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Levelling the playing field: student and staff experiences of a curated, self-assessed, self-paced multimedia resource

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SkillBox, a curated, self-assessed, self-paced multimedia resource was developed for use by students as a way to increase their knowledge and confidence specific topics such as statistics, basic mathematics or referencing that are required in many tertiary subjects. A SkillBox uses adaptively scaffolded text, video and self-assessment quizzes, and is provided to students as an optional supplementary resource. We surveyed students and staff to evaluate the success of SkillBox across three teaching sessions. We found that engaging with SkillBox increased students' confidence, attitude and knowledge in the topic area covered in that SkillBox, and that both students and staff found the addition of SkillBox useful and would recommend its use in other subjects. Although more research is needed, we suggest that a resource such as SkillBox can positively contribute not only to student knowledge and confidence in a range of topics, but also to equity, retention, engagement and academic performance in the subjects where a SkillBox is promoted.

Keywords: SkillBox; online multimedia resources; self-assessment; adaptive scaffolding

Introduction

Many University subjects assume a certain level of existing knowledge or skill in learning areas taught within the subject. This existing knowledge or skill may have been learned in earlier subjects in the current course, or prior to entering the course. However, due to the time that has elapsed since learning a skill, how well the skill was learned, and the individual's learning background and current skill competency, there can be a significant variation in expertise in this learning area among cohort members (Webby *et al.*, 2015, Galligan, 2013). As a result, a significant amount of time can be spent ensuring all students are brought up to a comparable skill level, however it is important to ensure an equitable, flexible learning experience for all students (Garrison and Vaughan, 2013).

A number of learning areas were identified across a range of subjects and disciplines that can prove problematic in teaching those subjects. The learning areas identified include referencing, basic statistical concepts, matrix calculations and the use of the statistical software package, R, in subjects as diverse as Geographical Information Systems Algorithms, Environmental Data Analysis, Scientific Statistics, Forecasting and Risk Management, and Organisational Behaviour. The authors sought to find a solution that involved minimal ongoing effort of teaching staff, and minimal addition to student workloads.

Since the advent of Web 2.0 there has been a cultural shift of sharing and collaboration amongst society via technology, which has extended to the higher education sector (Collins, Deek and Hiltz, 2015). This shift has lent itself to the reuse of resources through digital curation, which can be defined as "the art and science of searching, analysing, selecting and organising content" (Antonio and Tuffley, 2015).

This form of digital resource reuse, coupled with an adaptive scaffolding design was seen as a potential approach to the identified problem and solution parameters. Individually, research has shown that multimedia elements (such as video, text, sound) and self-assessment and formative quizzes have the potential to improve student engagement, performance, retention, motivation and learning outcomes (Chen, 2014; Faridhan *et al.*, 2013; Nagel and van Eck, 2012). Bradley and Boyle (2004) demonstrated that a learning object approach – in their case, using multimedia learning objects in a programming subject – improved students' learning experience and results, reflected in improved grades.

Online learning in the higher education setting is now a popular form of delivery due to the significant growth and advancement of internet technologies and internet use (Wei, Peng and Chou, 2015). Even simple online resources can sometimes improve engagement (Anderson and Jacoby, 2013), while self-assessment quizzes have also been shown to improve both engagement and academic performance (Nagel and van Eck, 2012). Careful curation of multimedia resources such as videos and interactive tutorials can increase motivation, engagement and learning outcomes (Antonio et al., 2012) and ensuring the relevance and quality of the curated resources, as well as considering how students will navigate through them, is important for a successful learning experience (MacGregor and Lou, 2004). An adaptive scaffolding design provides the opportunity to guide students through a single knowledge area in a supported manner. This allows them to access the resources as needed at their own pace and in their own time, can be more appealing and motivational to students than a fixed learning sequence (Chen, 2014). Suggesting alternative ways to approach a task (strategic scaffolding in Hill and Hannafin's (2001) typology) can allow students to develop alternative perspectives and help them find new ways to solve problems (MacGregor and Lou, 2004).

