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Creating Open Educational Resources for a Flipped Statistics Classroom

Student Dissertation

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SAT: Creating Open Educational Resources for a Flipped Statistics Classroom (Vicky Hindle).

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Vicky Hindle

8 January 2019

Conference abstract

According to Sparks (2017), Open Educational Resources (OERs) can include freely available applications that can be used to create lesson materials. The aim of this project is to create interactive Open Educational Resources for a flipped statistics classroom using Google Slides and Nearpod. These resources will be designed for adult learners undertaking Access to HE courses within a Further Education setting in the UK. However, these resources will be published under CC BY-NC-SA, a Creative Commons Licence (2019) to enable practitioners to adapt these materials to suit their own contexts.

With a flipped approach, students learn subject content outside of class, giving teachers more time in class to utilise active learning strategies such as group work and peer learning (Rotellar and Cain, 2016). Akçayır and Akçayır's (2018) review of 71 journal articles suggests that the flipped approach can improve student motivation and outcomes in terms of grades achieved. This is especially important for adults on Access to HE courses where universities are demanding that more units are achieved at merit and distinction. Their review suggests that these improved outcomes may be the result of teachers having more time in class to devote active teaching strategies such as peer learning, group work, problem solving and class discussions. However, it is worth noting that only 3% of the journal articles reviewed Akçayır and Akçayır focused on adult learners, making it difficult to generalise the results.

Furthermore, creating resources for flipped statistics classroom can be a time-consuming process. According Little (2015), one of the barriers to implementing a flipped statistics classroom is having the time to develop resources. Teachers in Akçayır and Akçayır's (2018) review noted that a flipped model requires more time and could potentially increase workload. Wanner and Palmer (2015) report that it can take up to six times longer to prepare materials for a flipped classroom (cited in Akçayır and Akçayır, 2018). Nonetheless, as Rotellar and Cain (2016) point out, initial implementation of a flipped classroom may initially increase workload for teachers, but should decrease once materials have been created.

This conference demonstration aims to show how applications, such as Nearpod, might help to reduce the time taken to create interactive resources for use in and outside of the classroom.

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OU H818 'The Networked Practitioner' Online Conference 2019

Nearpod is a cloud-based presentation application, but users can upload existing presentation slides from either Google Slides or PowerPoint and add interactive slides such as polls, quizzes and collaborative slides (Nearpod, 2019). Nearpod's silver subscription is free and users have access to basic interactive features such as multiple-choice quizzes and polls. Making online resources interactive may help to improve student participation, how well students understand a topic and their critical thinking skills (Meguid and Collins, 2017). Research by Amasha et al. (2018) showed that students who had learnt content via Nearpod scored higher test scores compared to students who had learnt content via PowerPoint alone. This demonstration will also outline the advantages and disadvantages of Google Slides and Nearpod, and how these resources can be shared, reused and remixed.

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[Munir Moosa Sadruddin](#)

11:21am 25 January 2019 [Permalink](#)

Hi

Your topic sounds interesting! It is pertinent too!

I have a couple of questions:

Do you think adult learners are willing to spend more time learning outside the class?

What was your motivation behind selecting Statistics for OER?

Nearpod's silver subscription is free but not all features are accessible to them. Is there any alternative options also available? Any open source platform/?

Munir



[Vicky Hindle](#)

7:42pm 25 January 2019 [Permalink](#)

Hello Munir,

I find that most adults are prepared to study at home. Most realise they need to do the extra study outside of class to achieve the grades that universities are demanding. I was concerned that that taking a flipped approach might to to the workload for students, so tried to design learning materials that wouldn't take the students too long to work through. However, some adult learners do struggle to find the time to study outside of college due to work and family commitments.

The reason for selecting Statistics for OER was because I started teaching a unit 'Statistics for psychology' in October of last year. I was initially interested in using existing OER such as Khan Academy videos, which I did use as some of them were very good. However, there didn't seem to be many OER teaching materials suitable for level 3 adult learners (A level equivalent) who had not done maths since high school and who also lacked confidence in this area. This was one the I decided to create my own OER materials to share (Most resources seem to be geared towards undergraduate learners).

I am fortunate enough to have a school user account for Nearpod, so have access to all its features. There is another similar application called Peardeck. However, as with Nearpod, you have to pay a subscription to access all of its feature. I have had a quick search, and can't find an Open Source alternative.



