Engaging E-Lectures Blended Course with Problem Based Learning Activities at a Developing University

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Abstract

The research setting for much of the investigation of the mixing e-lectures blended with Problem Based Learning is in English Department of Ma'arif Nahdlatul Ulama of Kebumen (UMNU). The research focus is on expending technology e-lectures to maintenance the student of English Department blended Problem Based Learning (PBL), which the participants assumed in cooperative groups. Video-based e-lectures offer interactive learning and more bright and adapted forms of self-regulated learning. Participants learned from both a video-based e-lecture with synchronized written transcript of oral presentation (multimodal) and an e-lecture without the transcript (unimodal presentation). Learners could be categorized as "repeaters", whose main focus was on th e lectured material, or as "surfers," who consumed less time on the lecture itself and as an alternative used the optional links. The Student of English Department was conveyed using a blend of face-to-face and online Problem-based Learning. By exploring key proficiencies concerning the integration of a variability of learning technologies in these courses an exertion is being made to control how the teacher's role can design for effective integration of technology into the curriculum. While a blend of new media can suggestion significant occasions for lecturers in higher education, this can also be a discouraging obstacle for strangers. Subsequently it is expected that what is presented here in terms of the capability from these courses, can contribution academic staff in feeling at easiness with using a variety of learning technologies to support e-lecturer and Problem-based Learning and reproduce that in their own teaching practice in their disciplines. Results showed that the learning outcomes were significantly influenced by learner strategy (with repeaters outclassing surfers) using a range of learning technologies to support e-lecturer and blended Problem-based Learning, but not by performance modality (with or without written text)..

Keywords: E-lecturer, Problem Based Learning, Multimedia Learning Activities, Learning of Technology

Introduction

"*When learning is conceived as a holistic adaptive process, it provides conceptual bridges across life situations such as school and work, portraying learning as a continuous, lifelong process… learning is the process whereby knowledge is created through the transformation of experience*."

David Kolb (1984)

Based of the statement that proposed by David Kolb above, here the writer will discusse about the Education, Lectures and Problem Based Learning (PBL) especially in English Department at Campus UMNU are located in the kebumen, precisely on. Jl. Kusuma no.75. It is the newest one of the University in Kebumen where there was not university before. The location of UMNU is easily accessible to public transport.

UMNU has four faculty, they are Faculty of Engineering, Faculty of Agriculture, Faculty of Math and Science, dan Faculty of Teaching and Education knowledge (FKIP). One of the major which will be analyzed for this study is English Teacher Training and Education which is belongs to Faculty of Teaching and

Education knowledge (FKIP). In recent years, colleges have become progressively concerned with the issue of advisory and (re)essential the aims, intents and methodologies applied to development education. As the newest university in Kebumen, UMNU has prerequisite to train executives in control of teacher especially in Problem-Based Learning. Thus, the ordinary communities (lecturer) are the final receivers of this aptitude building process. For this reason, the content of this controller has been simplified; with importance placed on the aspects that are of practical significance for the establishment of the Problem-Based Learning system at local level. Of course, facilitators are strongly stimulated to expand on it by drawing on their own experience or through textual research.

English lecturers at UMNU have lack of experience through the ability on their teaching. But actually the situation is the faith on lectures is the most obvious example of the problems troubling education. Lectures are so ineffective that would feel irrational describing their insufficiencies if they were not so pervasive. Everyone knows the basic lecture model: teacher outlooks at the front of the room, while students sit silently taking notes. At university there is no effort to masquerade this model. With admission for some classes in the hundreds, there is little casual to do much else. A walk through the rooms of any high school will confirm that lecturing is the principal model there as well.

The main problem with lectures is that they are essentially ineffective because they consist of groups. Students take to class different backgrounds, experiences, interests, and skills. It is impossible to meet the optimum learning bound of all students because one teacher cannot distribute lots of customized lessons concurrently. Nowadays many educational institutions offer e-lectures to their students. An e lecture can be definite as a media based lecture entering an audio or video recording, synchronized slides, table of contents and optional complementary information (e.g., external links). An e-lecture can be presented with all relevant learning materials in one integrated learning environment. It can be distributed and viewed live or selected from an archive. It could be distributed and viewed live or decided on from an archive. however, they are able to look very distinctive. some of them encompass a video of the lecturer. other e-lectures provide simplest audio recording. maximum of all, an e-lecture includes slides with relevant factors noted with the aid of the lecturer. In handiest few electures you can actually discover a written transcript of the oral presentation. this newsletter will present sorts of a video-primarily based e-lecture, one with synchronized text and one without

