CRITICS AND SUGGESTIONS FOR GPO IN SCIENCE TEACHING A FREE ONLINE RESOURCE FOR TEACHERS IN INDONESIA IMPLEMENTED BY UNIVERSITAS TERBUKA

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Abstract

Science should be taught in certain ways in order to lead and encourage students to get the optimum results in education. The use of best practices in teaching, especially in teaching science in the mode of streaming has been implemented in Universitas Terbuka not only for its students but also for all of the teachers in Indonesia and around the world. A survey of the Guru Pintar Online (GPO) products with a number of experts was conducted to get the issues how to improve the contents and the techniques the online teacher resources.

The GPO is an outstanding resource especially for teachers who deserve the results for their students in understanding science and other subject matters. There were three main issues need to be improved, such as limitation the introduction by the presenter, the use of the appropriate material to focus to the concepts promoted, and some new techniques to minimize the high resolution of the internet connections.

Some examples of the GPO products were played, observed, and discussed. Other international best practices streaming teaching products were also played, observed and discussed. Some findings to improve the GPO products need to be implemented was the most important issues in this survey.

Keywords: Science, teaching, online resources, streaming..

1. INTRODUCTION

To oversee the implementation of the Act No: 14 of 2005 on Teachers and Lecturers, the Government of the Republic of Indonesia through Kemdikbud (Ministry of Education and Culture) in collaboration with the government of the Netherlands and the World Bank since 2006 has developed programs to empower teachers through the program BERMUTU (Better Education through Reformed Management and Universal Teacher Upgrading). Basically the program aims to improve the professionalism of teachers as outlined in the Act referred to. At increased professionalism of teachers expected to obtain benefits in improved performance of teachers who subsequently impact on the improvement of student achievement.

To supportthedevelopment ofteacher performance, amongthe efforts isto producea varietyof learningtools, such as in the form ofelectronic mediaknown as"streaming video". Furthermore, the electronic teaching materials disseminated to teachers especially those arriving in the region BERMUTU program as a supplement to the printedlearningmaterialproducedbyfourP4TK(daanDevelopmentCenterteachers and Empowerment) IPA(Natural Sciences) IPS(Social Sciences), Mathematics, andlanguage. With the electronic learning materials that will be enriched both teacher training materials and method she taught learning. Distinctive advantages of electronic media-based learning are the increasing number of targets and the broader area of coverage, the cost of which is relatively more efficient.

Technically and academic production of the video streaming the system implementation is entrusted to Universitas Terbuka (UT)(Open University) based on thesuitability ofduties and functionsas well asitsexperienceandexpertise. In addition, the agencyhas hada networkthroughout theterritoryof the Republic of Indonesia. With these advantages, it is expected the development of instructional material sin the form of streaming video effectively and efficiently established.

In connection with the production of the video stream by the UT, Directorate of Primary Education P2TK who carry out the task of the PCU (Project Coordinating Unit) BERMUTU program deems necessary to complete the process with the first stage of Product Trial . This stage is an integral part of the quality assurance professional development of teachers through the program held by BERMUTU.

Overview of Universitas Terbuka (www.ut.ac.id)

Universitas Terbuka (UT) is the 45th State University in Indonesia inaugurated on September 4, 1984, by virtue of Decree of the President of the Republic of Indonesia No. 41 of 1984.

2. UT'S LEARNING SYSTEM

Applies a distance and open leaning system. The term distance means that learning is not performed face-to-face, but makes use of media, whether printed media (modules) 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 (SMA or equivalent).

3. LEARNING METHOD

UT students are expected to learn independently. This self-learning method means that a student learns on his/her own initiative. UT provides learning materials specifically designed for independent learning. Aside from using materials provided by UT, students can also take the initiative to make use of the library, take tutorials, whether face-to-face or through the Internet, use radio or television broadcasts, or uses computer-assisted learning materials and audio/video programs. When faced with difficulty in learning, students can request for information or tutorial assistance to the local Learning Program Unit of the Distance Learning Open University (UPBJJ-UT).

Universitas Terbuka provides open learning resources or *UT's-OER* for its students and community. This OER would help teachers in Indonesia and around the world to get a free educational resources.

Figure 1. UT's-OER sites

GPO or Smart Teachers Online, this website provides information about the world of education and learning you who are teachers or educator sat various levels, both early childhood education, elementary education and secondary education.

In many instances, independent learning is determined by the ability to learn efficiently which depends on speed reading and the capacity to grasp the materials. UT students who want to learn efficiently need to have self-discipline, initiative, and a strong motivation to learn. Students are also required to use their time effectively so that they can study regularly according to their own schedule. To learn successfully at UT, prospective students must be prepared to learn independently. (www.ut.ac.id).

