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The Use of e-learning in Distance Education: Online Tutorial in Faculty of Education and Teacher Training Universitas Terbuka

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Abstract

The use of e-learning is becoming more popular among academics, be it in face-to-face or in distance learning. This paper aims at describing the use of e-learning at the Universitas Terbuka (UT), especially on learning support for the teacher training students. It begins with a disposition of courses that are provided on line, and data of student participation in the tutorial. Data has been collected since 2005.1 semester to 2007.2, from the website of http://student.ut.ac.id/mod/statut . The result showed that during the six semesters, the number of online courses haves been increasing, beginning from 48 courses in 2005.1, it reached 62 courses in 2005.2, 98 courses in 2006.1, 99 courses in 2006.2, 126 courses in 2007.1 and 134 courses in 2007.2. While students participation were increasing during six semesters, which were 401 studentns in 2005.1 semester, 806 students in 2005.2 semester, 1.257 students in 2006.1, 1196 students in 2006.2 semester, 1440 students in 2007.1 semester, and 1683 students in 2007.2 The online tutorial lasted in 8 weeks. The courses chosen for the tutorial were selected by the study program and department of each faculty. The tutors were lecturers who were producing the initiation material which will be uploaded each week. The intitiation material is learnng

material sent by the tutor to students to initiate a discussion, it can be literature review, summary, highlights of important issues of the material, exercise, simulation or question.

Introduction

Learning is a complicated process within every human being. It happens by means of interaction of a person with the environment. The interaction is required, not only in the face-to-face education, but also in the distance education.

The characteristics of distance education are, such as, a separation of teacher and learners, an influence of learning organization in the preparation of learning material and learning support material, a dependence on the media to bridge the teacher and learners, a two-way communication mediated by technology, and an involvement of education industry (Keegan in Suparman & Zuhairi, 2004).

The separation of teacher and learner doesn't mean that distance learner cannot interact with the teacher. The tutorial is intended as a learning support for those distance learners to help overcome the gap.

The growth of distance education is supported by among others, the advancement of technology, such as the iniformation and communication technology. The internet connection enabled distance learning. The utilization of internet characterized the fourth generation of distance education, while the fifth generation was characterized by internet which is equipped by campus portal (Taylor in Wardani, 2004).

The internet may overcome student's problems. The positive aspect of internet is that it allows students to download information everywhere without any institutional or national border (Purbo, 1998). Similar statement was also made Pavlik in Sukartawi (2003), that the use

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of information and communication technology has positive impact toward education. The learning activity which is using the internet is defined as a form virtual school. In other words, it is an effort to transform the learning process within a school into a digital activity, mediated by the internet technology. Rosenberg (in Sukartawi, 2003) grouped elearning into three basic criteria, which are:

o A network, that is capable of repair, store, retrieve, distribut and share learning and information.

o The criteria was important, that Resenberg stated that this is an absolute requirement.

o It was sent to user by computer technology using internet technology standard.

o It focus on the the broadest learning paradigm, which is better than the traditional paradigm oflearning

An example of learning support in UT is the online tutorial. This is an internet-based tutorial services, or a web-based tutorial (WBT), offered by UT, and it was accessed by students through internet (Pedoman Umum Penyelenggaraan Tutorial, Simintas UT, 2004). By the online tutorial, the students are familiarized to the technology that support their learning process. Inaddition, the tutorial also allow students to interact with tutor to solve their learning problem, especially in comprehending the topics taught.

The students of the faculty of teacher training are those who have become teacher, spread in many areas in Indonesia, both in urban and rural areas. They are provided by learning suppor services, including online tutorial. Students are not required to join the tutorial. However, it is required to investigate the effectiveness of the activity, as the activity has been conducted for more than two years. Hence, the

required information were:

1. The increasing number of courses included in the online tutorial
2. The number of students joining the online tutorial and the number of those who were active.

The information gained from the research might be an input for the faculty and the university to improve their learning program.