textual content inside the e-lecture. we can gift the layout of these two e-lectures considering academic layout principles and results of an experiment. The query could be spoke back whether mastering results are laid low with the different design of the e-lecture or the mastering strategies utilized by college students. Primarily based on those results relevant elements for getting to know with e-lectures are discussed. on this observe. two models e-lecturer combined with face-to-face changed into followed. A popular implementation of the model includes conducting the focal occasion face to face (F2F) and dividing the relaxation of the educational time among on line "earlier than" and "after" sports. This establishes cohesiveness via the "earlier than-during-after" linking of the occasions and supports flexibility by using creating a large part of the studying revel in to be had on-line.

Literature Review

E-lecturer

Digital lectures increase learning flexibility as students can easily access online material and reuse it as needed. Technological advances support the efficient development of digital lecturing material by making widely available both the necessary hardware (e.g. Joukov et al., 2003) and the appropriate software for easily viewing digital lectures. An oral lecture presented in a lecture hall can be recorded and made available over the Internet. The learners have access to its content "on demand", independent of time or location. E-Lectures can be used very flexibly. Students can easily access learning material and reuse it at any time (Demetriadis & Pombortsis, 2007). The lecture can be divided into sections and displayed in a table of content. Therefore user can select or repeat a specific topic of the presentation according to their individual motivation, interest or prior knowledge. Navigation buttons like play and pause offer learners interactivity. E-lectures are characterised by dynamic presentation and different presentation modes. Therefore, an e-lecture is a more vivid and personalized form of self-regulated learning than a hypertext learning environment. The disadvantage of this kind of learning is the lack of immediate teacher-student communication (Demetriadis & Pombortsis, 2007), and no interaction with other students or the teacher to clarify questions is possible. The lack of feedback and higher degree of intrinsic motivation and self-regulated learning are also relevant aspects for learning with e-lectures. In the context of this work, we use three different terms to classify the various formats of technology-delivered lectures.

Digital lecture: any lecture delivered through digital technology, either online (synchronously) or on demand

(asynchronously). In the former, students attend, from a distance, a live lecture transmitted to them through network services, while in the latter, a digitized version of the lecture is available via streaming technology or optical storage media (CD, DVD). Digital lectures can be captured either "in vivo" or "in vitro" (Wofford et al., 2001, see below).

Live digitized lecture (LDL): any digital learning resource that captures the experience of lecture-based instruction in the classroom, with students participating ("in vivo"). An LDL is simply a digital version of the live event (the instructor addresses the students who are physically present in the classroom).

e-Lecture: any digital learning resource in lecture format, captured in the studio ("in vitro") with only the necessary technical personnel and with the purpose of engaging students in e-learning experiences. The lecturer addresses a virtual audience, that is, the students who will potentially attend the lecture at a later time. Distinguishing between LDLs and e-lectures is essentially a socio-cognitive issue rather than a technical issue. The reason for making the distinction will become evident later in this article.

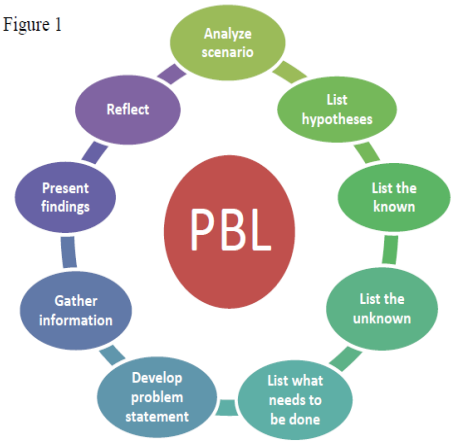
We also make use of the "flexible learning" and "blended learning" notions:

Flexible learning: Learners are offered a variety of options for personalizing the learning experience based on their specific needs and preferences. To increase flexibility, therefore, means essentially to overcome obstacles emerging from the rigidity of traditional forms of education by enabling learners to select what is best for them with respect to key dimensions of learning (Collis & Moonen, 2001).

