WED: How can Learning Analytics be used to Support Secondary Educators? (Julie Skeats)

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Julie Skeats
8 January 2017

How can Learning Analytics be used to Support Secondary Educators?

The aim of this presentation is to identify how learning analytics can be used to support secondary educators. A survey conducted by the Guardian identify how "unmanageable" workloads were having an impact on teachers physical and mental health, with many working "49-65 hours" a week, within the next five year almost half planned to leave the profession (Niemtus, 2016). Eight-in-ten teachers in a union survey identified being under pressure to hit exam benchmarks with "non-core" disciplines admitting teaching to test, as their disciplines were being ignored as schools focussed on English and maths, meaning it was "hard to teach a broad and balanced curriculum" (Paton, 2014).

The project focus will be innovation and how learning analytics can be used to assist secondary educators to collect actionable knowledge. The project will be presented as a multimedia presentation/demo.

The Open University Innovation reports (2012, 2014, 2015) indicated that "learning analytics will become innovative pedagogy during 2016 – 2018". Currently, most research and practice focus on classifying learning performance, showing teachers visualization of students needing support and those doing well, helping educators to understand and improve learning for students. (Mike Sharples, 2016)

Universities gather vast amounts of data mapping students' studies. These datasets are growing, leaps in technology and methodology mean that data gathered can be analyzed easier, however, data is often not being used ((UUK), 2016). The large quantities of data from teaching and learning can be used to predict students who need additional support (Mike Sharples, 2016). Learning analytic powerful tools offer institutions increased efficiency, enabling a better understanding of personal learning needs and supports the teaching and learning process. ((UUK), 2016)

Traditionally education has used quantitative methods to collect data, however, the use of massive open online course (MOOCs) is now allowing educators to collect data about learners and how they learn. Until recently all that data has been untapped. Currently, much of the data available exists in varied forms across systems and locations. Learning Analytics and educational data mining could transform the data into knowledge and lead to improved

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education (Dean, 2016).

The field of learning analytics is entering a time to make a difference in education. The New American Foundation claimed in a current teacher survey that 87 percent identified analytics as being a powerful instruction tool in the classroom (Dean, 2016).

The project presentation will look at an innovative learning platform called Literatu. Literatu is a "cloud-delivered, adaptive formative assessment platform" developed in Australia. The project will look at the capability of Literatu to support secondary educators in the areas of:

- Learning analytics insights.
- Formative assessment interaction and data collection.
- Achieving time efficiencies in marking and assessment management. (Literatu, 2016)

Word Count: 452

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Contribute

Jude Toasland
12:36pm 28 January 2017 Permalink

I have so much sympathy with the pressures upon secondary teachers and welcome innovative methods of addressing this area. I had not considered the use of analytics, which is an area I know little about, so will follow this presentation with interest, and explore the adaptability to other settings.

Mary Howell
8:59pm 28 January 2017 Permalink

This is a fascinating area. I see very clearly what you are saying about a fantastic opportunity to find out more about how people learn using MOOC data and having a quantitative source (sources?). Do you think this will just tell us about how people learn online and specifically how they learn during MOOCs or do you think that will reflect how they learn in other contexts? In other words will the information on how people learn be transferrable do you think?

I think your use of the term 'actionable' information is spot on here, as i feel there is lots of data gathered in secondary schools at the moment, but this can be seen as an an end in itself, rather than informing actions. I haven't read it in much detail and I expect you may have come across it anyway, but one of the DfE's recent workload reviews was about using data managemnt more effectively. It's here in case you haven't seen it and think it might be relevant https://www.gov.uk/government/publications/reducing-teachers-workload/reducing-teachers-workload

Sarah Adrienne Hughes
10:53am 29 January 2017 Permalink

Hi Julie,

I too am facinated by learning analytics. I attended a workshop from JISC, as they have started a pilot project in Universities from September 2016.

One aspect: they looked at using student led questionaires that give students feedback on what they know and need to focus on (no marking needed) in weeks 2, 5 and 10 of a curriculum, which could then be analysed for student progression.