In planning to build this resource, it was identified that the solution must integrate with the University's LMS Blackboard, be reusable by academic staff, require little to no interaction by academic staff once added to their LMS subject site, not form part of the subject assessment nor add significant workload for the student. The solution should be self-paced and scaffolded in such a way that students do not need to interact with teaching staff. Concepts covered in each learning area should be structured such that students can progressively work their way through the content and resources provided, but can also skip sections where they already possess sufficient knowledge and skills, assessing their understanding with a combination of formative self-assessments.

In this paper we discuss SkillBox, a suite of tools developed across a number of learning areas, to help "level the playing field" for students in a number of subjects and disciplines across Charles Sturt University (CSU). We start by describing the SkillBox framework. We then describe the methodology used to research how successful the SkillBox approach is, in terms of increasing student confidence and knowledge in the topic area, followed by results, and a discussion of the research outcomes.

SkillBox

SkillBox is a set of curated online resources that have been scaffolded to guide students through a single knowledge area, allowing them to access the resources at their own pace and in their own time. Each SkillBox address a single knowledge area that has been identified as problematic within certain subjects, for example the use of basic statistical functions within a business subject, or the use the statistical computing language R in a statistics subject. Figure 1 shows a screenshot from a section of the Descriptive Statistics SkillBox.

Each SkillBox consists of a series of subtopics, comprising introductory text and worked examples, existing high quality videos and online tutorials, additional resources for consolidation or deeper learning, and small, repeatable self-assessment quizzes. Each SkillBox is designed to be worked through by a student in less than ten (non-consecutive) hours, including revisiting resources and repeating quizzes as necessary.

Reusability is a key tenet of the SkillBox concept, both for the student and the academic. Subject coordinators are able to reuse previously created SkillBoxes, without the workload often required to source and provide high quality relevant resources. Students are able to access, or reuse, elements of each SkillBox as much or as little as they need, thereby meeting the needs of students across a wide range of pre-existing knowledge.

SkillBox does not form part of the curriculum or assessment for the subject and does not replace prerequisite or assumed knowledge; rather it fills in knowledge gaps or reinforces previously learned topics. As each SkillBox is designed to be 'set and forget', no interaction by academic staff is required to progress students through the SkillBox. If the SkillBox cannot be structured this way, then the knowledge area is considered not suitable for use within the SkillBox framework.

We anticipated that SkillBox would promote equity in the topic areas covered, and improve confidence and knowledge in the topic areas for those students who chose to engage with the tool. We also anticipated the subject coordinators would readily promote SkillBox for use in their subjects where appropriate.

