THE USE OF OPEN EDUCATIONAL RESOURCES IN ONLINE LEARNING:
A Study of Students' Perception

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ABSTRACT

Universitas Terbuka (UT) is Indonesia's higher education institution which implements distance education system. The term distance implies that learning is not performed face-to-face but there is geographically separation between students and teacher. Therefore, UT must provide many kinds of learning modes and learning support. To facilitate students in their learning process, UT provides an e-learning system named online tutorial. This tutorial is provided for all courses which are designed in 8 sessions of virtual class. Students can learn, discuss, and ask to the teacher via this mode of learning. As the development of methods in e-learning, the use of open educational resources (OER) has increasing these days. Learning materials can be taken easily and freely from internet. UT also utilize OER in it's learning process, especially in e-learning. The aim of this study was to collect data from students about their acceptance of integrating OER into e-learning. The use of OER is perceived by students as something interesting because it's new for them and can help them to have a better understanding about a topic. The results also showed that video has found as the most interesting OER for students. Other results, limitation and suggestion from students about integrating OER into e-learning also will be discussed in this paper.

Keywords: distance education, e-learning, OER.

INTRODUCTION

Universitas Terbuka (UT) is the only higher education institution in Indonesia that implements a distance and open learning system. The term distance implies that learning is not performed face-to-face, but makes use of media, whether printed media or non-printed (audio/video, computer/Internet, radio and television broadcasts). Open means there is no limitation as to age, year of graduation, period of study, registration time, and frequency of examinations. The only limitation applied is that UT students must have graduated from High School.

The essence of distance learning is the separation between students and teachers which mean students have to be able to study independently. To support the system, UT provides a variety of learning materials, basically in the form of printed and non-printed materials. During the learning process in one semester, students have to read the printed materials and utilize learning support based on multimedia and internet. Learning support materials provided for students including computer assisted instruction (CAI), video, audio, TV and radio broadcast. UT also provides learning support services based on internet, namely online tutorial, self exercise, and online-based enrichment materials. Online tutorial is a kind of e-learning implemented in UT to teach students about a certain subject. Online tutorial as one of learning support service for students as virtual class that is designed in 8 weeks. Students also have to do 3 tasks during the semester. By participating online tutorial, students can have opportunity to interact with the tutor, ask about the topic, and also know and discuss each other, if they can't attend a face to face class.

Open Educational Resources (OER) is widely used these days, including in education. OER have gained increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote life-long learning and personalized learning. The rapid growth of OER provides new opportunities for teaching and learning, at the same time, they challenge established views about teaching and learning practices in higher education (Yuan, et al., 2008). UT also utilizes OER in learning process, including in online tutorial. Online tutorial is designed in 8 weeks. Every week, tutor provides learning material and discussion forum. In week 3, 5, and 7, students have to do task given by the tutor. To enrich the material, tutor can adopt material that is freely taken from internet, named OER. The utilization of OER is expected to be useful for students since it can increase student's insight beyond what they can get from printed materials.

This study was conducted in Universitas Terbuka. The aim of this study are (1) to analyze the use of internet by students, (2) to analyze student's activity on e-learning, (3) to analyze utilization of OER in e-learning based on student's perception. The results of the study are expected to provide information to determine the policy relating to utilization of OER in learning process.

OPEN EDUCATIONAL RESOURCES (OER)

Open Educational Resources are defined as "technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes". They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teachers' guides (UNESCO 2002).

Open Educational Resources (OER) represents the combined international efforts to help equalize access to knowledge and educational opportunities throughout the world (Bissell, 2009). Another definition of OER was given by Bissel: OER is teaching, learning, and research resources that are in the public domain or have been released under an intellectual-property license that permits their free use or customization by others. Bissell (2009) also stated that OER is digitized materials offered freely and openly for educators, students, and self-learners to use and reuse for teaching, learning and research. They include learning content, software tools to develop, use and distribute content, and implementation resources (such as the open licenses themselves). There are also several benefits of OER. Initially, they can extend access of learning for everyone, including nontraditional groups of students and those from disadvantaged backgrounds, resulting in the widening of participation in higher education. OER can be an efficient way of promoting lifelong learning, bridging the differences between informal and formal learning.