Do you have IT systems that you could 'search' for this sort of information? I assume that you now have a VLE for secondary education that the students interact with?

I wish I could be at your presentation, but we have an eqivalent to your OFSTED on Wednesday. I look forward to viewing the recording...

Sarah

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jan turner
6:53pm 5 February 2017 Permalink

Hi Julie, it's now difficult to imagine any decision on delivery being taken without an examination of 'big data' or relevant analytics. So what are the pitfalls do you think? Look forward to your presentation on such a topical subject.

Paul Curran
9:01am 6 February 2017 Permalink

Looking forward to this presentation Julie, I have a limited experience of learning analytics but for the most part it has been very tool specific. So Khan academy offers analytics on how learners have interacted with it but I need to interpret that in the context of the wider picture.

Best of luck

Julie Skeats
7:32pm 6 February 2017 Permalink

Hi Mary It would be great if what students learn they then transferred this knowledge to other subjects. From experience I have found that the secondary students I work with struggle so see the connections between what they do in one subject and how it can then be used in another.

Julie Skeats
7:42pm 6 February 2017 Permalink

Hi Sarah I will be talking about the platform I am currently using in my presentation and hopefully it will answer your question.

Julie Skeats
7:42pm 6 February 2017 Permalink

Hi Jan I think the pitfalls will be convincing staff who don't like using technology the benefits to them. At the moment I am trialling it and will need to provide evidence of the benefits of why others should adopt it. The only other problem is if the internet goes down.

Dr Simon Ball
2:50pm 15 February 2017 Permalink

Hi Julie

Please find below the main questions and comments from your live presentation. It's up to you how to answer them, whether you wish to group them, or whether you wish to point to an answer already given above, for example.
Best wishes
Simon

> What is the risk of giving all teachers access to learning analytics simply adding to teachers workload (if they are unfamiliar with LA application)?

> Have you been able to use analytics to change your approach if you don't eel it's working?

> Does each teacher need to do this uploading or can it be done across one or more schools to make more efficient use of time overall?

> I wonder how much time this can also potentially save when a locum teacher is used. -- As well as improving learning continuity for students?

> I like the idea of being able to record verbal feedback

> Really interesting Julie, do you find preparation time is reduced though?

> so it is partlyin student control -- really useful!

> [Good for locum teachers and] even better for that modern invention the cover superviser

> Do you think this approach may reduce opportunities for students to interact and learn from each other by marking each others work?

> I think some teachers xwould appreciate a hands on session with help exploring the tool in the initial stages

> Thanks Julie, really good to get the secondary school perspective on analytics

> Could in principle have very large classes of students working on this type of material and free up teachers time to do other things

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[Julie Skeats](#)
8:07pm 15 February 2017 (*Edited 7:41am 16 February 2017*) [Permalink](#)

Thank you, Simon, for the questions comments from the presentation. Below are responses to the questions and comments from today's presentation. If you require further explanation please let me know.

• What is the risk of giving all teachers access to learning analytics simply adding to teachers workload (if they are unfamiliar with LA application)?

The particular platform Literatu which I have been using, and I have found it extremely user friendly, however I have had experience of using Learning analytics where the teachers have had to upload data, which takes time, then displaying the data has been time consuming and the using the site was not friendly. So I understand your concerns. I don't feel that it would add to teachers workload using Literatu as teachers create or use worksheet /resources with students already, the time taken to map and make the resource interactive seem to be time consuming, however you then need to think about the time the teacher then spends marking and recording what the students achieved. The feedback has already been mapped, all the teacher has to do is add a score by the question if it is a

question that is a manually marked question. The marks are automatically recorded, the students can see their marks. I have found that the time I now spend marking has greatly reduced and I now have a better picture of my students, especially as the work is linked to curriculum criteria, so I can now quickly see if I need to over any particular topic, or which students need extensions.

Julie Skeats
8:17pm 15 February 2017 (*Edited 7:42am 16 February 2017*) Permalink

• Have you been able to use analytics to change your approach if you don't eel it's working?

