Appendix D

An Example of a Final Report of Online Learning and Teaching

EDEM 628 – Best practices in online teaching and learning
Assignment 3 - Online teaching experience: plan, trial and evaluate an online teaching and learning experience, by Author3

Introduction

The University, College of Education offers the course TECS383 – Biology curriculum years 11-13 to students who are pre service teachers of Biology in secondary schools. This course was running from February 2010 with 14 enrolled students, most of them majoring in Biology, while for others Biology was their second major. Students varied in skills, ages and expertise level.

As this course was already running from February 2010, I was part of a team consisting of three teachers that were going to design, trial and evaluate this course for the period of May 17th – June 13th. My part was to incorporate some Web 2.0 tools (Quizlet, Animoto, VoiceThread) and show my students how they can use those in their own classrooms.

I intended to teach each tool at different face to face sessions and give students enough time for their online study. Elbaum et al. (2002) suggest that five hours of online study per week is the minimum time students can spend in order to engage meaningfully in an online course. As this was a blended course, I estimated that for their online study, students would need approximately 3 hours per week, granted that the instruction would begin in our face to face meetings.

Students needed to have basic ICT skills, in order to use the Online Learning Environment and to be able to explore the Web 2.0 tools that were going to be implemented in our course. Prior

knowledge on the New Zealand Biology curriculum and its basic objectives, as well as basic biology knowledge was also required, in order to be able to apply each tool in a specific hypothetical context.

The learning outcomes were formed according to Bloom's taxonomy and will be further discussed in the next section.

Course design

Curriculum area: Biology curriculum years 11-13.

Topic: Implementation of Web 2.0 tools in the classroom (Quizlet, VoiceThread, Animoto).

Target group: 14 pre-service biology teachers with varied skills, experiences and ages.

Goals: Enabling students to familiarize with each tool and create their own tasks for their hypothetical biology classroom, by providing them with adequate support.

Motivating students to effectively apply these tools in their own classroom in the future.

Learning outcomes: I based my course's learning outcomes on Bloom's taxonomy at cognitive domain (Krathwohl, 2002), in such a way that higher levels of mental skills could be achieved. Specifically, after the completion of the 4 weeks of blended learning, students should be able to:

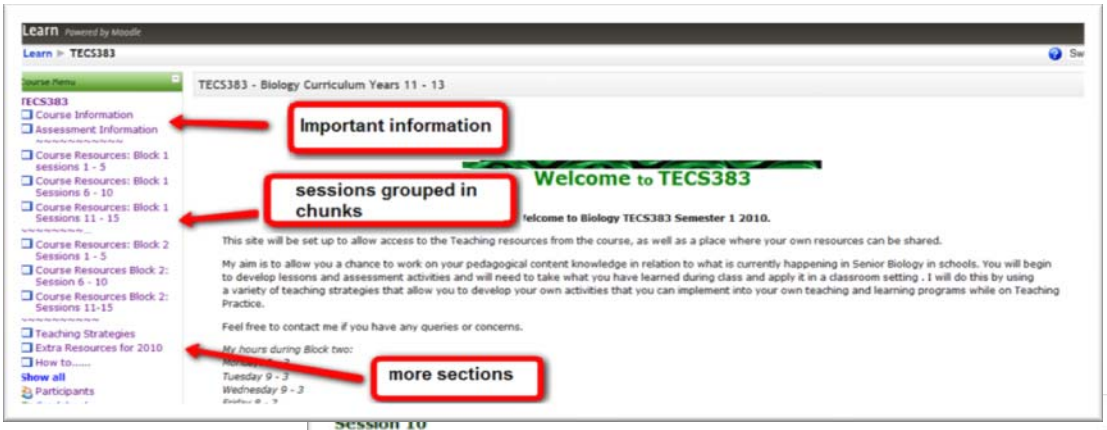
a) Apply their knowledge to design tasks using the Web 2.0 tools *Quizlet*, *VoiceThread* and *Animoto.*
b) Evaluate their work and provide peer feedback on other classmates' tasks.
c) Critique each tool and discuss about the usefulness of *Quizlet*, *VoiceThread* and *Animoto* for teachers and students in the secondary biology classroom.

