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28,29,30 January 2013
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Indonesia

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Faculty of Teacher Training and Education (FKIP)
English Education Study Program, Bandar Lampung University (UBL), Indonesia

PROCEEDINGS

THE FIRST INTERNATIONAL CONFERENCE ON EDUCATION AND LANGUAGE

ICEL 2013

28 -30 January 2013

Organized by:
Faculty of Teacher Training and Education (FKIP), English Education Study Program
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PREFACE

The activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the First International Conference of Education and Language (ICEL 2013) organizing committee, we are very pleased with the very good responses especially from the keynote speakers and from the participants. It is noteworthy to point out that about 80 technical papers were received for this conference

The participants of the conference come from many well known universities, among others:
University of Wollongong, NSW Australia, International Islamic University Malaysia, Kyoto University (Temple University (Osaka), Japan - Jawaharlal Nehru University, New Delhi, India - West Visayas State University College of Agriculture and Forestry, Lambunao, Iloilo, Philipine - Bahcesehir University, Istanbul, Turkey - The Higher Institute of Modern Languages, Tunisia - University of Baku, Azerbaijan - Sarhad University, KPK, Pakistan - Medical Sciences English Language Teacher Foundation Program, Ministry of Health, Oman - Faculty School of Arts and Sciences, Banga, Aklan Philippines - Sultan Ageng Tirtayasa, Banten, - Pelita Harapan University, Jakarta - STIBA Saraswati Denpasar, Bali - University of Muhammadiyah Yogyakarta - Ahmad Dahlan University Yogyakarta - Sriwijaya University, Palembang - Islamic University of Malang - IAIN Raden Fatah Palembang - Universitas Diponegoro, Semarang, Indonesia - Universitas Haluoleo Kendari - State Islamic University of Sunan Gunung Djati, Bandung - Tadulako University, Central Sulawesi - Sanata Dharma University - Lampung University and Open University,

I would like to express my deepest gratitude to the International Advisory Board members, sponsors and also to all keynote speakers and all participants. I am also grateful to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who gives us endless support to these activities, so that the conference can be administrated on time.

Bandar Lampung, 30 January 2013

Mustofa Usman, Ph.D
lCEL 2013 Chairman

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Bandar Lampung, Indonesia
January 28, 29, 30, 2013

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Engaging with Content and Language Using Student-created Blended Media

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Abstract

Innovative approaches to teaching and learning are needed in schools and universities to provide new ways for students to engage with content and language. In particular, advances in personal digital technologies over the last 10 years enable students to create a variety of digital media forms such as podcasts, vodcasts, screencasts, videos, digital stories and animations using their own technologies such as smart phones and Ipads. Whilst each digital media form has its own affordances for learning and purpose, they can also be integrated or "blended" to provide new ways for students to make meaning and communicate. Blending digital media is especially engaging if students understand the features of particular genre and use their own technologies and select the most appropriate "blend" to provide a quality digital explanation.

Keywords: student-created blended media, language, engagement, technology

1. INTRODUCTION

Finding new teaching approaches that engage students in wanting to learn is needed to help students understand content across all subjects [1], [2]. For this purpose we define engagement as "students' willingness to invest and exert effort in learning, while employing the necessary cognitive, metacognitive, and volitional strategies that promote understanding" [3]. When teachers use approaches that foster engagement, students interact with and interpret content for particular reasons. This means that students do something creative and purposeful with content, rather than just copying notes or rote learning, which students are beginning to experience at a young age, "I fear that the joy of discovery has been eliminated by the earlier memorization. . . . as a result, for far too many, science seems a game of recalling boring, incomprehensible facts" [4].