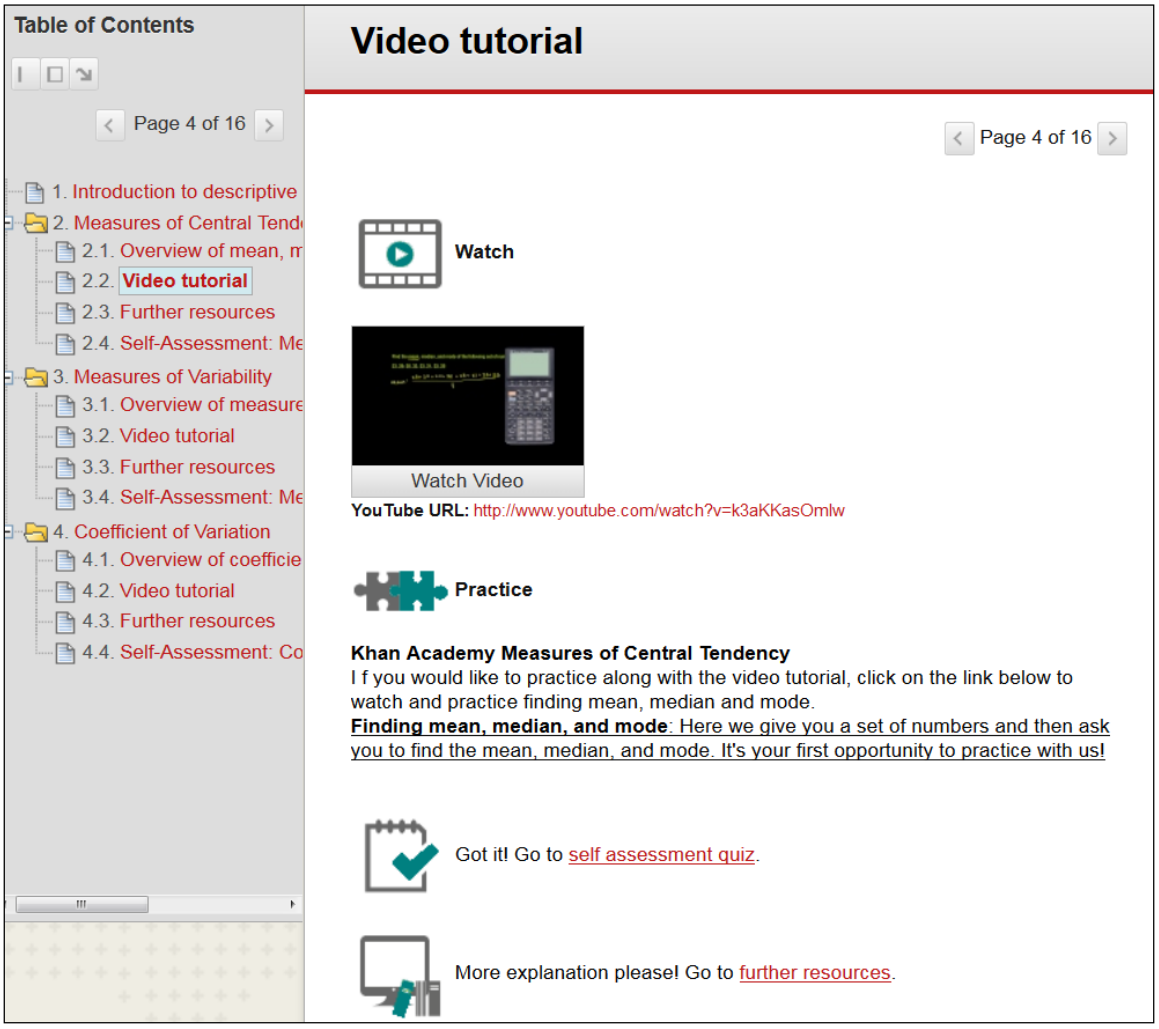

Figure 1. Screenshot from Descriptive Statistics SkillBox

Methodology

The research on SkillBox consisted of three components: a student pre-engagement survey, a student post-engagement survey (both implemented within Blackboard), and a follow-up survey for both students and subject coordinators (both implemented using SurveyMonkey) (Figure 2). These are described in more detail below.