Implementation and evaluation

a. The course site

According to Ko and Rossen (2001) the first step in order to teach online is to "scout the territory" (p.18). After conducting my institutional review, I realized that many things were already in place, as this course was running from February. The LMS and the appropriate infrastructure were already set up, students were enrolled and they were familiar with the *Learn* site and the course objectives. Also, adequate support from the institution was in place and students had already a good level of the required background knowledge. Finally, they had developed good relationships with the course leader, the content and between them.

The basic structure of the course was already designed by the course coordinator and passed Susan Tull's "health check". The main course menu is illustrated in the image below:



For my part of the course, I used a variety of resources in order to achieve my goals. In the main section of the

course, I embedded videos to trigger and motivate students, illustrating the use of each tool in a classroom or examples of tasks. The main section also included hyperlinks to the web pages of the tools, as well as more examples of tasks. Finally, for each tool I created a discussion forum including two threads, one for technical questions and one for our online discussion.

Students could also revise what was introduced in our face to face meetings, in the *How to…..* section (Appendix 1). This is where I created three web pages, each one of them referring to a different Web 2.0 tool. I used a similar structure for every page in order to make the web pages predictable to my students, so that they could know where to find each element (Elbaum et al., 2002).

To avoid information overload I organized the content in such a way that students could get easily oriented in the web page (Vonderwell and Zachariah, 2005). The headings created a more organized structure for each page and I also used lines to separate each section from the others. In each section I provided guidelines organized in steps, using images not only to make my instructions more comprehensive, but also to add colour, variety and eye-pleasing white space for my students (Elbaum et al., 2002). Additionally, I included active hyperlinks where needed, in order to make navigation easiest, as well as emoticons to subside non-verbal cues and enable better communication (Vrasidas and McIsaac, 1999).

According to Elbaum et al. (2002) having experience in learning online enables the teacher better understand students' needs, the challenges and rewards of online learning, as well as the course design. For me it was much easier to design an online course, as I was already familiar with *Learn's* interface and features through the EDEM628 course. Moreover, Susan Tull's

"Educational design classroom" was really helpful to me, as well as the structure of Learn itself which includes activities and resources that can be easily understood and implemented in a course. Therefore, I did not face any difficulties during the design of the course.

What I really valued was the implementation of a variety of resources, as I could embed images, videos, hyperlinks and different types of files. This gave me the opportunity to gather different types of material to support learning and reach out different learning styles (Elbaum et al., 2002). It seems that students also valued the opportunity to access multiple resources, as illustrated in the feedback they provided for this course (Appendix 3) and therefore, I consider this as the main strength of the site.

I also found that composing web pages in the *How to…..* section (Appendix 1) would be suitable for my instruction, as students could revise what was included in our face to face instruction, in case they needed it. This was some kind of "safety net" I used to prevent disorientation from students who might not have been covered from our face to face meetings. However, according to students' responses on the feedback they gave us (Appendix 3), they rarely used this section. Those who used it found it clear and helpful, but the majority of the class did not use it at all, probably because the tools were explained in our face to face meetings and it was easy for them to explore them without further support. Therefore, if I could change something in my site that would be the purpose and the form of the *How to…..* section. I would redesign this section as a wiki, or as a book, so that students could add the instructions themselves. This way they would be able to reflect on how they would teach their own students in the future to use these tools and create their own guidelines collaboratively.

