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The use of student generated webpages to improve revision and ongoing mathematical development

Student Dissertation

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WED: The use of student generated webpages to improve revision and ongoing mathematical development (Angela Phillips)

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<http://h818.weebly.com/#/>

Revision is an area that some teachers feel is often not taught well or in some cases taught at all (Slater, 2012). In a study of revision techniques used, 8 out of 10 were found to be ineffective and could hinder learning (Cohen, 2013). Therefore, it is important that students learn effective revision techniques (Pinantoan, 2012). To engage in ongoing mathematical development students need to become responsible for their learning journey (Dunlosky, 2013). The learning activity has been designed to enable students to have the opportunity to revise effectively, in different ways and produce a continually developing web based revision resource.

The project focus will be the implementation of the learning activity. The implementation of a project has the most impact on the overall outcomes (Durlak, 2011). The project will be presented as a case study, as the project is a real-life scenario, that does not have a clear end point (UNSW Australia, 2013). The project will be showcased in full using a webpage, (Phillips-5, 2014).

Although the use of student generated blogs has become popular and is viewed as an effective learning activity (Orlando, 2010), no research into the use of blogs for Mathematical revision and development was found.

Research from (Australian Government Department of Education, n.d.) shows that teachers should aim to bring subject content, teaching and learning pedagogy and technology together. This is known as Technological Pedagogical Content Knowledge (TPACK) (TPACK, n.d.). The TPACK framework has been used to integrate the technology into the learning activity.

Different learning activities can have differing impact on the outcomes of revision, may popular techniques, such as highlighting and rereading text have little impact on performance (Dunlosky, 2013). However, using different strategies can have a positive impact on results. The positive strategies have been used in this project.

The project has been trialled with a class of year 8 students, who are generally twelve to

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Angela Phillips

17 January 2015

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thirteen years of age, in South Australia. The activity was introduced to the class and set for homework (Phillips-1, 2014). Standard revision activities, as the students had completed in the previous semester, were run during class time to gauge the impact of the project.

The students produced their on webpages and then peer assessed each other's work (Phillips-4, 2014). The feedback was then collated and distributed back to the students, who were then asked to review the feedback of their pages and revisit their work.

The students completed the Semester 2 Common Test and then were given the personal questionnaire, to complete to give their views of the activity and the impact on the revision completed. Students were also asked to give their views on how likely they were to continue to use the webpage for revision (Phillips-3, 2014).

The results of the student's opinions on the project, alongside the results comparing the class's results will be discussed at length during the H818 conference.

Come along and find out if the project has met the initial aims.

Word Count: 504

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OU H818 'The Networked Practitioner' Online Conference 2015

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Extra content

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Embedded Content

A snapshot of the project

[A snapshot of the project](#)

added by [Angela Phillips](#)

Poster to describe the project

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Accessible version of the project poster

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Contribute

Discussion (7)

Links (0)

Academic References (0)



[Stefanie Anyadi](#)

1:19pm 24 January 2015 [Permalink](#)

I'm looking forward to your presentation, Angela. I think schools do now make the importance of learning how to learn more explicit than they did when I was at school but motivating students to revise is still very difficult. It sounds like your project might address that issue because it makes revision visible to others. Did your students enjoy the revision activities you devised?



[M M](#)

2:07pm 24 January 2015 [Permalink](#)

Looks fantastic Angela. Can I ask if other departments have tried this sort of online, web-based revision resources? Or have they (and the Maths department) stopped short of using web-based content for revision, keeping it instead for activities to advance and progress the curriculum?

I guess what I am asking is would this be the first time within the school a dept has used the web for revision rather than normal teaching and learning activities or assessment (which is what I currently use the web for)?



[Dr Simon Ball](#)

10:56am 12 February 2015 [Permalink](#)

Your questions and comments from the live conference presentation are below:

- ▶ have you related this back to threshold concepts - although this is a UK theory it has been taken up very strongly in Australia.
Threshold concepts relates to problems in internalising concepts for students - I shall pass on information on it Angela - see Juxtalearn@edu.org
- ▶ So much more interesting for the students and developing them much more, brilliant
- ▶ can you tell me what you mean by 'I taught them revision techniques?'
- ▶ Do you find students were able to review each other easily? I know on H818 we have all found it hard to review and give constructive feedback for fear of upsetting someone or damaging their confidence
- ▶

- ▶ some might have been good at revision anyway and you could not have taught them much more
- ▶ How would the cost/benefit of this approach compare with using something like KhanAcademy?
- ▶ definitely be good to review again in a year to get a feel for the possibility of life long learning
- ▶ did you get any feedback from parents? or were they involved at all
- ▶ Do you think your colleagues might be interested to make changes if your results show improvements?
- ▶ see innovating pedagogy report 2014
- ▶ my experience of peer review is that some do it really well, others have little idea and the feedback is not so beneficial to the receiver
- ▶ interesting there is more of a culture of feedback
That's so important. A great skill to have at any age and helps with self reflection too
I think you may have a point there Angela. I generally find Australians more readily give out feedback



[Dr Simon Ball](#)

8:15pm 18 February 2015 [Permalink](#)

Many Congratulations! Your presentation has been voted by delegates to be one of the most effective of the H818 Online Conference 2015 and you are officially one of our five H818 Presentation Star Open Badge Winners! Please see how to Apply for your Badge here: <http://cloudworks.ac.uk/badge/view/33>

Well done!