The paper showed the online tutorial activities that was conducted by the FKIP UT during six semesters, which is from 2005.1 to 2007.2. An observation was also conducted toward both students participated in the tutorial and lecturers involved in the production of the tutorial material. All students and lecturers were recorded, and this data was suppemented by data from http://student.ut.ac.id/mod/statut . The whole data were then processed through descriptive analysis.

The description of tutorial and its application in distance education

Tutorial is a learning support service provided by the Universitas Terbuka. The online tutorial is meant to support student in learning the learning material, beside to enable communication between tutor and students.

There has been many research on the use of internet in learning. Sukarsih (2005) investigating 145 UT regular students in Yogyakarta, pointed out that the utilization of UT online services were low (26,1 %). The research of Andriani (2005) toward 8 UT master of management students in MPB course, disclosed that the implementation of online tutorial was not quite good. However, all respondents felt the benefit of the tutorial. In addition, it was said that 75 % of respondent complains regarding the tutorial, was about the less of communication, and

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that the tutors were less active, less proactive and less responsive in communicating with the respondents.

Discussion

A. Online tutorial in FKIP-UT

The online tutorial was conducted in an 8 weeks period. The courses selected for the tutorial were stated by the study program and department of the faculty of education and teacher training. Criterias for selecting the courses were:

a. the number of students registered in each course
b. the level of urgency of the course within the study program
c. the level of difficulty of the content

The tutor provides the initiation material that is uploaded in each week. The initiation material is the material that is sent by the tutor to students to initiate a discussion. The level of difficulty of the content. The material should motivate students to learn, and provide advices about learning method. The first initiation material should include a welcoming remarks for the newcoming students, an overview of the tutorial, the expected role of students, and information regarding assignments.

The online tutorial began following the closure of the registration. The registration of the online tutorial is at the same time as the courses registration. The tutorial activities consisted of:

a. Distributing one initiation material each week from the tutor to the students.
b. Providing at least 3 assignments that must be done by students
c. Discussion among tutor and students.

Evaluation components of the tutorial were students participation and

submission of three assignment. There were two types of participation which were evaluated, the active and passive participation. A student was considered active if the student submit a question, comment or answer for other students' question. A student was considered passive if the student only read the initiation material, question, comment and answer from other student. An example of an initiation is as follows:

ATMOSFER, HIDROSFER DAN LITOSFER

Saudara mahasiswa, pada kegiatan tutorial on line ke 4, Anda diminta untuk mempelajari senyawa organik dan an organik yang terjadi dalam lingkungan atmosfer, hidrosfer dan litosfer. Perhatikan unsur-unsur yang terdapat dalam atmosfer dan komposisinya dalam persen volume. Perhatikan pula bagaimana bentuk partikel serta reaksi-reaksinya, khususnya tentang oksida-oksida logam, gas SO_2 dan gas oksida nitrogen yang ada di atmosfer.

Pada bahasan lingkungan hidrosfer, pelajari siklus air, sumber air bersih dan kandungan ion-ion dalam perairan alami. Gambar siklus air seperti tertera sebagai berikut:

Berdasarkan siklus hidrologi diatas perhatikan konsep-konsep evaporasi, kondensasi, transpirasi, perkolasi, air permukaan dan air tanah.

Pada lingkungan litosfer mencakup pembahasan bagian padat dari bumi yaitu tanah serta berbagai macam batuan di dalamnya. Masih

ingatkah Anda komposisi dari tanah? Untuk itu pelajarilah kadar mineral-mineral yang ada dalam tanah, serta bentuk sedimen dalam batuan-batuan tanah.

