

Assessing Authentic Learning via Storyboarding: A Malaysian Perspective

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Abstract

Authentic learning provides an alternative way of delivering knowledge in a meaningful way. Therefore, authentic learning environment is seen as an important approach to promote meaningful learning. This study explores the learning process involved in the development of storyboard that occurs in pre-production phase which helps to identify whether authentic learning has taken place in the Educational Technology course at the Faculty of Education, Universiti Kebangsaan Malaysia. Project-oriented Problem-based hybrid e-learning strategy was used to deliver this course. Studies showed that the strategy promotes authentic learning, which leads to meaningful learning. In promoting authentic learning, there are nine key elements involved, which are (i) authentic context, (ii) authentic activities, (iii) expert performances, (iv) multiple perspectives, (v) collaboration, (vi) reflection, (vii) articulation, (viii) coaching and scaffolding and (ix) authentic assessment. However, this paper will only focus on three elements; (i) collaboration, (ii) reflection and (iii) authentic assessment, whereby data are collected from individual and group blog and being analyzed qualitatively. From the data, it was found that the development of storyboard in pre-production phase promotes authentic learning and positively impact student's learning and creativity.

Keywords: storyboard, project oriented problem-based hybrid e-learning, authentic learning

1. Introduction

Authentic learning is a learning concept that relates to giving and solving “real-world problems” to learners using role playing exercise, problem-based activities, and case studies (Herrington & Oliver, 2000; Chang et al., 2010). Herod (2002) further adds that implementation authentic learning is framed around real-life learning contexts and materials. By providing real-life or “authentic” context and materials that are meaningful to the learners, they would become more motivated and knowledge is processed in a deeper manner. In fact, learners immersed in authentic learning activities develop essential learning skills whereby they are capable to distinguish relevant patterns in unfamiliar learning context, the ability to distinguish reliable and unreliable information and are able to work across diverse disciplines and cultures (Chang et al., 2010). An interesting pedagogical strategy that applies the “real-world” problems is the Project-oriented Problem-based hybrid e-learning (PoPeye) strategy (Din et al., 2009; Norman et al., 2011) which is an extension of the Problem-oriented Problem-based Learning strategy (Dirckinck-Holmfeld, 2002; Dirckinck-Holmfeld, 2010). In the PoPeye strategy, learners are given a team project which is framed around open-based “real-world” teaching and learning situations. The learners then develop a solution with their team members collaboratively with minimum moderation from the instructors. As learners work in team and exchange ideas within and across teams, this would facilitated them to achieve a “shared knowledge” bank between themselves – which in turn increased their own level of learning and further lead to achievement of meaningful learning. As such, we have attempted to implement the PoPeye strategy in an education technology course at a local university which is aimed in integrating authentic learning to achieve meaningful learning (Din et al., 2013).

Educational Technology is a course offered for TESL trainee teachers in the second year of their studies at Faculty of Education, Universiti Kebangsaan Malaysia. The course is mainly aimed to expose trainee teachers with varieties of instructional media and integration of ICT that can be used for teaching and learning. Integrating ICT in this course has become a challenge for the trainee teachers especially for those without proper training and experience in using ICT tools. Trainee teachers are expected to acquire eight learning skills through

this course; i) knowledge, ii) practical skills, iii) critical thinking, iv) lifelong learning, v) communication, vi) social responsibility, vii) ethics, autonomy & professionalism, and viii) managerial and/or entrepreneurship skills. In delivering the course, learning-by-doing approach is seen as an ideal approach in order to achieve what the trainee teachers are expected to acquire throughout this course. It is believed that the trainee teachers are motivated by solving real-world problems rather than learning through the traditional way. To extend this approach, Project-oriented Problem-based hybrid e-learning (PoPeye) was chosen as a strategy to deliver this course, as it covers the five characteristic of meaningful learning (Din et al., 2013). Through PoPeye strategy, trainee teachers were given a group project to produce a video. The video production project consists of several phases which each group need to undergo. One of the phases is the “pre-production” phase that involves storyboard development. Through this approach it will help to promote authentic learning, which leads to meaningful learning. In promoting authentic learning as opposed to creating meaningful learning, there are nine keys of element that need to be considered in providing or creating such learning environment which are (i) authentic context, (ii) authentic activities, (iii) expert performances, (iv) multiple perspectives, (v) collaboration, (vi) reflection, (vii) articulation, (viii) coaching and scaffolding and (ix) authentic assessment (Herrington & Oliver, 2000).

