
PROJECT-BASED LEARNING IN INSTRUCTIONAL MATERIALS AND MEDIA DEVELOPMENT CLASSROOMS

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ABSTRACT

Prospective English teachers found that selecting or designing instructional materials and media was burdensome due to their lack experiences. They need to enroll in a systematic learning model to develop relevant instructional materials and media. Project-based learning has been an effective learning model to develop students' skills in a specific content area. The nature of project-based learning to enable students acquire knowledge and give ample experiences in a reflective way supported English prospective teachers in instructional materials and media development (IMALD) classrooms to learn how to design materials and multimedia-based media for their future pupils. A case study was employed to investigate the implementation of project-based learning in instructional materials and media development classrooms. The stages involved in this study are, namely: 1) identifying the phenomenon, 2) identifying the research participants, 3) generating hypotheses, 4) collecting data, 5) analyzing data, and 6) interpreting data. Thirty five students were assigned to participate in this research and develop textbook as well as supplementary multimedia-based media following the steps in project-based learning comprising planning to develop textbook and multimedia-based media, monitoring, scaffolding, adjusting or troubleshooting strategies, assessing students and evaluating projects. The result of this study was the final product in the form of textbook and multimedia-based media to teach English for students in elementary school, junior high school and senior high school. Moreover, project-based learning made students in IMALD classrooms became more contented and motivated in designing instructional materials and media for teaching and learning purposes by integrating their knowledge of materials development and computer software application.

Keywords: textbook; IMALD classrooms; multimedia-based; project-based learning

INTRODUCTION

Becoming an English teacher is a noble profession yet laborious for inexperienced teachers who are new to the education field. There are many responsibilities to be carried on such as planning the lesson, designing instructional materials and media, teaching as well as assessing learners' performance. Every so often, teachers that are just starting out have some technical problems on the first year of teaching in selecting the most appropriate materials and media for their learners. Besides, the era of digital learning requires language teachers to creatively support instructional materials with technology-based media to interact students' interest. Teachers are able to make the biggest impact on students' learning by integrating technology into their teaching (Hughes, 2004). In fact, this condition is not easy for those who are new to teaching. A huge amount of time is needed to select or supplement materials

which conform to the syllabus and provide media with learners' proficiency level along with their interests. The more detailed the teachers can develop materials that fulfill the students' language needs, the better interference on students' language mastery (Lucas, et.al, 2010). Therefore, prospective English language teachers must acquire skills of designing relevant instructional materials and media for their learners.

Skills in designing instructional materials and media were maintained for prospective teachers in compulsory course. The course activities are arranged through project-based learning (PBL) method for more structured activities planning. The activities includes learning the principles of material and media design, doing needs analysis, drafting, conducting try-out and revising and finalizing textbook and media as well as giving the textbook and media to schools which need supplementary English materials. PBL is a current trend of learning method that allows students get the most learning outcome through in-depth investigation process on the topic (Bas & Bayhan, 2010). As this learning process essentially contributes much to succeed the 21st century learning and prepares the prospective English teachers' skills, this present study was undertaken to look at how teacher candidates in English Education Department conquered the whole stages of project-based learning model to design instructional materials and media and what learning experiences were gained.

THEORETICAL FRAMEWORK

The ability to design instructional materials and media for teaching and learning language becomes a challenge for teachers at this digital age. Language teachers should put a careful thought to provide the most suitable materials and media in classrooms. They need to be aware of some criteria to design instructional materials such as learners' needs, learning styles, proficiency levels, language teaching methods, classroom contexts and potential of materials to generate learners' motivation, variety and interest (Rubdy, 2003, cited in Tomlinson, 2014, p. 38). The more criteria fulfilled in designing materials will foster the most successful language learning. Learners also enjoy meaningful, engaging and technology-intensive learning environment. The technology supports, for instance, the use of multimedia-based for learning likely promotes more comprehensive and structured knowledge for language learners. Yet, not all language teachers are able to create such media due to limited knowledge of instructional multimedia development.

The term of instructional multimedia is interchangeably used as learning materials and the media to support learning materials. However, this study implies instructional multimedia as the media to go with textbook. Multimedia includes static text, animated text, sound, voice, video, animated graphics, and still graphics such as photos, illustrations, diagrams, icons, maps, etc (Derewianka, 2003, cited in Tomlinson, 2014, p. 200). Teaching English using multimedia brings significant effects to students because multimedia learning can create an authentic language teaching and learning environment. Students are easily able to acquire language naturally and effectively in this kind of learning setting. Therefore, English language teachers are encouraged to make the most of multimedia for learning purposes. Apart from the vital role of multimedia, the availability in the market is not usually free access. Even if it is available, sometimes the content does not meet the syllabus demand

at school. Consequently, prospective teachers also need to design their own multimedia and textbook that conforms the syllabus.