Additionally, they can be an asset for expanding education in developing countries. In short, they offer a dramatically new approach to the sharing of knowledge which can lead to economic success of individuals, communities, companies, and, ultimately, entire countries (McDowell, 2010).

One of the barriers to significant expansion of OER is the possible loss of intelligence property rights and copyrights. To ease the concern of maintaining copyrights to the material posted on the web, institutions and individuals have turned to Creative Commons and the Open Courseware Consortium (McDowell, 2010). OER can be a valuable resource to students and instructors for many reasons. From the student's perspective, OER had the following advantages:

> - **free materials;**
> - **continuous access to resources;**
> - **the ability to pursue a topic thoroughly;**
> - **the ability to learn for personal knowledge or enjoyment; and**
> - **easy access to materials (Arendt and Shelton, 2009).**

According to D'Antoni (2009), there are also several barriers in using OER:

> - **technical, such as lack of broadband access;**
> - **economic, such as inadequate resources to invest in the necessary software and hardware;**
> - **social, such as a lack of the skills needed to use technology;**
> - **4) policy-oriented, such as the lack of academic recognition of the development of OER by teaching staff; and**
> - **legal, such as the time and expense associated with gaining permission to use third part owned copyrighted materials or its removal from material.**

Many higher education institutions around the world have been using the Internet and other digital technologies to develop and distribute teaching and learning for decades. As with any other technology-related initiatives in education, OER is driven by technical, economic, social, policy and legal factors. Some of these factors provide either a favorable environment or a particular handle for bringing about changes and others may hinder a broader uptake of OER initiatives. Recently, OER have gained increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote life-long learning and personalized learning. The rapid growth of OER provides new opportunities for teaching and learning; at the same time, they challenge established views about teaching and learning practices in higher education. At a minimum, OER possess at least three elements, (1) learning content, (2) the tools required to support the development and sharing of learning content, and (3) implementation resources such as intellectual property licenses that support the sharing and re-use of learning content.

E-LEARNING

Distance education has become an area of opportunity and concern for many colleges and universities. It refers to technology-based instructions in which the students are at a location physically separated from their instructors during the entire course of study (Ormrod, 2008). Initially, distance education was created for the students who were unable to attend school. Prior to all technological advancements, distance education, in the form of "pure" correspondence study, was created to give those students a chance to study and could not attend ordinary schools or universities due to social, medical, financial, or geographical reasons. Although it offers tremendous opportunities to expand services to the students, it also poses challenges because students are often off campus and are connected to teachers, resources, and peer learners through technologies and teaching techniques. In a learning environment where students and instructors are separated from one another by physical distance, and in which written communication is the key to all interactions, feedback becomes an important issue in helping the students maintain interest and be successful with the course contents (Steinweg, et al., 2006).

Higher education systems all over the world are challenged nowadays by the new information and communication technologies (ICT). These technologies have had a huge impact on the world economy, corporate management and globalization trends, and they bear a tremendous potential to reshape the nature of study environments everywhere, of both conventional and distance teaching institutions (Guri-Rosenblit, 2005). E-learning has been used very effectively in university teaching for enhancing the traditional forms of teaching and administration.

Students on many courses in many universities now find they have web access to the lecture notes and selected digital resources in support of their study, they have personalized web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study.

E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance (Rosenberg, 2001). E-learning can be used in almost every level of education, especially higher education. It can be an effective way for students to explore knowledge more than what they can get from a class room. E-learning is also called Web-based learning, online learning, distributed learning, computer-assisted instruction, or Internet-based learning. Historically, there have been two common e-learning modes: distance learning and computer assisted instruction. Distance learning uses information technologies to deliver instruction or materials to learners who are at remote locations from a central site. Computer assisted instruction (also called computer-based learning and computer based training) uses computers to aid in the delivery of stand-alone multimedia packages for learning and teaching. These two modes are subsumed under e-learning as the Internet becomes the integrating technology (Ruiz, et al., 2006).

RESEARCH METHOD

This research is a descriptive qualitative research with the main aim was to get information about the use of internet and OER in e-learning. Population of the research was all students in Magister Management Program of UT who take course in the semester and take certain course that was chosen as a course sample. Purposive sampling was used as the sampling method, which means we only chose sample/students who eligible for this research, e.g. they have practiced e-learning more than one semester. Data to be analyzed is gathered from students by sending questionnaire via email.