In general, students reported that once they got used to the structure of the course they really found it organized. However, they felt overwhelmed many times by the variety of resources and this makes me further reflect on the initial support students need to get oriented in a course, as well as the importance of a simple structure, in order to avoid information overload (Vonderwell and Zachariah, 2005). Finally, from the beginning, students need to have enough time to familiarize with the course and being the instructor I will need to take advantage of the face to face meetings, in order to explain the basic online components.

b. Teaching and learning process

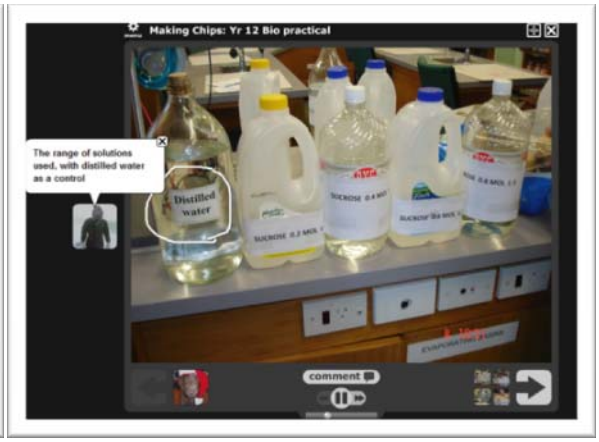
The instruction of each tool had the same pattern, as I wanted my students to know what to expect in each face to face and online session. The steps I followed for each tool are shown below:

- Students were asked to sign up for each tool, before our face to face meeting. They could follow the instructions in the *How to…..* section if they needed.
- Instruction begun with a face to face meeting for each tool which included:
    - Triggering videos illustrating the use of each tool in the classroom.
    - Demonstration of example tasks using the specific tool.
    - Individual exploration of each tool, after oral instructions.
- For their online study, students had to complete the following activities:
    - Complete their task using the specific tool we explored. If they needed further help they could visit the *How to…..* section to revise the instructions we discussed in class or use the forum to post questions.
    - Provide feedback to one or two tasks made by their classmates.

- Post their comments in our forum about the usefulness of each tool in a biology classroom.

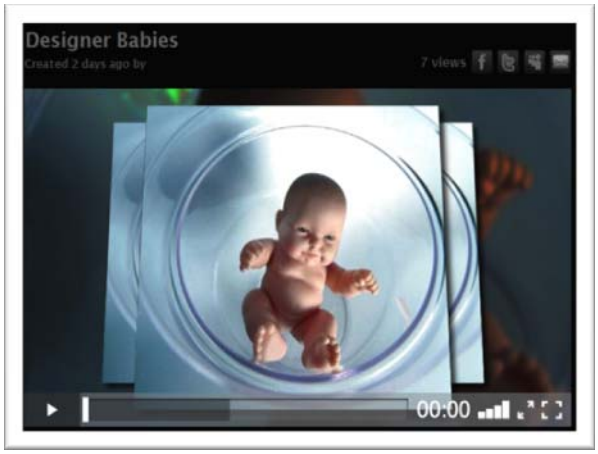
Some of the learning outcomes have been met, while others needed more time in order to be achieved. Students successfully applied their knowledge to design tasks using each of the three tools. It seems that the face to face instructions, combined with the self-exploratory character of the tools enabled students to understand their basic functions and successfully create their own tasks. For the "Quizlet" tool, students created flashcard sets, using biology terms and definitions. By the end of the instruction, the majority of students had created at least two sets and some continued to use it after the end of the instruction (Appendix 2).

Moreover, all students created photo stories of an experiment they performed in the lab. They took pictures of the process and they uploaded them on VoiceThread, adding comments on how they performed the experiment. Most of them used only text to add comments, as the computers in the computer lab had microphones, but they did not function correctly. I was aware of this limitation before the instruction and I told students that they could refine their task at home using their own equipment if they had. This makes me further reflect on the infrastructure that needs to be in place, as students need to be offered all the required equipment from the institution. Otherwise, it is not right to show learners a tool which they cannot use at its full potential.



Finally, all

students created Animoto clips, using images and text in order to illustrate some biological ethical issues. The structure and the content of the majority of the videos showed that students had carefully considered what they would include, in order to raise some issues for discussion in their class. Finally, they easily created their clips, but what seemed to be difficult for them was to wait until their video was processed.