In order to learn meaningfully, trainee teachers must be wilfully engaged in a meaningful task whereby the task that the trainee teachers pursue should engage active, constructive, intentional, authentic, and cooperative activities (Jonassen et al., 2008). Therefore, the trainee teachers that involve in this particular research were given more opportunity to engage and experience task that occurs in real-world video production in completing their task. The tasks include having a final video showcase besides preparing posters and brochures to promote their videos to the audience at the end of the course. Besides that, such tasks were also shown from storyboarding activity in pre-production phase, which is the primary focus of this paper. The trainee teachers were given tools to develop storyboard and script with less guidance from the instructor. Through storyboarding, it provides them with more choice of how learning should occur and makes learning becomes more engaging.

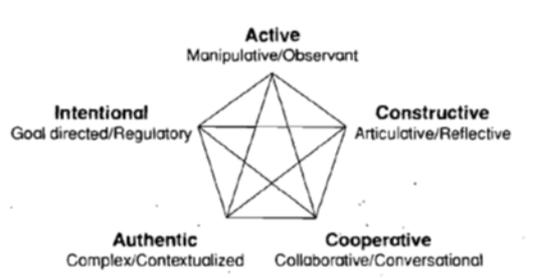


Figure 1. Five characteristics of meaningful learning

This paper will explore the learning process involved in pre-production phase of the course particularly in storyboarding activity. The exploration will help to identify if authentic learning has taken place in Educational Technology course at the Faculty of Education, Universiti Kebangsaan Malaysia. The course was tailored specifically to cater various learning style possessed by the trainee teachers in the Teaching of English as a Second Language (TESL) program. They are the second year trainee teachers who registered for Educational Technology course to fulfil the second year requirement for the program in Faculty of Education, Universiti Kebangsaan Malaysia.

2. Method

There are 32 TESL trainee teachers who are the respondent for this research and registered for the Educational Technology course in the year of 2012 session. The instructors for this study involved three educational technology lecturers and five postgraduate students. The trainee teachers were divided into groups of five to six people per group and were freely allowed to choose any topic for their video project. They were given less guidance on the pre-production process by the instructors and various media has been used as a medium of communication between the trainee teachers and instructors as well as to deliver some basic knowledge on pre-production process. Such media includes Facebook group, blog and videos on YouTube channel. Based on the resources, each group were required to develop a storyboard and script for their video project, and later on write reflections on what they have learnt during the activity.

Data was collected from the trainee teachers' reflection blog, both individual and group project and were analyzed to understand the pattern on how the learning occurred and to identify whether authentic learning has

taken place in the learning environment (Din et al., 2013). For the aim of this study, the data from the blog were grouped in themes based on; (i) collaboration, (ii) reflection and (iii) authentic assessment. For collaboration, Herrington and Oliver (2000) mentioned that learning environment should support collaborative construction of knowledge by addressing task to pairs or small groups rather than individual. For reflection, they mentioned that learning environment should promote reflection by providing opportunities for learners to collaboratively compare their work with others in order to enable reflection within aware attention. On the other hand, Herrington and Oliver (2000) address authentic assessment as providing assessment of learning in the assigned task that allow the students to collaboratively craft, polished, performances or products through significant student time and effort.

3. Results and Discussions

The main goal of video project in this course is to expose the trainee teachers to the productions of instructional media materials that can be used as a teaching aid in future. The intention was to expose the trainee teachers on how to deliver message effectively to the audience. Prior knowledge on video production as well as complex tasks that they need to accomplish along the production process has become a constraint for them. Therefore, the problem-oriented project-based hybrid e-learning (PoPeye) strategy (Din et al., 2013) was chosen as a strategy to cater the learning gap that exists in order to create an authentic learning environment. Each group will have to go through three phases of video production, and one of them is pre-production phase which is the primary focus of this paper. In pre-production phase, trainee teachers were required to develop a storyboard. Storyboard is a low-fidelity prototyping technique that is normally implemented at the beginning of pre-production phase and also works as a brainstorming tool in generating ideas. Trainee teachers were provided with tools such as mounting board, colour papers, clays and colour markers for storyboarding. They were required to brainstorm and come out with a creative storyline of their final video project.