A questionnaire was being divided into 2 sections, first is questionnaire about the use of internet and e-learning, and second is the use of OER in e-learning. All samples were sent the questionnaire, and they were given maximum 1 month to filled out the questionnaire. Only completed questionnaire will be used for analysis.

To analyze the data, they were two steps in this research. First was to calculate the percentage of student's answers, and the second was to conduct qualitative analysis of the student's answers. The results of these steps would be used as a tool to give description of student's answer. After getting description of student's perception, an analysis could be done to show the conditions in Universitas Terbuka and the results are expected to be input for decision making to enhance learning process by optimizing the use of OER.

RESULTS AND DISCUSSION

Data collection was conducted for 1 month in May 2013. The population of this research is all students in Magister Management Program of UT. A purposive sampling technique was implemented in this research with criteria of students who take Operations Management course. Operations Management is a course that explains about how a product can be produced at a factory, from beginning until the end, and also all techniques implemented in producing a product. The e-learning of this course is completed with open educational resources (OER) in the form of video, text/article, power point, and picture. All these OER were taken freely from internet as free sources. The questionnaires were distributed to students who take this course via e-mail.

As many as 186 questionnaires were sent to students, but only 39 questionnaires were sent back (20, 96%). Of those 39 questionnaires, the results are as follows.

The use of internet and e-learning
**Question no. 1. How many times do you access internet or e-learning**
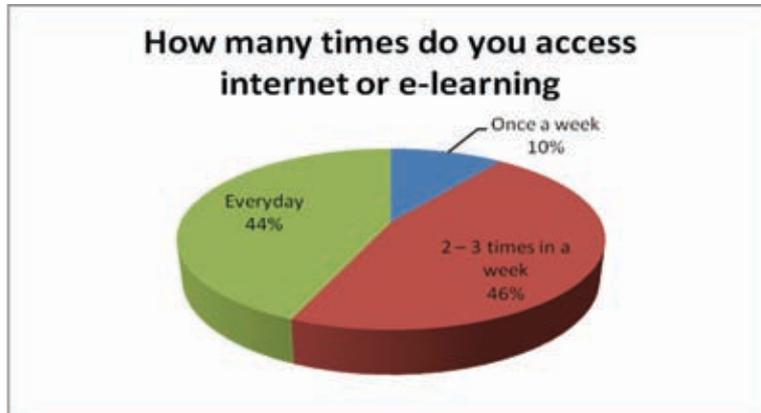
Question no. 2. Where do you access internet or e-learning
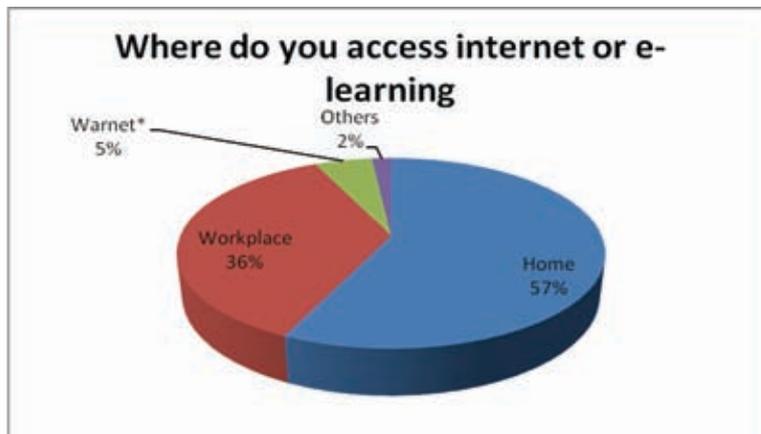
***Warnet is a place that belongs to private that is equipped
with computer and internet access.**

People who don't have a personal connection to internet can come to this place and pay to rent the computer and internet.