Blended learning: Activities that combine classroom learning with web-based instruction (Whitelock & Jelfs, 2003). It is not, however, the simple aggregate of face-to-face and technology-enhanced learning. Instead, blended learning emerges from the functional integration of the two instructional modes, which in practice means that "blended learning courses have the potential to offer the convenience and flexibility of online courses yet still maintain the interactivity and face-to-face contact offered through traditional courses" (Jones et al., 2003, p. 43).

Problem based learning (PBL) is an instructional approach where students learn by solving challenging, open-ended problems. The problems are authentic tasks and are solved in socially and contextually based teams of students. The students rely on their current knowledge of the problem, identify "information they need to know to solve the problem, and the strategies they use to solve the problem" (Stanford University Newsletter on Teaching, 2001).

Figure 1



The Study

Participants

Considering the advantages of e-lecturer, this section will share two classroom practices that involved the application of e-lecturer These practices were directed to a group of English students which consisted of youths and adult beginners, aged 18–23 years in Ma'arif Nahdlatul Ulama University. It is important to note that the students have very few opportunities to practice English outside the

classroom as the English -Writing community in the city is very small. In addition, the students have never been to any English-Writing community because they lived in remote area. These practices were carried out in a classroom university where writing is a compulsory subject. In this university, the writing course consists of 16 meetings including mid and final examination. In the context of learning English as a foreign language, the amount of time allocated is insufficient for an environment that lacks natural exposures to achieve authentic

Research Instrument

Research instruments used in this study were questionnaire and interview. The questionnaire was used for the mentor teacher-participants to assess the student-teachers' qualifications as an EFL teachers. Principally, the items constructed in the questionnaire were based on teacher qualification standard stated in Minister of national education Regulation no. 16, 2007 and from the sources used in the theoretical review above. In the questionnaire, there are five competences used as a standard to look at the student-teachers' qualification. i.e, pedagogical knowledge, pedagogical skill, personality competence, social competence, and professional competence.

The questionnaire was divided into two parts. The first one is close-ended items in the form of Likert scale which was used to assess student-teachers qualification as an English Language teacher. The second one is open-ended items used to find out the reationale of giving such evaluation in the close-ended items and to find out what the participants think the Department can do to improve the student-teachers' qualification. The second research instrument was interview. This was used to dig out further information about the

participants' answers as stated in the questionnaire. To be more convinient for the participants in expressing their ideas, the questionnaire and interview were designed in Bahasa Indonesia

Data collection and analysis Procedures.

As the first step of collecting data is preparing and piloting the questionnaire. It was piloted to two lecturers whose major is in Teacher Education program. Secondly, it was distributed to the participants and collected back right after they finished completing the questionnaire. Thirdly, an interview was done to seek more information or to clarify unclear statements. After all procedures are done, the data was analyzed. The answers in the close-ended item part were counted to get the mean score of each type of competency. As for the open-ended item, the data were classified according to the emerging theme.

Beside, Content analysis was used to identify the learning strategies. The actions of the participants were recorded with a screen recording program (Camtasia recorder http://www.techsmith.com/camtasia.asp). All mouse movements, navigation action and the use of links and table of contents were recorded. Based on these log-files, a detailed transcription of the learners` behavior was made. The following categories were used to analyze the transcript and thus to identify the learning strategies: segments of uninterrupted viewing, repetitions, interruption, use of table of contents and use of external links.

After coding the transcript, the data were analysed by the following criteria: how often and which repetition strategies were used, how often and how long links were used and the interruption of the lecture through external links were analysed. With this method, two different learning strategies were identified, namely "repeater" and "surfer". Repeaters were characterized by a primary focus on the given lecture material. They studied the lecture extensively through repeated cycles. Only three or fewer links were used for more than 20 seconds. Participants first watched the lecture with no or only short interruptions and then repeated some sections or chapters when they had finished their first run of the e-lecture. Other subjects reviewed part of the lecture right from the beginning of the learning phase. The second type of learner, namely the "surfers," used bookmarks and links for accessing additional external information. Some participants paused the e-lecture to spend time focusing on the additional links. Others were distracted by the links and viewed the links without interrupting the e-lecture. Overall the focus was not primary on the e-lecture.

