what is expected of them. There is possibility of cross reference between the two variables.

Independence in studying learning material correlates with involvement in tutorial and study group, $r = .64$ ($p < .01$). Students with positive behavior while learning independently seems to display positive behavior while attending tutorial and study groups. In both contexts they are active and proactive, anticipating sharing information during the interaction of tutorial and study groups.

Student perception of the *value of the program* correlates with involvement in tutorial and study group, $r = .62$ ($p<.01$). When students positively value their study program, they tend to exert themselves positively in the tutorial and study group activities.

Value of the program correlates with independence in studying learning material, $r =.51$ ($p<01$). When students positively value their study program, they tend to exert themselves positively independence in studying the learning materials.

CONCLUSIONS

The findings reveal that there is relationship between student understanding of the nature of the study program and the expected behavior to succeed, with student academic integration characterized by a high level of independence in learning and tendency for 'deep learning', and active involvement in tutorial and study group activities.

This study implies the importance of the institution effort to help students to better understand the study program they take and how to succeed in it. This can be done by orientation program at the beginning of the semester. The orientation intends to make student personal adjustment to distance learning environment easier. There should also be intervention from the institution to make possible and support student-student and tutor-student interaction through different medium, such as tutorials, study groups, mentoring, etc. to strengthen student

academic integration. When students feel 'at home' with the process of learning, hopefully they will persist until the end and successfully finish their study program.

The result shows that e-Learning-based Learning Preparation Model is really motivating students to actively study in their groups. By using the regularly scheduled study groups and the provision of computers connected to the internet, students can easily access the information and minimize the frequency of mobile transportation. On average, there were about 70% students making rapid progress in accessing learning resources through the internet and getting experiences and knowledge during the eight months period of the study in 2006.

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