**Question no. 3. How much money do you spend for accessing internet**
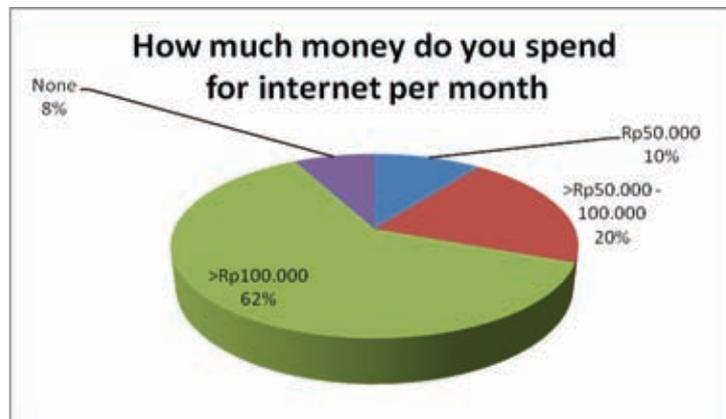
*USD 1 = Rp11.900

Question no. 4. How is the internet speed

How is the internet speed

- Very fast 2%
- Very slow 3%
- Slow 33%
- Fast 62%
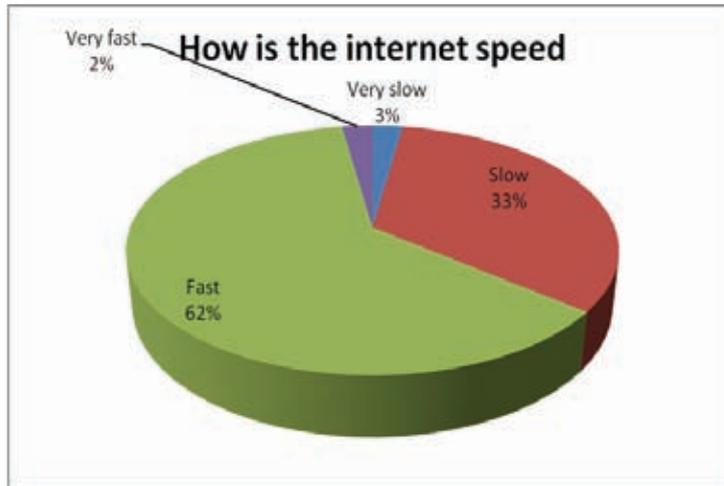
Question no. 5. How is the internet speed when you're downloading OER

How is the internet speed when you're downloading OER

- Very fast 2%
- Very slow 7%
- Slow 41%
- Fast 50%
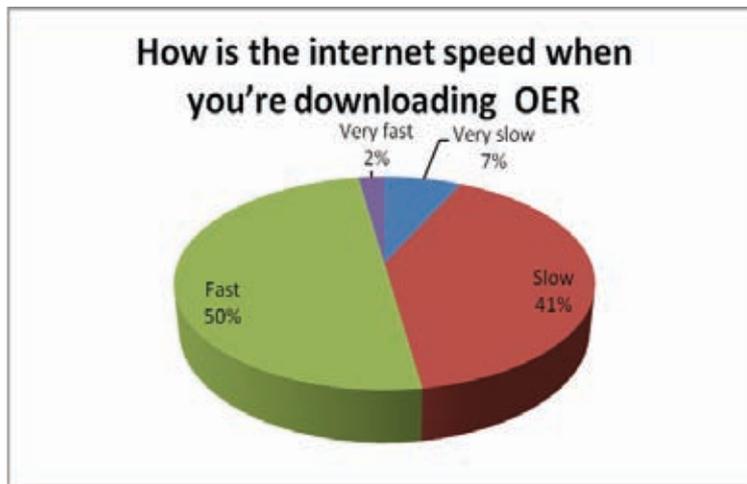
Section: 2
The use of OER
Question no. 1. OER applied in my e-learning is interesting

OER applied in my e-learning is interesting

- No 0%
- Yes 100%
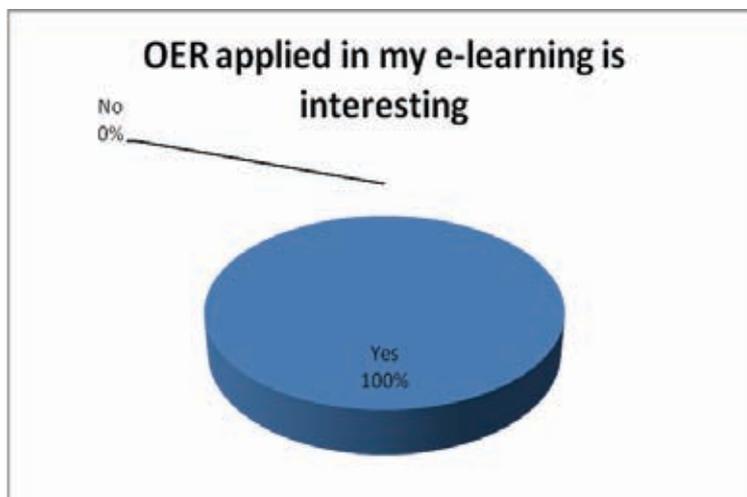
Question no. 2. Video in OER is clear