Textbook as the main learning source at schools does not always satisfy teachers and learners for some possible reasons. First, some published textbook for classroom used do not have audio recording or video for listening practices other than the teachers' voice. Learners can improve their listening skills if they are exposed to more authentic listening materials such as video of English conversation using American, British or other accents. It provides perfect opportunities for learners to hear the target language in a more natural setting so that they can acquire good speaking habits (Harmer, 2007). Second, textbook's cultural content sometimes is unacceptable to some group of community. Teachers in this condition need to supplement the textbook with other relevant materials. This process of supplementing materials needs special skills to select and adapt the most appropriate content for learners. Hence, those who are studying in English education department must be trained well to design their own materials and media to cope with the fact that not all textbook can meet the demand.

Training prospective teachers in English Education department to design materials and media is such a complex process. The learning process must be systematic, worthwhile, practical and engaging. Teacher candidates must be facilitated to understand concepts and experience the process of materials and media development. The project-based learning model is a viable alternative to teach concept in a meaningful learning environment. Students not only learn the content material but also develop basic skills and virtues for real life setting (Castañeda, 2013). They are exposed to the situation in which they need to complete the procedures to design materials and multimedia for their learners in the future. Project-based learning allows students to develop skills gradually to produce the best materials and media for primary or secondary school learners. The final product is printed version of textbook and multimedia product. Students need to go through the stages of project-based learning within a semester.

Project-based learning has several stages to follow, namely: planning the projects, monitoring, scaffolding, adjusting or troubleshooting strategies, assessing students and evaluating projects (Mergendoller and Thomas, 2003). In this study, planning the projects includes determining the learning goals and objectives, set of classroom activities, references of theoretical basis for materials and media development and tools to help students in completing the projects. Once the plan was set up, students were divided into some groups and then they could start the learning process. Next stage was monitoring the students' progress in joining the classroom activities. Meanwhile, coaching and mentoring were given to students as part of scaffolding stage. When problems got on the way, adjusting and troubleshooting actions were required such as finding out possible solutions and alternatives. Then, the last stage was assessing students' work based on the scoring rubric. Some revisions on the product need to be done if errors were found because after that the products were given to schools which needed supplementary English materials. Finally, evaluating projects

became an important part to see the strength and weaknesses on the implementation of project-based learning in instructional materials and media development.

METHODS

This study employed case study research design. Case study seeks to develop in-depth study of a phenomenon in its natural context and from the perspective of the research participants (Gall et al., 2003). The research procedures to obtain the data are, namely: 1) identifying the phenomenon, 2) identifying the research participants, 3) generating hypotheses, 4) collecting data, 5) analyzing data, and 6) interpreting data (Cresswell, 2012). There were thirty five prospective teachers participated in this research. They took Instructional Materials and Development (IMALD) class in UIN Sunan Ampel Surabaya. They were grouped in seven clusters. This study was performed for months. The data were collected through observation on students' progress following project-based learning using video recording and interview students to dig deeper about gaining experiences during learning process.

After the data were obtained, the next stage was to analyze the data through categorizing and coding similar data into elements of project-based learning such as planning the projects, monitoring, scaffolding, adjusting or troubleshooting strategies, assessing students and evaluating project. In order to strengthen the credibility of the data, the researcher applied triangulation method by conducting interview to each member of the groups who had the same experiences in learning process. Next was interpreting the data by drawing conclusion from the data and describing it descriptively into a research report.

FINDINGS AND DISCUSSION

Project-based learning was an engaging learning model in IMALD classroom. Prospective teachers in IMALD classroom enjoyed the stages of learning from the beginning until the end of the semester. The stages of project-based learning are planning the projects, monitoring, scaffolding, adjusting or troubleshooting strategies, assessing students and evaluating projects. The first stage was planning the projects by setting the goals of learning, scheduling the time, arranging materials to learn for developing instructional materials and media and students' practices as the follow-up activities. The project orientation was enabling prospective teachers in IMALD class to produce English materials for certain school level using Microsoft Word and Adobe Photoshop as well as to develop multimedia in a CD/DVD using Adobe Flash CS 6. They learned kinds of currently used ELT materials and media, textbook organization, evaluation, adaptation, language content and skills, communicative textbook, needs analysis, and principle of using Adobe Flash CS 6. Every time students finished learning materials, there were concept checking point and practices on the principle of materials and media design. For example, when they learned textbook organization and evaluation principles, they selected available English materials from a certain school and then practiced to evaluate materials from appointed schools based on the criteria of a good textbook. Moreover, they also wrote the evaluation in a report.