Untuk pengkayaan dan meningkatkan pemahaman Anda tentang keberadaan air khususnya air bawah tanah Anda dapat pelajari literatur lain. Selanjutnya apa yang dapat Anda pikirkan untuk melestarikan sumber air bersih bila banyak orang tidak lagi peduli dengan resapan air tanah dan menggunakan air tanah secara berlebihan untuk memenuhi kebutuhannya sehari-hari?. Gambar air bawah tanah seperti terlihat pada gambar berikut.
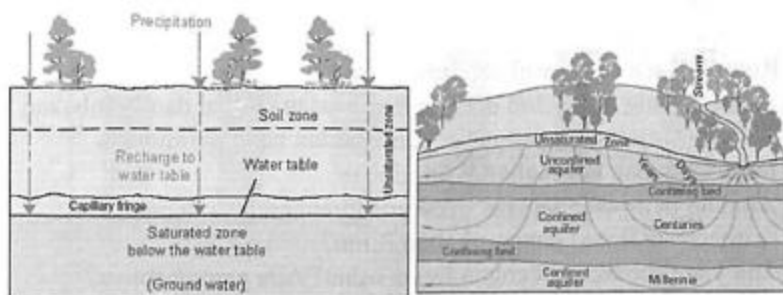
Selanjutnya bagaimana bentuk profil lapisan tanah? Serta bagaimana pula keberadaan hara-hara makro dan mikro dalam tanah? Senyawa apa yang ada dalam tanah yang paling berperan bagi kesuburan tumbuhan?. Untuk lebih memahami penguasaan Anda terhadap materi ini, selain mempelajari modul, dapat pula Anda mencari sumber lain khususnya tentang siklus berbagai unsur hara makro.

Selamat belajar.

Beside providing the initiation, tutors also give assignments to the students. An example of the assignment is provided below:

Saudara mahasiswa, untuk meningkatkan pemahaman Anda terhadap materi Pemanasan Global, Efek Rumah Kaca dan Hujan Asam, kerjakanlah latihan berikut.

TUGAS 1 :

1. Apa yang dimaksud dengan Efek Rumah Kaca (ERK) dan penyebabnya?
2. Apa saja yang termasuk dalam kelompok Gas Rumah Kaca? Negara-negara manayang berkontribusi meningkatkan Gas Rumah Kaca di permukaan bumi?
3. Apakah yang dimaksud dengan Pemanasan Global dan Perubahan Iklim? Danjelaskan pengaruh peningkatan suhu permukaan bumi terhadap perubahan iklimglobal.
4. Apakah penipisan lapisan ozon ada hubungannya dengan PemanasanGlobal danperubahan Iklim?
5. Apa yang dimaksud dengan hujan asam? Apa penyebabnya?

B. The spread of online tutorial

The courses,with online tutorial component, offered by the FKIP UT may also be used by other study program, department, and even by other faculty. Those tutorials were shown in figure 1.

Number of on line courses offered by FKIP - UT during 2005.1 - 2007.2 Registration Period
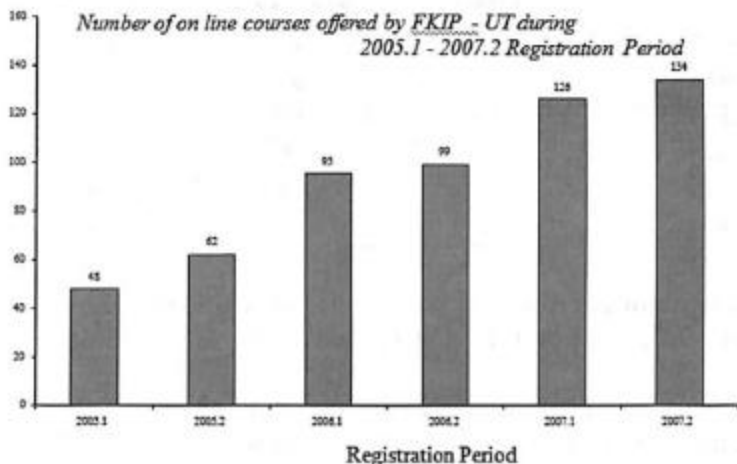
The number of courses with online tutorial component in each faculty were provided in Figure 2.
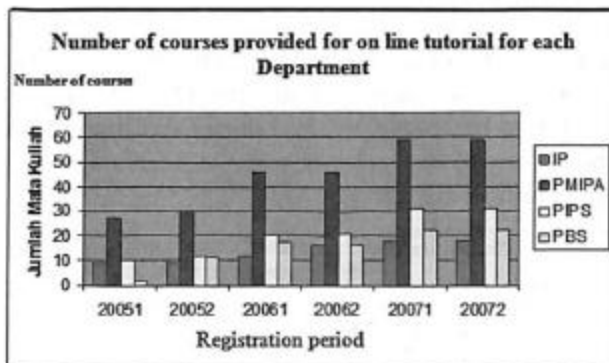
Figure 2. Number of coursesprovided for on line tutorial for each Department

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The number of courses with online tutorial component was increasing each semester, which is shown in table 2.