Question no. 3. Text in OER is clear
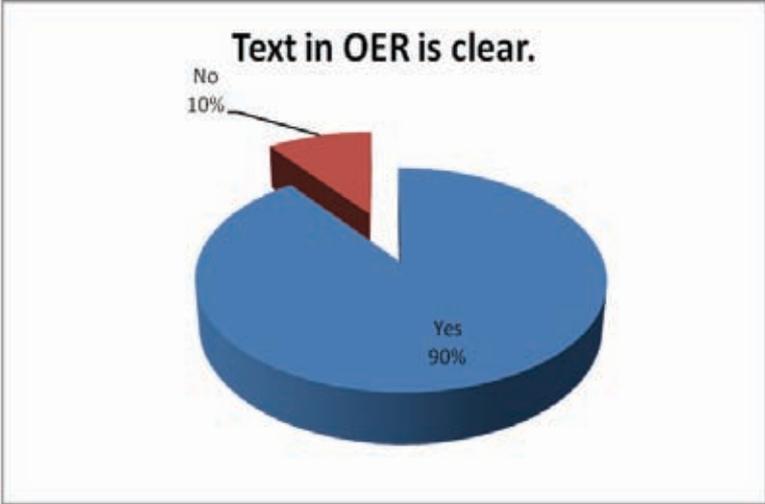
Question no. 4. Picture in OER is clear
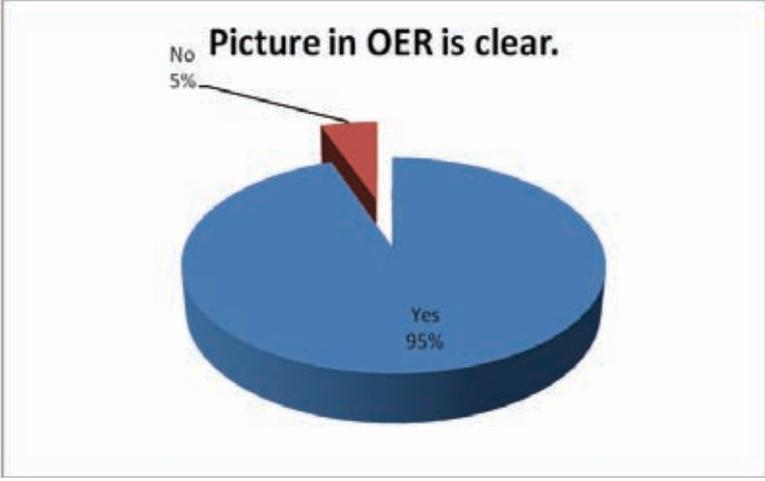
Question no. 5. Color in OER is interesting
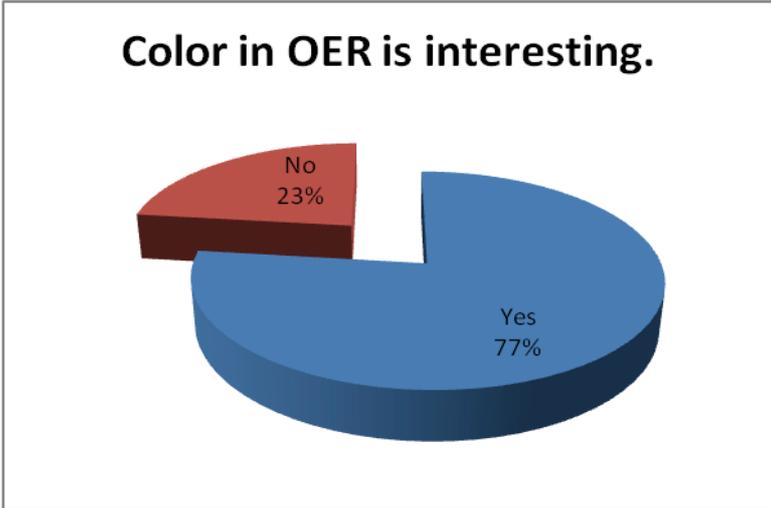
Question no. 6. The use of text and font in OER is appropriate