Table 1. Number of Participants

	Repeaters	Surfers
Multimodal presentation	5	6
Unimodal presentation	5	8

Finding and Discussion

A 2x2 (form of content x learner strategy) analysis of variance (ANOVA) was conducted (Bortz, 2005). These analyses revealed that the learning outcomes were significantly influenced by learner strategy ($F(1,24) = 5.16$, $p < .05$), but not by presentation modality ($F(1,24) = .54$, $p > .05$). In particular, "repeaters" outperformed "surfers" with regard to the knowledge test. No interaction between the two factors was found ($F(1,24) = .54$, $p > .05$). Participants in the unimodal condition did perform nearly as well as learners in the multimodal condition (Tab.2). These results support the first hypothesis, but the second hypothesis must be rejected. The additional text in the multimodal presentation did not hinder learning as postulated by cognitive load nor did it facilitate learning in terms of a multimedia effect. The learning strategies of the users played a major role for learning outcomes. Does the learning environment have any significant influence on which strategy (repeating or surfing) participants choose? To answer this question, a Chi-Square test was carried out. The test result showed that there is no significant connection between learning environment and the chosen strategy ($\chi 2 = 5,43$, $df = 2$, $p > .05$). Thus the applied strategy was not influenced by the given learning environment. The results show that the learning environment in which the learning content was presented (multimodal vs. unimodal) did not substantially influence the learning strategies of the learners.

Table 2. Means (M) and Standard deviations (SD) of learning

	Unimodal		Multimodal	
	Repeater	Surfer	Repeater	Surfer
M	7.20	5.50	7.20	6.33
SD	0.84	1.60	1.64	1.03

Discussion

In an experimental setting, participants had to learn either with a multimodal presentation or with an unimodal presentation. The multimodal presentation included an additional synchronized written transcript of the speaker. The unimodal presentation did not include this text. The results show that the usage of the e-lecture varied from person to person. Learners made use of the interactive possibilities of video-based e-lectures. Their actions ranged from very low activity to high activity in navigation. Some focused primary on the lecture, while others used the given links. Two main types of learners were identified, namely "repeaters" and "surfers". "Repeaters" outperformed "surfers": they showed better test results. Therefore, learning strategy was an important determinant of learning outcomes. In contrast, mode of

presentation did not have substantial impact on usage or learning outcome. These results are in line with previous findings (Zahn et al, 2004, Zhang et al, 2006). The results also show that the written transcript of the oral presentation had no effect on learning performance. It can be argued that especially for language acquisition the additional text is helpful, because the topic is not easy to learn. Being presented with learning material in a foreign language makes knowledge acquisition more difficult. Therefore, additional on-screen text may be helpful for learners. But subjects in the multimodal presentation with the on-screen text did not outperform participants who learned without the text. The on-screen text was synchronized with the slides and the lecturer. This means that the text ran at a default speed. Maybe it would be helpful for learners, that they can control the text speed. Another possibility is to make the text available as an additional document. Further research can clarify how an additional text should be presented to learners within an e-lecture presentation. The results presented in this article are based on an experiment. Learners were confronted with a time limit for preparation. The e-lecture was presented on CD-Rom. The presentation was not web-based. But the usual way to learn with e-lectures is web-based and therefore learners need high-speed Internet. Technical problems were excluded in the experiment but may affect learning in real learning situations. For further research it will be interesting to determine whether scaffolding students in using learning strategies has an impact on successful learning. Maybe some prompts in the e-lecture are helpful to enhance the usage of cognitive and metacognitive strategies. Another research focus can be the investigation of the relevance of self-assessment possibilities after an e-lecture presentation. E-lectures offer a lot of flexible learning possibilities, but there is little research about the design and adequate usage for effective learning.

Conclusion

This study provides evidence that e-lectures can be safely used as students' introductory learning material to increase flexibility of learning blended with problem based learning, but only within a pedagogically limited perspective of learning as knowledge acquisition (as opposed to construction). It also highlights the fact that the availability of the e-lecture in combination with the spatiotemporal separation between study and review activities results in a lower level of teacher-student dialogue in face-to-face way, which nevertheless did not influence the students' performance. Based on our experience, we argue that the adoption of e-lectures should be explored in close relationship to promising models of course/session re-engineering that (a) foster

instructional cohesiveness by integrating the various learners' options as interconnected nodes of a productive learning network, and (b) efficiently match the attributes of the used media to the sociocognitive conditions favorable to any specific learning activity.

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