For example, teachers can facilitate inquiry-based learning by designing activities about ill-structured problems that encourage students' investigative skills to align learning with the open-ended nature of "authentic learning". For example, it has been argued that well designed laboratory modules can promote inquiry-based learning that simulate authentic science, "our goal is to make it much easier for teachers everywhere to provide their students with laboratory experiences that mirror the open-ended explorations of scientists, instead of the traditional 'cookbook' labs where students follow instructions to a predetermined result" [5]. Problem-based learning is an additional way to promote engagement whereby students are set challenges to address such as designing a plan to make a house more energy efficient [6].

Another way to engage students in content is to encourage them to design different forms of representations thus creating their own interpretations [7]. A traditional model of teaching often involves students copying or memorizing information in textbooks or on the internet that others have created for them in the form of diagrams, graphs or models. In contrast, when students design and make their own representations, such as drawing or writing about their own interpretations of concepts or by designing and making models, they think more deeply about how to represent the content and hence develop reasoning skills. Additional communication and presentation skills can be gained if students are encouraged to share and justify their student-generated representations with peers [8].

Literacies are also promoted when students create their own representations [9]. When students draw sketches or write about their ideas, they create mono-modal representations because each literacy form or mode is an expression of their ideas as a way of making meaning [10]. These modes can also be combined in representations such as drawing sketches with labels or adding writing that helps explain them. Different ways of engaging with content are also promoted when students re-represent content from one form into another. For example, students could summarize facts about phases of the moon, which could be re-represented as sketches and re-represented again in a graph or 3-D models [11]. Creating multiple representations of the same content enables students to revisit and check it as they go as well as thinking about it in different ways because of the affordances of particular modes [12]. New opportunities to engage with content are also being promoted when students use widely available digital technologies to create representations that can integrate different modes such as text,

sound, still and moving images [13].

2. STUDENT-GENERATED DIGITAL MEDIA

The world-wide surge in personal digital technologies over the last 10 years offers a timely opportunity to provide new ways to engage students in learning by creating their own digital representations. Making a video as a class or group project was unheard of 20 years ago, but with readily available technology such as digital still cameras, smart phones, flip cameras, video cameras, web cams and iPods as well as laptops with Web 2.0 connectivity, it is now much easier [14]. Students readily reach for their smart phones for taking digital still photos and videos for social purposes, why not for the purposes of documenting and learning content? As technology becomes easier to use, it enables students to concentrate on making decisions in terms of how to best represent content by combining or integrating modes such as text, sound, still and moving images to make meaning to produce a multi-modal digital representation [15].

For example, in a course on geology, the instructor can take a "jigsaw" approach to the content by dividing it into manageable "chunks" such as igneous rocks, sedimentary rocks, metamorphic rocks, tectonic plates, volcanoes, tsunamis, mountain types, erosion and weathering. Each chunk could be allocated to individuals or groups of students to create a 1-2 minute digital representation to explain it as an educational resource for their peers. These digital products could then be uploaded to a course web site or a public site such as YouTube or Facebook for the students to share. Students therefore not only learn from creating a digital representation to explain a science concept, but they can also learn from the other digital resources created by peers. Planning and creating resources to explain concepts to peers is a novel way to learn as "the people who learn the most from instructional materials are the designers. . . .We have all stated at one time or another that the quickest way to learn about subject matter is to have to teach (design) it" [16]. Perhaps the task of creating a digital representation to be shared with peers could become a part of a course repository to which new digital resources are added with each cohort.

3. FORMS OF STUDENT-GENERATED DIGITAL MEDIA

There are a number of forms of student-generated digital representations that are already used as assignments or tasks in some universities and high schools, all of which involve students designing a sequence of representations to re-represent content resulting in a digital product. As such students are engaging with content in multiple ways because they are thinking creatively about how to interpret and represent the content in a way that can be shown to others in a media form:

Podcasts

A podcast is a 1-3 minute audio recording of students explaining an allocated concept. A simple task for students could be to summarize a section of a book or internet site to explain the content to their peers. Examples of one-minute podcasts are available on the Scientific American web site http://www.scientificamerican.com/podcast/podcasts.cfm?type=60-second-science. A more challenging and imaginative form of podcast is to get students to explain the knowledge as an analogy. This involves summarizing content and re-representing it in a script for audio production. For example, a chemical reaction could be explained as a "tug of war" between the reactants and products or oxidation and reduction could be explained using the analogy of a boxing match [17]. The New Media for Science website includes other examples of podcasts using analogies for university learning http://newmediaforscience-research.wikispaces.com/Science+podcasts.