Regarding the use of printed material for UT's students, Dimyati and Budiastra (2013) cited their findings regarding experts and students comments on UT's 2nd Basic Physics, 2007 edition printed materials.

Recommendations from the physics experts

1. The 2nd basic physics FKIP UT is already good and comprehensive content if the terms of the substance of the matter , systematic presentation is good enough .
2. It needs improvement in image quality , layout , and color .
3. Examples of matter and its completion is still a bit and need to be emphasized on the areas of knowledge and the difficulty level has not varied . Examples should be propagated to the applications .
4. Contents and sample as well as the application of physics concepts in the modules still need to be improved in accordance with Science Technology, Engineering, and Machines (STEM) .

Recommendations from UT's students

1. The 2ndBasic Physics FKIP UT still not much help understanding the concept comprehensively . Students tend to only read the summaries , example problems and solutions .
2. Preferably UT's printed materials should like the physics books overseas, such as Physics - Matters publications from Singapore , and Physics by Gilancoli .
3. Layout , fonts , images of the original color of the object of interest , including the selection of a font that is not tiring the reader
4. Important concepts should be in link with applicable explanation in the application of the concept of industrial products items every day.

Regarding the workshop, the purpose of convening workshops Electronic Test Products Learning Tool " Video streaming " production of the Open University Teachers in The Objective of this program is as follows BERMUTU this .

1 . The Main Goals :

Completing a series of electronic learning materials production process with quality assurance institutions .

2 .The specifics goals :

1) Obtaining the results of testing the quality of streaming video produced by UT to BERMUTU program in terms of aspects ; Training Methodology , Substance , Media Technology .
2) Obtaining a number of recommendations to UT as an input in improving the quality of the resulting video stream to BERMUTU program

Methods the Implementation Session

In conducting each session used a combination of methods that assessed in accordance with the substance and the characteristics of the material covered. Themethodincludes:

1) InteractiveLectures
2) Focused Group Discussion
3) Questions&Answers
4) Provisionof DutyIndividually
5) TheTaskGroup
6) ExposureGroup

The workshop was held on31October2013-2November 2013, at the Hotel Yasmin Karawaci.

The Participants were come from the stake holders established, they are: the representatives of social science group, primary science group, elementary school groups, mathematics groups, English groups, Universitas Terbuka (UT) representatives

Facilitator and Committee

Facilitators and organizers that will help speakers and participants in the activities of each session consisted of ; individual consultants and staff structural BERMUTU Program of Work Unit Center , Department of education and culture office representatives , and the Department of Provincial / District / City BERMUTU Program partners are considered to have competence in accordance with the needs of the organization of activities . The number of facilitators and organizers tailored to the needs and regulations of the management activities of government agencies.

Financing

All costs required for the workshop is assigned to the Directorate of DIPA P2TK Basic Education in 2013 specifically allocated for implementation of program activities of BERMUTU.

Results of the workshop

The followings are the findings which need to be follow up to improve the quality of the video streaming materials produced by Universitas Terbuka:

1. Video learning should be directed to show learners actively in the learning process so that it can be a reference for other teachers.
2. Video learning should be expected to show the interaction of learning so that learners Active, creative, goals achieved, and happy students in learning .
3. The use of strategies, models, approaches, methods, and techniques of learning should be varied to some streaming video produced by the Indonesia Open University (UT) , and more specifically the variation in scope lesson .
4. Seating arrangements for the learners varied to some video produced by UT, and more specifically the variation in scope lesson.
5. Instructional video should demonstrate the use of teacher and student voices can be heard properly and clearly by all learners.
6. Instructional video should show the variation of reinforcement and feedback by the teacher to the student responses in the learning process.
7. Instructional video should show the role of the teacher directs the students to be able to ask and express their opinions.
8. Teachers should provide apperception to bring an interesting phenomenon and make learners amazed and find out what brought on by the teacher. This phenomenon may be a story, a picture, or a tool that should be close to the everyday life learners. And also related to the learning material that will be taught. The presentations of the students are expected to provide feedback and ask questions. Which ultimately will deliver teacher "Now, therefore, we will learn about ..... > "

9. The core learning steps should include exploration , elaboration , and confirmation , as well as the scientific method to observe , ask , try , reasoning , and create.
10. Achievement and the acquisition of knowledge by learners should be through the use of scientific methods which are also expected to direct the behavior of learners.
11. Many teachers cannot teach the material to optimize all of the potential that exists in the environment.
12. Video streaming can also be directed towards a set of micro skills such as variations in student seating , use of learning strategies with regard to methods , approaches , or a particular model , or also the skills to observe, ask , try , reasoning or create.

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