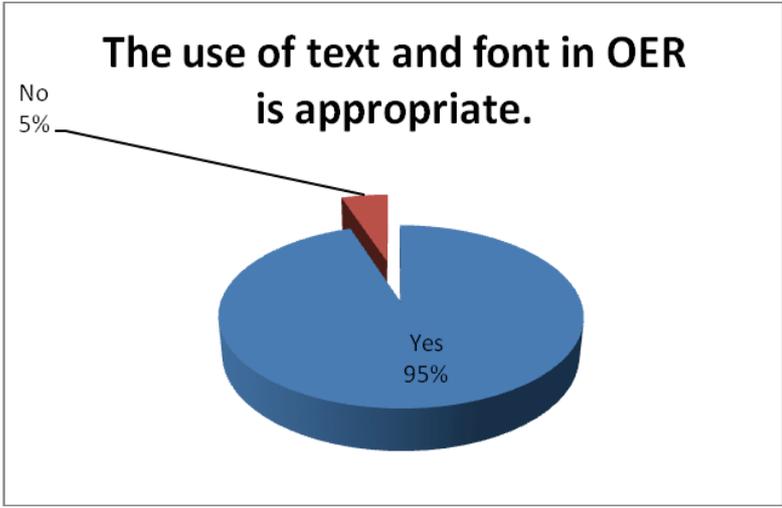
Question no. 7. Audio in OER is clear
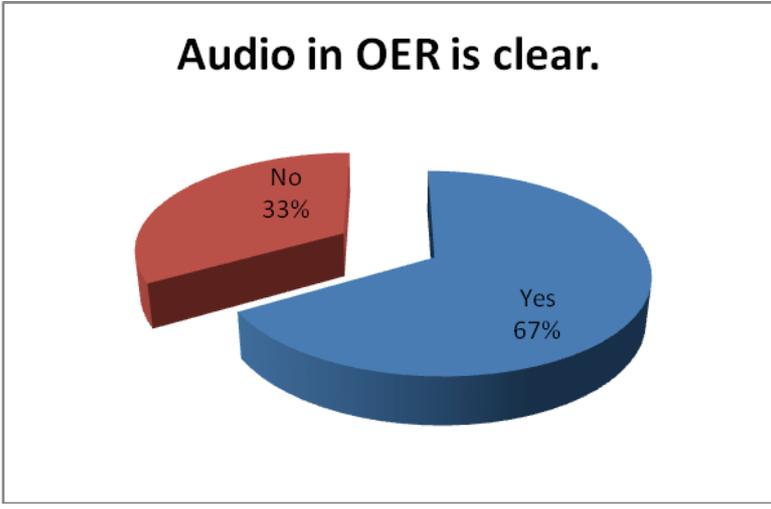
**Question no. 8. Pronunciation by the speaker in OER is clear**
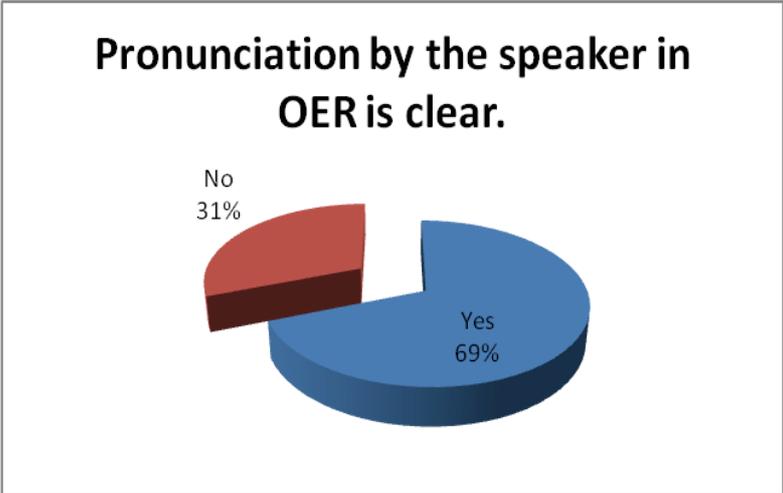
Question no. 9. OER in English is very easy to understand