Table 2. Number of courses offered online tutorial

No	Registration period	Courses		Percentage Courses available for online tutorial
		Offered	Online tutorial provide	
1.	2005.1	251	48	19,12 %
2.	2005.2	259	62	23,94 %
3.	2006.1	253	98	38,73 %
4.	2006.2	257	99	38,52 %
5.	2007.1	287	126	43,90 %
6.	2007.2	307	134	43,65 %

The increase of courses with online tutorial component showed the commitment of FKIP-UT and the university to provide learning support.
The number of online tutorials showed preparedness FKIP-UT in providing tutorial, although the students participation is still relatively low.

C. Student participation

The increase of the number of the online tutorial should also improve the number of students joining the activity. The data showed that the number of student registered in the tutorial did increase during the 6 semesters. However, the increase was not accompanied by student active participation in the tutorial, which was shown in Figure 3.
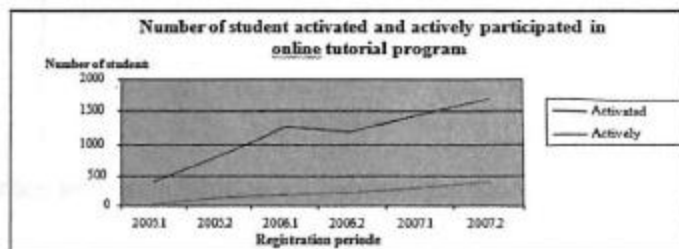
Data on table 3 showed that the increase of active student number and actively participating students were not correlated to each other.

Table 3. Number of Students Activated and Actively Used the online Tutorial

Registration Periode	Number of Students		
	Activated	Active	% Active
2005.1	401	29	7,23
2005.2	805	123	15,26
2006.1	1257	192	15,27
2006.2	1196	222	18,56
2007.1	1440	311	21,60
2007.2	1683	392	23,29

The low student access to the online tutorial was indicated by the high number of tutorial not being accessed even by a single student. The low student participation should not happen, rovided that UT can provide up-to-date learning support.Meanwhile, not every student knew the procedure of participating in the tutorial, so that they have to first contact the tutor or other students.
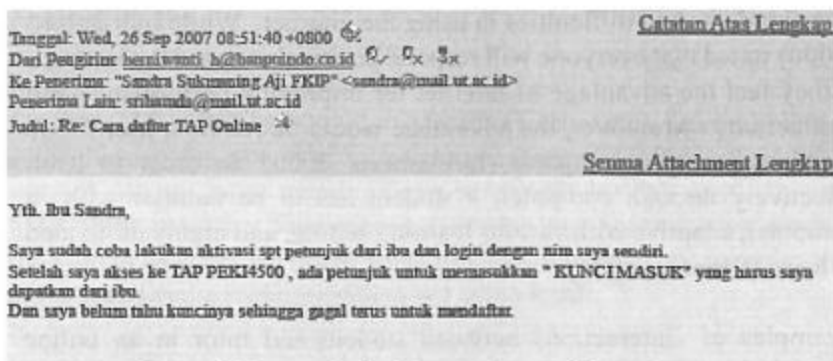
Figure 4. An example of student operating tutorial procedure.

Not all lecturers participated in the tutorial, although some of them were capable and fully commited to the online tutorial.

C. The use of the online tutorial by the student

The internet technology provide a promising hope toward the distance education, especially the FKIP UT. The advancement of the information technology supports the lecturers to improve teaching. On the other hand, the lecturers have to be more skillful in using the technology. A similar view was shared by Sarjiyo & Pannen (2006).

The computer-based technology is regarded as the third generation of distance learning (Moore & Kearsley, 1996). The computer-based application enables both the individual and group learning process outside the classroom. According to Heinrich (1996), the learning material can be programmed according to the user need. The programmed material, formatted in text, graphs and colorful audiovisual, could be sent in the same time to the user.