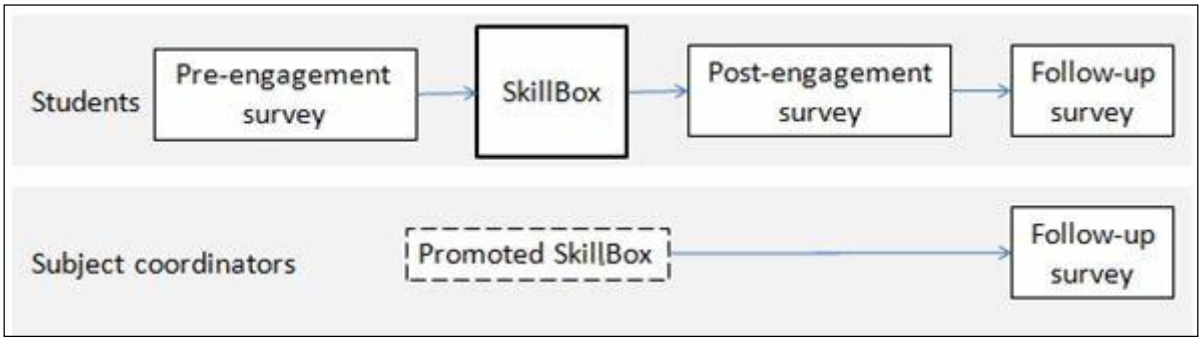

Figure 2. Research workflow

We invited students in subjects where a SkillBox had been promoted to participate in two surveys – one before engaging with SkillBox, and one after engaging with SkillBox. The surveys were designed to assess their attitudes, confidence and knowledge on the topic area, partly based on a validated questionnaire designed by Fogarty *et al.* (2001). Responses were recorded on a 5-point Likert scale, plus a category of Don't Know / Not Applicable. The final survey also asked for their feedback on what they found most and least useful about SkillBox, and how long they spent engaging with SkillBox. Survey questions are included in the Appendix. To date this research has covered three teaching sessions – in the two 2015 teaching sessions, Matrix SkillBox (basic matrix operations including addition, multiplication, determinants and inverses) was evaluated in a different graduate level distance education subject in each session. In the first 2016 teaching session, R SkillBox (introduction to the statistical computing language R) was evaluated in five subjects, a mix of face-to-face and online, and undergraduate and graduate level. In this session the Descriptive Stats SkillBox (basic descriptive statistics including mean, median, mode, standard deviation, normal distribution) was also evaluated in a graduate level distance education subject.

The relevant SkillBox was made available to students at the beginning of a semester. Students were emailed by the researchers to invite them to participate in the research, and to access SkillBox. Subject coordinators were also asked to bring SkillBox to students' attention at relevant points in the subject. Students were sent two follow-up emails in the first half of the Session to remind them of the SkillBox availability, and to complete the post-engagement survey when they felt they had finished using the SkillBox.

In addition to the pre- and post-engagement surveys, during the first session of 2016 we also asked students to rate their confidence in the answer they had just given when working through the SkillBox self-assessment quizzes. In July 2016 we invited students who had fully engaged in a SkillBox previously to complete a follow-up online survey. We also surveyed staff who had instructed subjects where a SkillBox had been promoted. We tested the shifts in responses between pre- and post-engagement surveys for statistical significance using the Wilcoxon Signed Rank Test (Bauer, 1972) and we also measured the correlation between accuracy (whether a question was answered correctly) and confidence (self reported confidence on a 4-point scale), using Wilcoxon Mann-Whitney test (Bauer, 1972). We recorded and classified by theme qualitative answers from post-engagement surveys and follow-up surveys.

Results

During the research period (March 2015-July 2016), in total 281 students were enrolled in subjects where a SkillBox was available. Of these 125 (44.5%) accessed SkillBox at least once, and 82 (29.2%) completed at least one self-assessment quiz. Not all enrolled students were invited to participate in the research for various reasons (e.g. their subject coordinator was one of the research investigators, or they had already had access to a SkillBox in a previous session). During the research period 234 students were invited to participate in the research, of which 26 (11.1%) accepted and completed the first survey, and 13 (5.5%) completed the post-engagement survey. These 13 students were invited to complete the follow-up survey, of which four responded. In addition, six subject coordinators who had promoted SkillBox in their subjects were invited to complete a follow-up staff survey, of which three responded.

On average, students reported spending 3 hours 28 minutes using SkillBox (range 40 minutes – 20 hours). From access patterns across students who used SkillBox, we observe that some students accessed SkillBox just once, and some multiple times over several weeks.

Confidence in the topic covered in the SkillBox (Q1: I am confident in the topic) increased on average by 0.92 points on the 5-point scale (Responses are classified so that for positively framed questions 1 = strongly disagree, 5 = strongly agree, and for negatively framed questions 1 = strongly agree, 5 = strongly disagree), significant at 95% confidence interval ($n=13$, $p=0.031$). Attitudes towards the topic (Q6: I find the topic frightening) also improved on average by 0.38 points after engagement with SkillBox, although not significantly at 95% confidence interval ($n = 13$, $p = 0.073$). Responses to other survey questions indicated increased confidence, and unchanged attitudes, but changes were small and not statistically significant (Figure 3).