[Phill Grimes](#)

12:37am 13 February 2019 [Permalink](#)

There is no doubt for me of nearpod's capabilities. I often feel that projects like this will always want answers on comparisons. For my project it will always be G Suite v Office 365.

Could yours be Nearpod v Peardeck? How much of crossover do you think there will be in your results to Peardeck, or is nearpod a superior beast?



[Vicky Hindle](#)

8:29pm 14 February 2019 [Permalink](#)

Hello Phil,

This is an interesting question.

I tried out Pear Deck last year. You can either upload slides to Peardeck or you can add it as an 'add on' in Google Slides. You can then insert interactive slides such as polls and quizzes. As with Nearpod, Peardeck has free versions and paid subscriptions. So they are both quite similar. However, I found that Peardeck took ages to load up when I started my lessons. Not sure if this was something to do with our IT systems or Peardeck. To be honest with you, I haven't tried Peardeck for long enough to make a judgment regarding which one is 'superior'. You might find this article useful, though.

[Nearpod and Peardeck - A comparison](#)



[Dr Simon Ball](#)

5:13pm 18 February 2019 [Permalink](#)

Hi Vicky

Well done on a great presentation! Here is a summary of the comments and questions you received following your presentation (including those you may have addressed verbally). Please respond in whatever way you choose - I suspect you may wish to deal with the first few in one response!

Best wishes

Simon

- ▶ Good point re having to make double resources in flipped approach! Nobody ever points that out!
- ▶ what is the risk if service is withdrawn?
- ▶ Is the content you create private or public?
- ▶ Do you have a full set of stats course slides you can share?
- ▶ Wonder what the silver subscription involves, are there any hidden costs or long term commitments?
- ▶ The interactive part is so important for the flipped classroom to not just have an online lecture
- ▶ How does the student paced feature work?
- ▶ Vicky can you export it as a SCORM?
- ▶ Can you drip-feed each section? i.e. next part opens upon completion of previous part?



[Vicky Hindle](#)

8:03pm 20 February 2019 [Permalink](#)

Thanks Simon,

Here are my responses:

- ▶ **what is the risk if service is withdrawn?** Nearpod is a popular with over 1.3

million teachers using it (according to Nearpod's website). I don't think there is any danger of it closing down soon. However, if the services are withdrawn then presentations might be lost. To mitigate against this, presentations could be created in Powerpoint or Google slides before uploading to Nearpod. That way, the bulk of the content will be saved.

- ▶ **Is the content you create private or public? It is private until it is shared.** With the paid version, you can create a student paced version and then share the link to a VLE or website. You can also share a copy to a colleague via email so that they can adapt it for their own classes.
- ▶ **Do you have a full set of stats course slides you can share?** I do have a full set of stats slides I can share: I plan to create either a website or MOOC to share the resources and publish them under a creative commons license.
- ▶ **Wonder what the silver subscription involves, are there any hidden costs or long term commitments?** With the silver subscription, you just get basic multiple choice quizzes, open questions and polls. I don't think there are any long term commitments, but you have to pay for more advanced features such as collaborative slides, drawing slides and student paced mode.
- ▶ **How does the student paced feature work?** You need to click on student paced mode. You are then given the option to post a link or a code to a VLE. Once the student paced link has been posted to the VLE or website, students can then work through the presentation at their own pace and complete the interactive quizzes. You can also check if the student has viewed the presentation by clicking on 'reports'
- ▶ **Vicky can you export it as a SCORM?** I have had a look and it does not look like you can export to SCORM
- ▶ **Can you drip-feed each section? i.e. next part opens upon completion of previous part?** I don't think that this can be done for student paced mode as students can skip slides. However, with the live session mode, the teacher controls the pace of the session.



[Dr Simon Ball](#)

8:14am 28 February 2019 [Permalink](#)

Many Congratulations Vicky! Your presentation has been voted by delegates to be one of

the most effective of the H818 Online Conference 2019 and you are officially one of our 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



[Vicky Hindle](#)

7:51pm 2 March 2019 [Permalink](#)

Thanks Simon,

I am surprised considering there were so many great presentations during the conference :-)



[Bina Howard](#)

1:26am 5 March 2019 [Permalink](#)

Thank you Vicky for a very insightful presentation and has certainly given me plenty to think about the uses of cloud based presentation. The rationale was clear and enjoyed following your learning journey pre H818 and now post. Good luck in your endeavours.

Congrats on the badge too.

Bina

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