The utilization of the internet had already been a need for any institution, including education institution. Hence, the no activity in an online tutorial sessionmight be caused by student incapability of using the conputer and inaccessibility of internet or internet kiosk. The research of Zaidin et al (2005) and Andriani (2005) showed that some students had difficulties in using the internet. While Indriantoro (2000) stated that everyone will respond positively toward the internet, if they feel the advantage of internet for improving performance and productivity. Moreover, the advantage would be felt by a user if one could operate the computer (Indriantoro, 2000). In order to learn effectively through computer, a student has to be familiar with a computer, adaptive with various learning setting, and highly motivated to learn (Churton, 2006).

Examples of interactions between student and tutor in an online tutorial.

Selamat pagi.
terima kasih atas jawaban yang telah diberikan kemarin sekarang saya mau tanya lagi:
1.kalau kita sudah mengerjakan LM terus kita kirim prosdura via internet atau kita kumpulkan langsung ke UT
setempat?karena dari hari senin kemarin saya mengirimangi UT tidak diangkat dan saya ikuti instruksi dari
internet kurang jelas karena talfon kurang jelas.
2.untuk mata kuliah yang tidak ada LM gimana kelanjutannya?
sebelum dan sesudahnya saya ucapkan terima kasih.

Sdr. Retno,
Senang sekali Anda aktif dalam kegiatan tutorial on line.
Tugas mandiri untuk semua matakuliah saat ini telah diganti dengan
Latihan Mandiri (LM). LM dapat diakses melalui internet, namun
belum semua matakuliah mempunyai LM, demikian pula dengan
matakuliah Kimia Lingkungan. Silakan Anda melihat matakuliah
yang telah disediakan LM nya. Mengenai nilai akhir adalah diperoleh
dari nilai UAS dan nilai keterlibatan dan pengerjaan tugas tutorial on
line. Demikian informasi ini semoga berguna bagi Anda.
Selamat belajar.

Sandra
On Sun, 23 Sep 2007 18:26:07 -0700 (PDT), retno purwaningsih wrote
>Sebelumnnya minta maaf.Saya kan mahasiswa baru jadi belum tahu
gimana dengan tugas mandiri.Terus berpengaruh tidak nanti dengan
hasil akhir penilaian?Oya saya juga sudah mengecek ketiap modul
dihalaman terakhir dan disitu cuma modul kimia lingkungan yang ada
tugas mandirinya.mohon bantuannya trima kasih.
>

Figure5. An Example of interaction beetwen student and tutor in
online tutorial

Contoh interaksi lainnya seperti tertera pada diskusi berikut.

| 22875 | « | Tukorial 3 | ▼ | « l29lUR5Y7V | Lanjut | 17481 | ► |

Anda Ada Di Sini,
• UT-Online
• PEMA4420
• Forum
• Diskusi 1

| 6544 | true | « l29lUR5Y7V | Perbaharui Forum ini |

DISKUSI 1

Diskusikan masalah berikut.
1. Apa yang Anda ketahui tentang himpunan yang bebas linear dan bergantung linear dalam suatu ruang vektor?
2. Berikan contoh dalam R2 dan R3 himpunan vektor yang bebas linear dan bergantung linear

| 2182 | Tambah topik diskusi baru |

Diskusi	Diasuhi oleh	Balasan	pos terakhir
Diskusi 1	ASEP GG PUTRA BANKA -	3	MOH ISKON Min, 20 Mei 2007, 13:01

ⓘ Moodle Docs for this page
Anda login sebagai Tirani sti. (Keluar)
PEMA4420

Figure6. An Example of interaction beetwen student and tutor in online tutorial

An interactioin between student and tutor was not always about the content (example 2), or else, the student might asked a learning problem (example 1), as shown at Figure 5 and Figure 6. The communication was meant to give a learning experience for the student. Beginning a distance learning process is not as simple as it is predicted, for it needs high capability, skill and commitment of components involved. Therefore, the distance learning requires tutor who understands student learning difficulties (Moore in Damayanti, 2004).