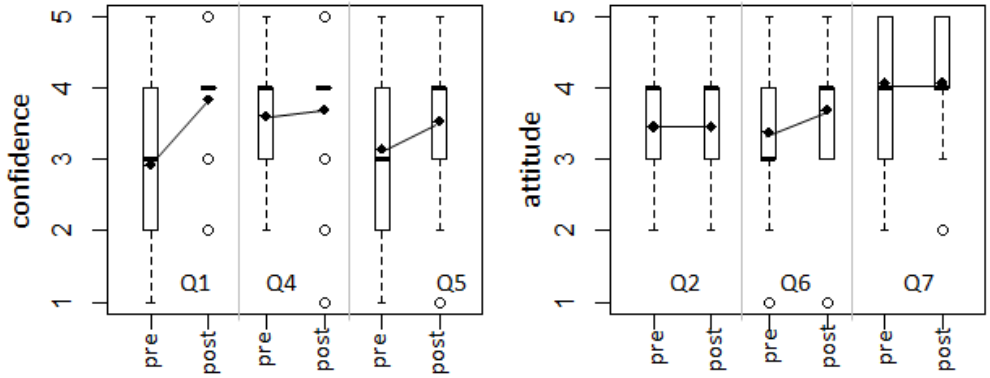

Figure 3. Changes in confidence (left) and attitude (right) pre- and post-engagement. See Appendix for questions

There is a correlation between self-reported confidence (How confident are you that you answered the previous question correctly?) and accuracy (whether the question was correctly answered) (Figure 4). On a 4-point scale the confidence mean was 2.86 (between "not very confident" and "somewhat confident") for incorrect answers, and 3.60 (between "somewhat confident" and "very confident") for correct answers. The difference is statistically significant ($p = 0.00$).

The students who participated in the follow-up survey found SkillBox somewhat or much better than multimedia resources provided in other subjects. All said that if SkillBox had not been available, they would have searched for similar third-party resources themselves, but they were not very, or only somewhat confident that these resources would be accurate and relevant to what they were studying.

The subject coordinators who participated in the survey all agreed or strongly agreed that introducing multimedia resources into their subjects helps students learn core concepts better. They reported that having SkillBox in their subject either didn't impact or decreased their workload. Whether subject coordinators usually provided their students with multimedia resources (their own or from other sources) or not, they all found the addition of SkillBox useful in guiding students through basic concepts and bringing their skills up to the level required.

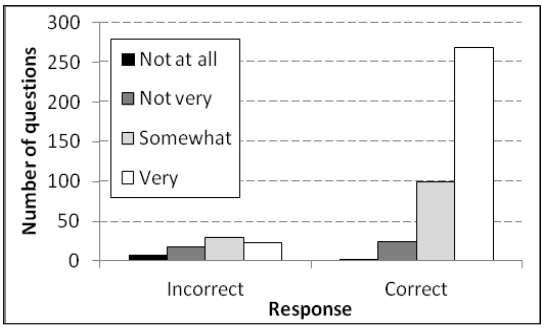

Figure 4. Self-reported confidence and accuracy

Qualitative data collected from the post-engagement and follow-up surveys showed that the many students found SkillBox very useful:

> A number of elements were useful: use of simple examples to highlight core principles, easy to access format and repeated access (Student – Matrix SkillBox)
>
> I really relied on SkillBox... SkillBox provided me with all the relevant information I needed to get started with the subject and as a reference tool to return to later... It was for me at least a very valuable tool (Student – Matrix SkillBox)
>
> I was very satisfied with the SkillBox experience (Student – Matrix SkillBox)

The elements they found most useful were the videos, and the fact that the instruction was basic and relevant to their subject:

> I liked that it was quite basic instruction (Student – Matrix SkillBox)

> (Most useful were) the video tutorials and the quizzes offered (Student – Descriptive Statistics SkillBox)

Some called for more examples and explanations:

> Explain more what can be learned from the examples...What it teaches us (Student – Descriptive Statistics SkillBox)

> (Need) more examples of the application / relevance ... early on (Student – Matrix SkillBox)

Both students and staff saw the need for more SkillBoxes in more subjects:

> I would recommend incorporating SkillBox in as many other subjects as possible (Student – Matrix SkillBox)

> (I would promote the use of SkillBox as) it provides engaging meaningful content which helps students get prepared for the subject (Subject coordinator – Matrix and R SkillBoxes)

Discussion

This research shows positive results for both students and subject coordinators who engaged with a SkillBox. However, the response rates were low for a variety of reasons (Sankey and Whitsed, 2016), and in addition only students who actually engaged in SkillBox also participated in the research. It is much more difficult to discover why students chose not to engage in SkillBox, or disengaged without completing any of the self-assessment quizzes. This may be because the SkillBox was unnecessary for them (they already possessed the skills and knowledge covered), or because they found it confusing or not useful.

SkillBox was designed to be a resource that should take no more than ten hours for a student to work through. The average reported time spent was around three and a half hours, but it is possible that students who did not participate in the research spent less time than this engaging in SkillBox. It was always intended that SkillBox would be a resource to be used only by those who needed it to bring their skills up to the required level, so it is acceptable that some students might spend very little time looking at the content, while others might return to the resource often, completing the self-assessment quizzes multiple times.

We measured an increase in confidence in the topic area after engaging with SkillBox. Although student levels of confidence are not necessarily an indicator of performance (Lodge and Kennedy, 2015), in this study we did find a clear correlation between higher confidence and correct answers. It is not clear however whether the confidence was gained because of the SkillBox content, or whether the students already possessed confidence in and knowledge of the topic.

The students and staff who responded to the surveys all found the SkillBox resource useful in some way, although again it's possible there were students who did not find it useful who did not participate in the research. Most liked the way the SkillBox is currently structured, with the combination of videos, worked examples and self-assessment quizzes, but it is clear that as new SkillBoxes are created, they need to be carefully curated to contain appropriate content delivered at the right level for the students using it.

The SkillBox concept was also designed to be easily incorporated into subjects with no extra workload for subject coordinators, and so far this appears to be the case. Students increasingly expect richer multimedia resources in their subjects (Devlin and McKay, 2016), and a SkillBox is one way for subject coordinators to provide this, with minimal cost (i.e. time and effort that can be spent elsewhere in the subject).

We also hypothesise that provision of a SkillBox in a subject could have a positive impact on student satisfaction, student retention and academic performance, not just because of the SkillBox content, but due to the equity provided in providing all students the opportunity to increase their skills and knowledge independently. Testing these hypotheses is outside of the scope of the current research however.

To date four SkillBoxes have been created (Matrix, R, Descriptive Statistics and Referencing) and research is continuing until the end of 2016. We are currently establishing processes to ensure that SkillBoxes (existing and future) can be promoted and used across the university, and eventually more widely in the academic community.

We have referred to the benefits of an adaptive scaffolding design, however it should be noted that SkillBox is only adaptive in the sense that the student can decide how to proceed based on their experience of the resources. The need for a truly adaptive design will be considered in future versions of SkillBox. In addition, although this research was designed to measure the success of the SkillBox instrument, a design-based research approach (Reeves *et al.* 2005) could be used to address the wider issue of providing scaffolding for tertiary students, and how best to approach this. The suitability and applicability of a design-based approach will be investigated in future research on the use of SkillBox.

Conclusion

In order to provide an equitable tertiary learning experience for all students, flexibility is needed in the way content is conceived and delivered (Garrison and Vaughan, 2013). Appropriately curated online multimedia resources can play an important role in ensuring equitable access, by scaffolding students' knowledge and skills so that they approach the core content of a subject on a more equal footing.

A resource such as SkillBox can be one piece of the puzzle in improving outcomes for students across a range of measures, including confidence in a topic, content knowledge, attitudes towards the topic, and possibly wider measures such as student satisfaction, engagement, motivation, retention and academic performance.

This research demonstrates that there is a need for such resources, however further research is required to determine the impact of resources such as SkillBox on students' overall academic performance and experience.