Question no. 10. OER is useful for me to understand the topic
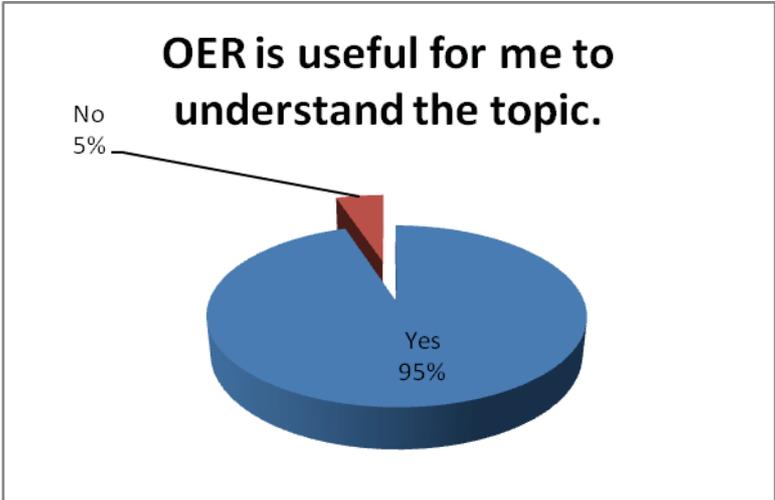
Question no. 11. I've got difficulty while downloading the OER
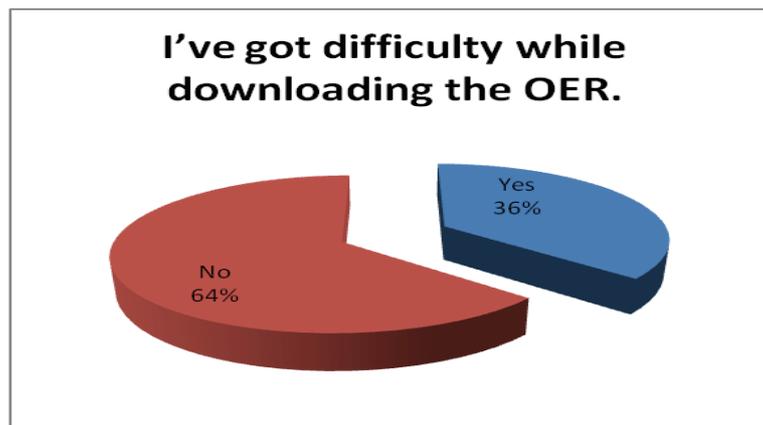
From the students' answers there are some important points that can be used as a basis for decision making policy related to the field of e-learning. For the first question, how many times students access internet or e-learning, most of students answered 2-3 times a week (46%).