The second stage was monitoring the students' learning progress in combination to the third stage, scaffolding. The students experienced difficulties in the beginning as they needed to learn a lot of concepts of materials and media development. Students mentioned that group presentations, quizzes and workshop in practice helped them understand each concept better. In addition, learning concepts in a fun way such as learning through running dictation, scavenger hunts and some other learning strategies could improve their proficiency skills in materials and media development. This condition actually in line to the statement that project-based learning is more efficient through varieties of scaffolding such as the use of learning aids, models, and training (Thomas, 2000). Meanwhile monitoring and scaffolding students, keeping records on students' skills improvement were done as ongoing assessment. When students found problems, they were encouraged to find the solutions by researching information on different sources and asking the lecturers. The process of finding out information and asking lecturers became the fourth stage of project-based learning that was adjusting and troubleshooting strategies. For example, students had a workshop on using Adobe Flash CS 6. There were many nontrivial problems encountered such as not being able to insert the texts, audio, photos and videos for multimedia. They kept trying to fix the coding on Adobe Flash CS6 until they succeeded. Students were feeling challenged with the use of technology in classroom. They felt proud of themselves when they could solve the coding.

The fifth stage was assessing students' work. Assessment in this research was done through ongoing process and the final product. The scoring rubric for assessment was announced to students in IMALD class at the beginning of the semester. Let the students know the score percentage and evaluation criteria can keep them stay on the right track. Moreover, they were motivated to create good quality of materials and media as they could choose on their own taste for the materials content and lay out design under the supervision of the lecturers. Students were given opportunity to communicate their ideas with the group members to decide upon selection on materials content and lay out design. Project-based can increase students interest because students' involvement in authentic problems, in working with others, and in building real solutions (Blumenfeld et al., 1991). Students were more responsible on their work because they were also assessed individually even though they worked in group. After they have gone through the process of assessment, they required to revise their materials. They would give the revision of materials and media to schools where they conducted needs analysis. They needed to choose schools which were poor in facilities and learning sources. This procedure also teaches them to take part on the community service. Community service learning allows students to combine between community service and academic study (Eyler, et al.,1997). This kind of learning environment initiates students' understanding towards social life. Students were expected to be aware of condition in their surrounding particularly in educational field later when they become teachers and part of the community. They were thankful for their life after they gave the materials and media to poor schools.

The last stage was evaluating the projects. Since the whole stages were important for students, any kinds of obstacles encountered during the implementation of project-based learning must be noted as a reflection at the end of the semester. The purpose of evaluation

is to bring a better change on the next project-based learning so the students can take the most advantage on the learning process. The learning process took a huge amount of students' time until the production of materials and media. Each group faced different problems and sometimes similar troubles. They consulted to the lecturers and met in person. This condition was very time consuming. The next project-based will be suggested to create online learning management system to put all the tasks organized, communicate with the students flexibly and keeping the students record in every progress they have made. This way will make a whole lot work easier. Another difficulty got on the way during the learning process was dealing with students' personal problems because they stayed in the same group for a quite long time until they finished the project. Last time, students were not allowed to choose their group members because it sounded unfair for those who did not really mingle with their classmates. The problems appeared when students gave up on the group members because they were lazy, irresponsible and ignorance. The final project did not look satisfactory for those who worked hard. Therefore, the next project-based learning will have a try on students choosing their own partner and keeping their individual portfolios to encourage students producing a better material and media.

CONCLUSION

The implementation of project-based learning in IMALD classroom resulted on students' ability in designing materials and media. The learning stages, namely: (1) planning the projects, (2) monitoring, (3) scaffolding, (4) adjusting or troubleshooting strategies, (5) assessing students and (6) evaluating projects bestow ample experiences among students, lecturers and social community. They were given freedom to choose their own path of learning and made their materials and media on their style even though some students' grumbled. Most learners enjoyed the process because of scaffolding stage and technology integration. They did a lot research independently from the concept to finalize their products. The activities in project-based learning also gave substantial influence toward students' character as learners and teachers to-be. They became more responsible for their individual and group work. Moreover, they were also trained to share to the community while enjoying academic life. This personal quality of course will make them become wiser teachers in the future. They were also encouraged to be more techno-geek to find alternatives of learning materials and media for their 21st century learners.

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