The objective of peer feedback was partially achieved. During the first week, students did not provide any feedback to their classmates after watching their tasks. In order to avoid this for the other two tools, I reminded students in our face to face sessions the importance of peer feedback in order to show appreciation and feel motivated (Hew and Cheung, 2008). For the last two tools some students provided peer feedback, as tasks were significantly different one from another, in contrast with Quizlet where only the terms and the definitions were different. Oosterhof et al. (2008) argue about the importance of students' familiarity with this kind of assessment. Therefore, in the future, I need to consider that students might need more time in order to get used to providing and receiving useful peer feedback.

Referring to the last objective, I tried to include questions in the forums with no right or wrong answers, aiming to probe students' perceptions and engage them in discussions (Hew and Cheung, 2008). During the first week, only three students commented on the usefulness of the first tool. There was no online interaction between students and communication was only one way, between me and some students, although I intended to emphasize on student-to-student interactions (Rovai, 2007).

For the next two tools, I encouraged students to add their comments, along with the hyperlink of the

task they created. Again, few students commented on the usefulness of the tools. During this week there was a short online discussion, after a student's comments on the usefulness of a tool. This student attracted some classmates' interest, by approaching one of the tool's limitations as strength.

To me, it was essential to assure that all students were provided with feedback, in order to encourage their participation (Vrasidas and McIsaac, 1999). I used this technique to almost every student, after reading their comments or watching their task. Also, during the first week where contribution in the discussions was low, I provided general feedback on students' tasks and encouraged all of them to add their comments in the discussion.

It seems that students engag

ed in dialogue when they really felt that they needed to, as they were told that their contribution was optional. What was also interesting was that they did not seem to be influenced by my feedback. This makes me further reflect on what kind of feedback motivates students and if time is important in order to see its effectiveness. I assume that on the last week, where both VoiceThread and Animoto were introduced and students also had to submit their last assignment, information overload might have influenced student participation (Vonderwell and Zachariah, 2005). It was impossible to change the dates of these two tools, as I followed the official schedule of the TECS383 course. However, next time I would try to organize my course in such a way that students are given all the time they will need.

In general, I feel that meaningful learning was partially achieved, as on one hand, students had successfully applied what they learned for each tool, but on the other hand, not all aspects of the application of the tools were explored. I believe that through discussions, students would have shared their opinions and conclude in interesting remarks, regarding the implementation of these tools in their own classrooms. Unfortunately, students did not have enough time to do this, neither online nor in our face to face sessions. Therefore, this point would be the basic thing I would change next time, as I need to assure that students are given enough time to assimilate information, reflect and discuss.

Conclusion

It seems that in overall students found the course site very helpful and more than half of them reported that the implementation of Web 2.0 tools was the most useful aspect of the course (Appendix 3). For me, this was a valuable practice, as I used my experience of being an online

learner, as well as the knowledge I gained from our EDEM628 course, to apply what I thought that is important in online teaching and learning.

Through this course's design, application and evaluation I realized some of the practical implications that might occur and further reflected on the way I can overcome those. Some of the most important points are the following:

- Information overload → On one hand I might be excited as a teacher to show my students all the things I want, but on the other hand I need to consider their pace and workload, in order to teach them effectively.
- Flexibility → I always have to reflect on students' needs and adjust the material accordingly.
- Infrastructure → Even if the institution seems to have a high level of resources, infrastructure might be an obstacle. Therefore, activities should be organized accordingly.
- Peer feedback → Students might need more time to familiarize with peer assessment techniques.
- Discussions → Optional participation as well as workload might influence participation.
- Teacher feedback → The type of feedback might control its effectiveness to motivate students. Moreover, information overload might outweigh the influence of feedback.

It seems that the journey of online teaching and learning has just begun for me and although in this blended course not everything went as planned, I consider it as a valuable lesson to use in the future, in order to create my own "Best practices in online teaching and learning".

Below I conclude with a "word cloud" illustrating all those elements that challenged me further reflect on…

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