This number showed that students learn the e-learning every two days average. This indicates a good condition for the students to learn independently. This condition can be retained and improved by providing e-learning with some interesting materials and also increase students' participation in discussion.

The next question, it's found that home was the preferred place for students to access internet (57%).

This indicates that students learn during their spare time at home. This means that students have enough time to study, so tutor can enrich the e-learning with variety media, for example video as a means for students to learn the material. Because students have enough time to study, they also have enough time to watch the video. Other important results are OER is interesting and the quality of OER (video, text, picture, color, and audio) is good.

Most of students also answered that OER is useful for them to understand the topic. Therefore, tutor should enrich the e-learning materials with OER because the OER can help students to learn and understand the topic.

Besides all of the advantages of OER in e-learning, there was also a weakness of OER in e-learning. For the OER in the form of video, students found it's very difficult for them to understand video in English.

This difficulty was also experienced by the tutor, because it's very difficult too to find OER in the form of video in Indonesian. To overcome this problem, tutor should provide the translation of the video, so students can understand what the video is about.

In addition to quantitative analysis, qualitative analysis was also conducted to find out more about the utilization of OER for students. There were 3 questions of this qualitative analysis to find out:

> ➢ why video was selected as the most preferred OER by students;
> ➢ the advantage of OER; and
> ➢ the disadvantage of OER

Question no. 1. Why video was selected as the most preferred OER by students

Some students answered that by watching the video, they can see the examples of a topic they are studying in a real case. Operations management is a course that is mostly talks about techniques in producing a product.

By providing students with video of how to produce a product, they could understand the topic easily.

Some students also answered that by watching video while learning a topic, it is more attractive, avoid boredom, rather than only reading text.

Question no. 2. The advantage of OER

Some students answered that the advantage of OER is can enhance their abilities in using internet, especially the facilities in online tutorials (e-learning).

The students also answered that one of the advantage of OER was to help them to learn faster than reading a textbook.

Question no. 3. The disadvantage of OER

Some students answered that one of the disadvantages of OER is if the OER is a video, sometimes the quality of video and audio is not good. They also answered that they have difficulty when watching video in English.

CONCLUSIONS AND SUGGESTIONS

The aim of this study was to gathered student's perceptions of utilization OER in e-learning. From the discussions, there were some important points related to utilization of OER in e-learning. Video is the type of e-learning materials that is the most preferred by students.

According to UT's students, by watching video, they can see the examples of a topic they are studying in a real case. Some students also answered that by watching video while learning a topic, it is more attractive, avoid boredom, rather than only reading text.

Another result was the fact that most of students preferred to study by e-learning from home.

For open and distance education students, home probably is the nicest place to learn, especially while they learn via e-learning.

From these results, we can draw the conclusion that for open and distance education students, of course, there are some differences from convenience students. Students of distance education system must be able to learn independently, that's why they need a lot of learning supports and also places where they feel pleasant to study.

To support students on learning, the suggestions below might be needed. Video has founded as the most preferred material by students.

As the institutions of open and distance learning, UT must provide this kind of material to enhance student's desire to study independently.

The number of video materials should be adjusted by the number of subjects or course so can make it easier for students to learn. Home was founded as the most pleasant palace for students to study independently.

To support that, distance education institution should provide a range of learning support services, probably will be better if most of them are videos.

Examples of the use of OER in e-learning at Universitas Terbuka as follows.

EAPCC CEMENT MANUFACTURING PROCESS
(PROCESS FLOW)

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REFERENCES

Arendt, A.M., & Shelton, B. (2009). Incentives and disincentives for the use of open course ware. *International Review of Research in Open & Distance Learning, 10 (5)*, 1-25.

Bissell, A. N. (2009). Permission granted: open licensing for educational resources. *Open Learning, 29(1)*, 97-106.

D'Antoni, S. (2009). Open Educational Resources: reviewing initiatives and issues. *Open Learning: The Journal of Open, Distance, and e-Learning, 24(1),* 3-10.

Guri-Rosenblit, S. (2005). Distance education and e-Learning: not the same thing. *Higher Education,* 49(4), 467-493.

MacDowell, E., A. (2010). Using open educational resources to help students understand the sub-prime lending crisis. *Journal of Business Education*, **3(11), 85-92.**

Ormrod, J.E. (2008). *Educational psychology: developing learners (5th ed.)* **Uppersaddle River, New Jersey, NJ: Pearson/Merrill Prentice Hall.**

Rosenberg , M. (2001). *E-Learning: strategies for delivering knowledge in the digital age*. **New York: McGraw-Hill.**

Ruiz, J., G., Mintzer, M., J., & Leipzig, R., M. (2006). The impact of e-learning in medical education. *Academic Medicine,* **Vol. 81, No. 3.**

Steinweg, S. B., Williams, S. C., & Warren, S. H. (2006). Reaching through the screen: using a Tablet PC to provide feedback in *online classes. Rural Special Education Quarterly, Vol. 25, No. 2,* **pp. 8-12.**

UNESCO (2002). UNESCO Promotes new initiative for free educational resources on the internet. http://www.unesco.org/education/news_en/080702_free_edu_ress.shtml (Accessed 26 March 2014)

Yuan, L., MacNeill, S., & Kraan, W. (2008). Open educational resources – ppportunities and challenges for Higher Education. http://wiki.cetis.ac.uk/images/6/6d/OER_Briefing_Paper_CETIS_without_recommendations_with_cover_page_.pdf **(Accessed 26 March 2014)**