I have found that the insight it has given has helped with differentiation as you can assign different activities to different students and set up pathways, if students achieve a certain grade they will go down one pathway, for example, to extend that student or another pathway if a student needs additional practice. The live monitoring feature has been really useful as I can stop the class if I see an issue with students answering a question or go and talk to individuals as they work to clarify their understanding of a particular question they might have got wrong.

Julie Skeats
8:28pm 15 February 2017 (*Edited 7:43am 16 February 2017*) Permalink

• Does each teacher need to do this uploading or can it be done across one or more schools to make more efficient use of time overall?

As a department we have been sharing uploading and mapping, once the resources are uploaded they are available for everyone within your community or you can make the resources public so anyone on Literatu has access to your resources. Another aspect which I did not manage to cover because of time was how you can create questions which are again interactive, drop and drag, true/false, matching questions to name but a few, but what you can then do is use this bank of question which you create at different levels and skills and put them together in whatever order you want and then assign to students. These are useful for revision aids to help students test their knowledge.

Julie Skeats
8:29pm 15 February 2017 (*Edited 7:45am 16 February 2017*) Permalink

• I wonder how much time this can also potentially save when a locum teacher is used. As well as improving learning continuity for students?

• [Good for locum teachers and] even better for that modern invention the cover supervisor.

Once resources have been created it takes seconds to assign so its ideal to use for supply teachers, as you can set the work ready, and unlike what sometimes happens work gets lost, work can't get lost. The work appears on the student's dashboard and as soon they submit their work they have feedback which they can then use to self-assess. Resources

can be set up with hints to help support students, and give them links to websites that will help students with their task. So even if the supply teacher isn't a specialist the students can be supported.

Julie Skeats
8:31pm 15 February 2017 (*Edited 7:46am 16 February 2017*) Permalink

• I like the idea of being able to record verbal feedback

Using Verbal feedback is a good option as it's similar to what you would do in the classroom as the students listen to what you say, where as often feedback written in books days after they have completed they don't always read. Verbal feedback also means you can give a more in-depth feedback than what you would probably write.

Julie Skeats
8:34pm 15 February 2017 (*Edited 7:48am 16 February 2017*) Permalink

• Really interesting Julie, do you find preparation time is reduced though? At first when I had to set up the curriculum criteria that was the most time consuming, but now I find I spend maybe an extra five/ten minutes

At first when I had to set up the curriculum criteria that was the most time consuming, but now I find I spend maybe an extra five/ten minutes to map the resource. (adding the score for each question, feedback, and any hints or links). This little bit of extra time means that my marking time has been reduced. Where I could spend hours marking one classes books, I can do twice as much and I am giving better feedback then I used to give as I is more detailed.

Julie Skeats
8:37pm 15 February 2017 (*Edited 7:49am 16 February 2017*) Permalink

• Do you think this approach may reduce opportunities for students to interact and learn from each other by marking each others work?

The platform isn't taking over, like anything it is just another tool for teachers to use and help them work smarter. I still get students to peer assess and they get more opportunities to self-assess when they view their feedback against keywords or model answers.

Julie Skeats
8:38pm 15 February 2017 (*Edited 7:50am 16 February 2017*) Permalink

• I think some teachers would appreciate a hands on session with help exploring the tool in the initial stages

When I introduced the platform to my department, I gave them a hands-on session showing them how to set up and map resources. The platform has a good support site, so if someone isn't sure they can refer to the manual, or email any queries.

Julie Skeats

8:40pm 15 February 2017 (*Edited 7:52am 16 February 2017*) Permalink

• Could in principle have very large classes of students working on this type of material and free up teachers time to do other things

Having a better insight into students means that teachers time can spend targeting students in areas of weakness. It has also meant for me to have a better work-life balance. I am not coming home from work every night and spending weekends marking. I am now able to work smarter. and am starting to feel less stressed.

Andy Brooks

8:40am 24 September 2017 Permalink

Hi Julie, I am looking to have a look at Literatu, have you any advice on getting going with it?

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