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References

Anderson, C. and Jacoby, J. (2013) Using simple technologies to improve student engagement and success in an online applied-science course: a case study. In H. Carter, M. Gosper and J. Hedberg (Eds.) *Electric Dreams*. Proceedings ascilite Sydney 2013 (pp. 47-51). http://www.ascilite.org.au/conferences/sydney13/program/papers/Anderson.pdf

Antonio, A., Martin, N. and Stagg, A. (2012) Engaging higher education students via digital curation. In M. Brown, M. Hartnett and T. Stewart (Eds.) *Future challenges, sustainable futures*. Proceedings ascilite Wellington 2012 (pp. 55-59) http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/antonio%2c_amy_-_engaging.pdf

Antonio, A. and Tuffley, D. (2015) Promoting information literacy in higher education through digital curation. *M/C Journal 18*(4)

Bauer, D.F. (1972) Constructing confidence sets using rank statistics. *Journal of the American Statistical Association 67*, 687-690

Bradley, C. and Boyle, T. (2004) The design, development and use of multimedia learning objects. *Journal of Educational Multimedia and Hypermedia, 13*(4), 371-389

Chen, C.-H. (2014) An adaptive scaffolding e-learning system for middle school students' physics learning. *Australian Journal of Educational Technology 30*(3), 342-355

Collins, R., Deek, F., & Hiltz, S. (2015). Share and Share Alike: Integrating Internet Resource Sharing Into Learning, *Twenty-first Americas Conference on Information Systems*, Puerto Rico, 2015

Devlin, M. and McKay, J. (2016) Teaching students using technology: Facilitating success for students from low socioeconomic status backgrounds in Australian universities. *Australian Journal of Educational Technologies 32*(1), 92-106

Faridhan, Y.E., Loch, B. and Walker, L. (2013) Improving retention in first-year mathematics using learning analytics. In H. Carter, M. Gosper and J. Hedberg (Eds.) *Electric Dreams*. Proceedings ascilite Sydney 2013 (pp. 278-282). http://www.ascilite.org.au/conferences/sydney13/program/papers/Faridhan.pdf

Fogarty, G.J., Cretchley, P., Harman, C., Ellerton, N. and Konki, N. (2001) Validation of a questionnaire to measure mathematics confidence, computer confidence and attitudes towards the use of technology for learning mathematics. *Mathematics Education Research Journal 13*(2), 154-160

Galligan, L. (2013) A systematic approach to embedding academic numeracy at university. *Higher Education Research and Development 32*(5), 734-737

Garrison, D. R., and Vaughan, N. D. (2013). Institutional change and leadership associated with blended learning innovation: Two case studies. *The Internet and Higher Education, 18*, 24–28
Hill, J., & Hannafin, M. (2001). Teaching and learning in digital environments: The resurgence of resource-based learning. *Educational Technology Research and Development, 49*(3), 37–52
Lodge, J.M. and Kennedy, G. (2015) Prior knowledge, confidence and understanding in interactive tutorials and simulations. In T. Reiners, B.R. von Konsky, D.Gibson, V. Chang, L. Irving & K. Clarke (Eds.) *Globally connected, digitially enabled*. Proceedings ascilite 2015 in Perth, pp. FP: 178-FP:188
MacGregor, K. and Lou, Y. (2004) Web-Based Learning: How Task Scaffolding and Web Site Design Support Knowledge Acquisition, *Journal of Research on Technology in Education*,(37) 2, 161-175
Nagel, L. and van Eck, L. (2012) Sustainable learning through formative online assessment: using quizzes to maintain engagement. In M. Brown, M. Hartnett and T. Stewart (Eds.) *Future challenges, sustainable futures*. Proceedings ascilite Wellington 2012 (pp. 692-699) http://www.ascilite.org.au/conferences/wellington12/2012/images/custom/nagel%2c_lynette_-_sustainable.pdf
Reeves, T.C., Herrington, J. and Oliver, R. (2005). Design research: a socially responsible approach to instructional technology research in Higher Education. *Journal of Computing in Higher Education, 16*(2), 96-115
Sankey, M. and Whitsed, R. (2016, submitted) Failing forward in research around technology enhanced learning. Submitted to *Show me the Learning*. Proceedings ASCILITE Adelaide 2016
Webby, B., Quinn, D., Albrecht, A. and White, K. (2015) Mind the gap: Exploring knowledge decay in online sequential mathematics courses. In T. Reiners, B.R. von Konsky, D. Gibson, V. Chang, L..Irving & K. Clarke (Eds) *Globally connected, digitally enabled*. Proceedings ascilite 2015 in Perth, pp. CP: 235-CP:240