Video

Students can plan and create a brief demonstration video to explain an allocated concept or demonstrate how to do an experiment. In a secondary science context some examples include Newton's Laws, states of matter, forces and projectile motion. Further engagement can be added by encouraging students to enter their video in a popular international competition called "60-Second-Science" http://www.60secondscience.net/where student-generated videos compete for cash prizes to provide the best science explanations.

Digital Story

A digital story is a narrated slide show and is a digital form that suits explaining historical interpretations of discoveries such as explaining the discovery of electricity by Faraday or writing a personal history using family photos. The process typically requires students to: (i) brainstorm ideas to produce a storyboard; (ii) write a short 250-word script; (ii) take or find 10-12 still images that illustrate the narration; (iv) record the script; (v) produce the 'story' using a video editing program to make sure that the narration matches the slides; and (vi) share the

final product. Support and guidelines can be found at http://uow.libguides.com/content.php?pid=82573&sid=612645.

Animation

Many expert-generated representations such as animations, simulations or other visualizations are available, and these have proven valuable for learning science concepts, particularly to show changes at microscopic or microscopic levels [18]. But learners have been limited, to this point, in creating their own animations because the professional software programs that are available, such as Flash Animation, are very time consuming for students to learn and use. There is, however, a new but simplified way for school and university students to make animations, called *Slowmation* (abbreviated from Slow Animation). Students can design and make their own stop-motion animation in several hours using their own digital still or mobile phone camera for the purpose of learning content that can also be shared as a resource to teach others [19]. Students learn as they interact with content to explain it by developing a storyboard and models, taking digital stills of manual movements, importing them into any free video software and editing with narration and/or music. A key feature is that the animation is played at 2 frames/second producing a slow moving image for the students to narrate the content being explained. School and university students have produced over 1000 of these in the past four years, many of which are posted to YouTube or available on the project website www.slowmation.com, along with free instructions and resources for teachers.

4. STUDENT-CREATED BLENDED MEDIA FOR DIGITAL EXPLANATIONS

Whilst each digital media form has its own particular affordances, features of these forms can also be integrated or "blended" enabling students to mix and match media for particular purposes [20]. When planning for a blended digital explanation of a concept, students need to be aware of the affordances of each digital form and then select the most appropriate to suit the purpose of the explanation. For example, the four main features or components of a written explanation can be aligned to different digital media forms to generate a succinct digital explanation: (i) an explanation begins by naming a topic and identifying key elements or parts and this can be represented digitally by narrated static images similar to a digital story; (ii) the next part of an explanation shows how the elements or parts dynamically relate to each other and this can be represented digitally by a simple animation or "slowmation"; (iii) an example of a concept can be demonstrated with a short video if the elements move by themselves or if not, then represented by a slowmation; and (iv) the conclusion of an explanation summarises the main points and can be represented digitally using a static image. What is common and links the four media forms is the narration explaining the content, which is the most important part and also improves literacy skills.

The key to creating effective explanations using blended media is for students to write the narration first to explain the content and then make decisions about which digital media form best suits the purpose of what is being explained. Table 1 shows the features of a written explanation and how these can be represented digitally using the affordances of different digital media forms. For example, when making a blended media to explain a complex topic such as "phases of the moon", a student could start by researching the science of how the moon phases change. Once the topic is understood then resources could be gathered in terms of how to make the digital media form that best suits a particular part of the explanation. For example, the first part of the digital explanation could be naming each phase of the moon with narrated static images, the next part could demonstrate the dynamic relationship between the sun, moon and earth that results in different moon phases as they appear on earth with a slowmation. This could be followed by a video showing changing phases and then a conclusion with one static image of the all the different moon phases as the narration revisits the progression and a final summary. The design process in creating such a blended form encourages students to think about the concept and how best to represent it in multiple and connected ways. Table 1 summarises the affordances and process of making blended media.