The fifth paradigm in distance learning emphasizes on integration of technology, especially the internet, in learning. The rapid change in learning need and learning technology urges teachers and educational institution as well, to adapt with the change. Distance learning support is designed to allow student learn and interact with the learning sources and the provider of learning, through the internet.

In reality, the application of internet was hampered, because not every student can access it easily. According to Sandra et al (2007), data from 14 students not joining the online tutorial showed that 37.52 % did not know that there is the activity, 42 % did not know how to register the tutorial, 85.72 % did not know how to access the internet, 14.29 % had a problem to find an internet kiosk or there was not any internet kiosk nearby, 50 % did not have any opportunity to come to an internet kiosk.

The biggest problem for student to participate in the online tutorial was the familiarity with the internet, and limited availability of the internet facility in some areas. Some students hesitated to use the provided guidelines for the tutorial. For example, they sent two answers for an assignment, the first was sent to the tutorial website address, and the second was sent to the tutor's private email adress.

An example of a student answer sent to the tutor's private email address was as follows:

Kegiatan Tutorial On Line 4

Tanggal: Sat, 15 Mar 2008 18:22:54 +0700 (ICT)
Dari Pengirim:http://www.google.com/search?q=romi_bbl@yahoo.co.id
Ke Penerima: Sandra Sukmaning Aji FKIP <sandra@mail.ut.ac.id>
Judul: Balasan: Re: Balasan: Sdr. Romi N Catatan Atas LengkapSemua Attachment Lengkap
Kepada   : Sandra @mail.ut.ac.id
Dari   : ROMI NOVRIADI
N I M   : 015579642
UPBJJ   : 13 / BATAM
MASA.REG   : 2008.1

KIMIA LINGKUNGAN
TUGAS 1 :

1. Apa yang dimaksud dengan Efek Rumah Kaca (ERK) dan penyebabnya?

Jawab: ERK adalah salah satu fenomena dimana gelombang pendek radiasi matahari menembus atmosfer dan berubah menjadi gelombang-gelombang panjang mencapai permukaan bumi. Setelah mencapai permukaan bumi, sebagian gelombang tersebut dipantulkan kembali ke atmosfer. Namun tidak seluruh gelombang yang dipantulkan itu dilepaskan ke angkasa luar. Sebagian gelombang panjang dipantulkan kembali oleh laisan gas rumah kaca di atmosfer ke permukaan bumi. Proses ini dapat berlangsung berulangkali, dan gelombang masuk juga terus menerus bertambah. Akibatnya, terjadi akumulasi panas di atmosfer.

Penyebabnya di antaranya adalah meningkatnya kadar karbondioksida (CO_2), methane (CH_4), nitroksida (N_2O), sulfurheksaflourida (SF_6), perflourokarbon (PFC), dan hidroflurokarbon (HFC) di permukaan bumi.

2. Apa saja yang termasuk dalam kelompok Gas Rumah Kaca? Negara-negara mana yang berkontribusi meningkatkan Gas Rumah Kaca di permukaan bumi?

The communication through various media was intended to overcome student's study problem, as the separation between teacher and learner was a characteristic of distance education. The students are able to access the information without any problem caused by confusing operational procedure. Thus, the challenge for the distance education institution is to provide easily accessible information for students.

Conclusion

Student learning support by online tutorial designed by the FKIP UT showed an increase of student and teacher involvement during six semesters. The implementation of the online tutorial was generally good, although there are still some problems. The low student participation caused the tutorial to be ineffective and inefficient. The distance education required student to learn independently. If the tutorial was not well-prepared, it will not support communication between students and tutors. The application of the technology require adequate experience and skills, and the utilization of the internet offers a flexibilty in distance education.

The online tutorial at the FKIP UT was not fully accessed by students. Even most of registered students did not access the initiation material and assignment. Therefore, there should be more socialization effort. The socialization might be in the initial orientation at the regional office, or by sending leaflet during the examination. The problem during the online tutorial should be overcome to bridge the separation of students and teachers. Especially, most FKIP UT students live in remote areas.

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