Appendix

Pre-and post-engagement student survey

Unless indicated, responses are on a 5-point Likert scale from Strongly Agree to Strongly Disagree

Q1. I am confident in the topic
Q2. I am not interested in the topic
Q3. I can see the relevance of the topic to my degree
Q4. I think it will take me (took me) longer to understand the topic than the average person
Q5. I know I can handle difficulties in the topic
Q6. I find the topic frightening
Q7. I think understanding the topic will be (was) important in this subject
Q8 – pre: I have studied this topic previously (Y/N)
Q8 – post: I have learned a lot about the topic
Q9 – post: How much time did you spend using SkillBox? (open answer)
Q10 - post: What did you find most useful in SkillBox? (open answer)
Q11 – post: What did you find least useful in SkillBox? (open answer)
Q12 – post: Do you have any suggestions for improvement? (open answer)

Follow-up student survey

Q1. Which SkillBox did you use? (R / Matrix / Stats)
Q2. Which subject did you use the SkillBox in? (open answer)
Q3. Have you been provided with multimedia resources (not SkillBox) in other subjects (not this subject)? (Y/N) If so, what? (open answer)
Q4. How would you rate SkillBox compared with multimedia resources provided in other subjects? (Much better / Somewhat better / About the same / Somewhat worse / Much worse / Not applicable)
Q5. Did you source alternative multimedia resources in addition to using SkillBox in this subject? (Y/N) If so, what? (open answer)
Q6. How did these resources compare to SkillBox? (Much better / Somewhat better / About the same / Somewhat worse / Much worse / Not applicable)
Q7. If SkillBox had not been available in this subject, would you have searched for similar third party resources yourself? (Y/N)
Q8. How confident are you that the third party resources you find yourself are accurate and relevant to what you are studying? (Very confident / Somewhat confident / Not very confident / Not at all confident)
Q9. How motivated are you to find third party (non-CSU) resources to support your study? (Very motivated / Somewhat motivated / Not very motivated / Not at all motivated)
Q10. When you find resources that you have found to be useful and beneficial, do you share them with other students? (Often / Sometimes / Rarely)
Q11. Do you have any further comments about your experience with SkillBox? (open answer)

Follow-up staff survey

Q1. Which SkillBox did your students use? (R /Matrix / Stats)
Q2. Do you believe that introducing multimedia resources into your subject helps students learn core concepts better? (Strongly Agree / Agree / Neither Agree nor Disagree / Disagree / Strongly Disagree)
Q3. How did having SkillBox in your subject impact on your workload as Subject Coordinator / Lecturer? (Descreased my workload / did not impact my workload / increased my workload)
Q4. To what extent do you create your own multimedia resources in this or other subjects? (Often – many resources in most subjects / Sometimes – some resources in some subjects / To a small extent – one or two resources in one or two subjects / Almost never)
Q5.To what extent do you source existing multimedia resources from credible third party sources? (Often – many resources in most subjects / Sometimes – some resources in some subjects / To a small extent – one or two resources in one or two subjects / Almost never)
Q6. Have you had any feedback from students in this subject about using SkillBox? (open answer)
Q7. What changes, if any, have you found in students being able to comprehend the core concepts portrayed in SkillBox? (open answer)
Q8. Would you promote the use of SkillBox in future offerings of this subject? Why or why not? (open answer)
Q9. Do you have any suggestions on how SkillBox could be improved? Are there any other topics that you would like to see a SkillBox developed for? (open answer)
Q10. Do you have any further comments about your experience with SkillBox? (open answer)

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