Table 1. Affordances of Digital Media to Suit Explanations Using Blended Media

Text Type	Features of Explanations	Digital Construction Process	Affordances
An explanation articulates how or why something happens.	1. Start by naming the topic and identifies elements related to the topic in the right order. eg. Names each phase of the moon in turn.	1. Narrated static images with 10-15 seconds per frame similar to a digital story.	1. Static images stay on the screen as long as necessary allowing learners to focus on each image whilst the narration introduces the topic and elements.

eg What causes phases of the moon?	2. Explains how the elements relate to each other and to the topic. eg. Shows a slowmation of the moon and earth moving around the sun	2. Narrated slow moving animation with images moving at 2 frames/sec similar to "slow animation". This could be interspersed with static images of tables, flowcharts, graphs or diagrams to illustrate particular evidence for the phenomena.	2. Slow moving images allow a learner to see how the elements move slowly in relation to each other.
	3. Provides an example. eg. shows a video of the phases of the moon	3. Use video with fast moving images at 25 frames/second) by itself or static image to show an actual or real life example.	3. Fast moving images like a video allow a learner to see how something moves by itself in real life.
	4. Finishes with a concluding or summary statement. eg. an image with all the phases of the moon showing the progression.	4. Narrated static image presented in a still photo to provide conclusion.	4. A static image allows a learner to focus on the still image as a summary of the conclusion.

A useful feature of student-created blended media is that combining different media forms is relatively simple. As long as students have planned their narration, which determines the quality of the explanation and what digital media forms suit particular parts, students can take all the images (still and video) with their mobile phone/iPad, or download copyright free material from the internet, and integrate them using free movie making software on either an Apple (using iMovie) or a PC computer (using Windows Movie Maker). Free images can also be obtained from Google Images as long as they are copyright free. Each media form can also be created separately and then integrated or blended as a whole in the movie making software. Students can produce their own blended digital explanations at home using their own technologies, with perhaps some class time devoted to demonstrating examples and techniques. Digital media explanations could then be uploaded to a learning management system or a public site such as YouTube or Facebook to communicate students' ideas for feedback. Students therefore not only learn from creating their own digital representation to explain a science concept, but they can also learn from the other digital explanations created by peers. Uploading their digital explanations to web sites enables a level of "quality control" for these student products to seek feedback on the accuracy and quality of the explanation.

It is clear that the opportunities for students to use their own personal digital technologies to improve their digital literacies will only keep increasing during the 21st Century. Teachers at all levels should seize this opportunity to encourage their students to take more ownership for creating content. Understanding the features of a quality explanation and the affordances of different media forms will assist students in making decisions about what and how to blend different media forms to explain and communicate their ideas to peers and teachers.

5. CONCLUSION

We have identified some innovative teaching approaches that have been used to engage students in learning such as inquiry-based learning, problem-based learning and student-generated representations. For students who are part of the "YouTube Generation", designing and making a digital representation is especially engaging. Such strategies encourage students to learn content in interesting ways and may help increase participation rates in school and university courses. We have also seen that students can produce their own digital representations at home using their own technologies, with perhaps some class or tutorial time devoted to demonstrating techniques. By organizing media production as an assignment or task, the digital artifact can become a homework assignment rather than time taken from class instruction. Ironically, if students become more engaged in learning content and English, their deeper understanding may lead to covering more content anyway, but of their own volition because of their increased engagement fostered by innovative ways of teaching and learning. It is time that teaching at all levels further embraces the engaging potential of 21st Century technologies, especially by encouraging students to re-represent content using their own ideas and words which will also help them to improve their literacy skills in different languages.

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