This study investigated whether authentic learning has taken place in the learning environment by focusing into three elements; (i) collaboration, (ii) authentic assessment and (iii) reflection. From the findings, working collaboratively in a group has actually created a positive learning environment. Most of the trainee teachers were able to generate ideas and come out with a fresh masterpiece storyline as what has been expected from them within the time given. Flexibility in allowing the trainee teachers to choose their own theme also helped developed creativity along the pre-production process. At the end of the activity, each group presented their storyboard to the class. At that moment, each group had the opportunity to assess their peers besides the instructor. Through peer review, it provides a real-life assessment which leads them to become an effective and confident presenter with acquired knowledge, besides adding on more ideas to their final video project. The presentation and peers review is seen as a good practice to prepare them to become a teacher in future. Through individual and group blog reflection, it was found that the trainee teachers engaged with the authentic activities and was able to reflect meaningfully on what they had acquired from the storyboard activities both individually or as a group. Such learning experience reflects “real-world” context as it gives the trainee teachers the idea of being in a “real-world” video production team, which resembles the meaning of authentic learning (Lombardi, 2007). Trainee teachers had the opportunity to immerse in the learning environment and were able to develop skills and new experience as a new video production member.

This study contributed to the body of knowledge about achieving authentic learning, by identifying themes related to attributes of authentic learning that can be achieved using technology in the process of teaching and learning. The data taken from both individual blog and group blog (Din et al. 2013) were being extracted based on the identified three themes as in Table 1.

Table 1. Excerpts and themes extracted to identify collaboration, reflection and authentic assessment

| Excerpt from blog | Theme: Collaboration | Theme: Reflection | Theme: Authentic Assessment |
|--|-------------------------|----------------------|-----------------------------------|
| Thankfully, we don't have any problems in creating the storyboard because I am so relieved when all my group members are sharing their brilliant ideas and thoughts to make sure our storyboard are satisfying everyone | / | | |
| The most important is, the messages are reachable to other peoples. | | / | |
| We are enjoying the moment in class and I am happy to create objects from plastisin like making the earth, cars, trees, human expressions and the sun. | | | |
| Here, all of us are able to generate our creativity | / | | |
| ...or otherwise to contribute in making our storyboard is interesting and nice to see and read. | | / | |
| By the way, each of groups needs to present their storyboard in the front of the class and I found all the storyboards carrying their own themes and messages. | | / | |
| We were to do a story board. And honestly, I have no idea what a story board was. This week, Instructor 1 provided us with a board, sticky notes, plastisin, and markers, just to help us with our story-board-making. It was somewhat cute seeing degree students playing joyfully with plasticine, drawing out their imagination, and not limiting them to just theories on books. | | / | |
| Every group create their storyboard using their own creativity. | | / | |
| After that, we present it in front of our classmates. Everybody did the same. It is a brief description about our story in video production. Every group's presentation was so nice to see. Every group had their own method to represent their ideas. | | / | |
| A piece of cardboard, a few pieces of colour paper, marker pen, plasticine and other mini-props. This is the most exciting, chaotic, brainstorming situation of our class, not only for my group but all..ehehe..I can see different group with different creative idea. | | / | |
| While we are doing the storyboard, Instructor 1, Inatructor 2 and Instructor 3 monitor, guide and answer all questions that everyone asked. Today's class is very enjoyable and full with ideas and colours. | | / | |
| I was soooooo happy with the yesterday's lecture. Everyone feels so exciting and satisfied with their work. | | / | |
| TESL students are REALLY REALLY REALLY creative. | | / | |
| YES. We lovee, adoree the task. I am able to have such a fun moment with all my classmates as they have a VERY CREATIVE imagination | | / | |
| This week's meeting session is one of the most remarkable so far. In fact, this session even changed our storyline. Originally we were planning to create a video showing what we had in the past that these generations didn't got the chance to have a feel of it. But I changed the plan last minute by making everyone agreed that we will do something that is related to attitude. | | / | |
| Because I believe that small thing like plastisin and colourful markers (which during my time, if anyone has it then that person is so cool and amazing) makes us appreciate more on things. | | / | |
| Everybody is very excited as they can let their creativity out of themselves. We have so much FUN while doing this. | | / | |
| During this time,it gives us the oppurtunity to show our own ideas in our video project. It enhance or communication skills as well | | / | |
| It is quite fun actually since all of us are not only completing the story board, but we also managed to discussed our videos and everything. | | / | |
| This is such a great experienced for me since this is my the first time in my life that I am managed to make a complete story board, and of course with the helps from all of my family members. | | / | |