Simon

H818 Conference Organiser



[Angela Phillips](#)

8:46am 20 February 2015 [Permalink](#)

Hi Stefanie,

Thank you for your comments. The students really enjoyed the activity. I think it was the first time, for some, that they got to build their own web pages. I kept giving them lots of tips on revision, but you could see the students progress when you reviewed their web pages.

Ange



[Angela Phillips](#)

8:51am 20 February 2015 [Permalink](#)

Hi MM,

A great question, I'm the first to use web pages for revision. All students at my school have a personal laptop, so it is much easier to use technology in class. Lots of departments use the internet for interactive resources and finding information. With the exception of IT, who develop Apps etc, this is the first time (that I'm aware of) that the students have designed their own web pages for revision.

I ran the pilot project, as part of H818, so I am hoping the rest of the Maths department (I've got 1 person on board last year) will embrace this project.

Thanks
Ange



[Angela Phillips](#)

9:34am 20 February 2015 [Permalink](#)

Thank you for the questions and comments from the conference, please see my responses below:

- ▶ have you related this back to threshold concepts - although this is a UK theory it has been taken up very strongly in Australia. Threshold concepts relates to problems in internalising concepts for students - I shall pass on information on it Angela - see Juxtalearn@edu.org **Thank you for this, I'm going to use it in my EMA, I have started researching the threshold concept. I have used producing video clips to explain concepts with my students (both in the UK and in Australia), which has been a fantastic learning experience. I didn't let the students include their videos on the webpages, due to safe guarding issues.**
- ▶ So much more interesting for the students and developing them much more, brilliant **Thank you** :)
- ▶ can you tell me what you mean by 'I taught them revision techniques?' **We looked at different revision techniques the students had used in the past and talked about what helped them learn. We did some fun activities, for example writing their own questions on cards, for their peers to complete, teaching each other concepts, designing success criteria for different types of problems. I also asked some of the year 12 students (final year students in SA) for their top tips, which they shared. The students used a variety of methods and had to find the ways that helped them learn the best. I encouraged spaced learning and also tried to ensure depth of processing (reordering the knowledge in some way).**
- ▶ Do you find students were able to review each other easily? I know on H818 we have all found it hard to review and give constructive feedback for fear of upsetting someone or damaging their confidence **This was not a problem at all to be honest. The students are very good at peer assessment, it had been one of my focuses with all my classes this year. The students all wanted to produce great pages (partially down to my star prize, I think), so were all asking to be peer assessed again, after they had made changes to their pages. I think building students confidence in making mistakes and asking for help from each other helps.**
- ▶ some might have been good at revision anyway and you could not have taught

them much more **I think this is the case with everything. If they have improved their revision skills at all, then that's great. If they just revised and enjoyed it, I also see that as a win. From the feedback from the students (Google form questionnaire) the vast majority felt that they had learned new revision skills.**

- ▶ How would the cost/benefit of this approach compare with using something like KhanAcademy? **All the students have a personal laptop for school. All sites that were used are free, so the only cost was time (which would have been spent on revision anyway). The learning was in the creating, there is more learning in creating that watching/listening (Blooms).**
- ▶ definitely be good to review again in a year to get a feel for the possibility of life long learning **I am going to do this, I don't think you can say it was a success, unless they use this for the next 4 year (that's the end of senior school) at least.**
- ▶ did you get any feedback from parents? or were they involved at all **I emailed them to tell them what the extended homework task was. I have had some awesome feedback about the pages. Most are impressed with the IT skills of their children :)**
- ▶ Do you think your colleagues might be interested to make changes if your results show improvements? **I have got one colleague on board last year, I'm hopeful that all the Maths faculty will do it this year. I have been a bit sneaky and written it into the scheme of work for year 8.**
- ▶ see innovating pedagogy report 2014 **Thank you, I have found lots of items in this document which relate to my project. :)**
- ▶ my experience of peer review is that some do it really well, others have little idea and the feedback is not so beneficial to the receiver **We have been working on this all year, so the majority of students are good at this now. I was aware of the students who would find it difficult, so gave them some support to structure their feedback. I also gave the students, clear questions which they needed to answer about the project, which focused the very well.**
- ▶ interesting there is more of a culture of feedback
That's so important. A great skill to have at any age and helps with self reflection too
I think you may have a point there Angela. I generally find Australians more readily give out feedback **I love the Australian way, say it how it is.**

Thank you all for your questions :)

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