| Excerpt from blog | Theme: Collaboration | Theme: Reflection | Theme: Authentic Assessment |
|--|-------------------------|----------------------|-----------------------------------|
| As discussion over, we started to do our storyboard in 3D version. "With the Use Innovation Management (UIM) tools, the process of creating a storyboard became easier. We have a clearer view of what actually we want to do." | | / | |
| Week 3 was the week that full of excitement, meaningful and really tested our creativity. | | / | |
| The whole class were very excited to start doing the storyboard. Instructor 3 gave us freedom in doing the storyboard. Then, we need to present it at the front. | | | / |
| With the Use Innovation Management (UIM) tools, the process of creating a storyboard became easier. We have a clearer view of what actually we want to do. | | | / |
| The storyboarding process was really a great time. Every group used the maximum creativity to create a desired video. | / | | |
| The class was soooo not stressful compared to other classes. When we were trying to get the storyboard done, each and one of us gave full commitment and that is why we finished early! | / | | |
| The storyboarding process was really enjoyable. We had fun with our colleagues as well as with those childish stuff. | | / | |
| I'm sooOOO excited to play the plasticine. we enjoy ourselves doing the storyboard together. | / | | |
| We generate ideas together in order to decorate and beautify our storyboard. | / | | |
| Storyboard helps us to be creative in our thinking as well as to guide us in the right track of delivering messages to people. | | / | |
| I know this week's class is going to be amazing. I am an Art lover so I personally love crafts and all. We got clay actually! Mind you this is seriously interesting. | | | / |
| We get so much information about video making and the most importantly, we already have a clear plan for this video-making | | | / |
| I found all the storyboards carrying their own themes and messages | | / | |
| In this class, we do not really feel burdened or bore because there will be new things and new activity for us to do about technology. | | | / |
| This is the most exciting, chaotic, brainstorming situation of our class, not only for my group but all..ehehe..I can see different group with different creative idea. | | / | |
| Storyboard helps us to be creative in our thinking as well as to guide us in the right track of delivering messages to people. | | / | |
| the role of visual aids in teaching where i discovered that it helps a lot in teaching process where i can use this aid enhance my ability in explaining something in detail in the classroom | | | / |
| I think, we explained our storyboard well | | / | |
| While presenting the storyboard, my team mates and I need to deliver what actually we want to do. I must make my classmates, Ummi and the facilitators confident and get the idea for our project, because if we don't have the confidence, the presentation will not be effective | | | / |
| ALHAMDULILLAH, this course also have helped me in improving my communication skills, I learned to communicate better, not only with my friends, lecturers and also with the public | | / | |
| After we finished decorate our board, we need to present it at the front. Everyone feels so exciting and satisfied with their work. | | | / |

From the findings, it was also found that tangible objects help the trainee teachers in visualizing ideas rather than imagining them. With the support of storyboarding, trainee teachers were able to generate ideas and come out with a various type of storyboard. There were groups that produce a storyboard in a storyline format, as what is

expected by the instructors. Figure 2 shows the example of storyboard in a storyline format. There were also groups that produced storyboard in a content-mapping format as in Figure 3. In this form, it was found that storyboard helps to visualize ideas besides showing the plot from the storyline. Besides storyline and content-mapping format, there were group who views storyboard in 3D perspective and visualize ideas in a “helicopter view” as in Figure 4. Therefore, besides knowing that storyboard helps to promote authentic learning as extracted from the reflection blog, it was also found that storyboard activity can be used as a great brainstorming tool that helps trainee teachers to generate and visualize varieties of ideas in an effective way.



Figure 2. Storyboarding in a storyline format



Figure 3. Storyboarding in a content-mapping format



Figure 4. Storyboarding in a 3D perspective view

4. Conclusion

This study explores how the development of storyboard works as an authentic activity in promoting authentic learning. From the qualitative data gathered from individual and group reflection blog, the approach applied in the teaching and learning throughout the course has created a positive learning environment and indirectly creates meaningful learning among the trainee teachers. Through the development of storyboard activity, it provides the opportunity for them to work collaboratively, reflect on what they have learnt from the activity as well as being able to produce and present a creative product within time given through assessment of learning in storyboard activity. They learn better from the “real-world” experience as if working in an actual video production team, rather than lecture and tutorial alone. Since this study focuses on three elements out of nine elements that are required in order promoting authentic learning, therefore a more focused research can be done to identify what are the activities that suit the other elements; (i) authentic context, (ii) authentic activities, (iii) expert performances, (iv) multiple perspectives, (v) articulation and (vi) coaching and scaffolding. It is hope that more authentic activities can be designed and planned out to replace existing conventional teaching and learning method in order to create meaningful learning and makes learning more interesting.

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