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Using an online digital wall board to promote student activity in a library course

Best practice article

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Abstract

The content in library courses is highly relevant for students to perform well in their studies. But the material taught by librarians is usually not part of the curriculum and will not be tested directly in summative assessments. Students therefore tend to be passive and uninvolved in these lectures. The aim of this study was to investigate whether a digital online tool can help students to be more active and engaged. The proportion of students who used this tool to interact with the lecturer varied slightly among the different classes in the study, but the participation rate was relatively high overall. A lesson learned for later use of this kind of tool is that it is important to have planned how students should use the tool, and how the teaching must be organized to make that use possible.

Keywords: active learning, online tool, source evaluation, one-shot-session, teaching in the auditorium, Padlet

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Introduction

The purpose of this study was to investigate whether a digital online tool can help students to be more active in library classes. Several studies in recent years have confirmed that students who actively participate in learning activities will increase their learning outcomes (Biggs, 1999; Freeman et al., 2014; Prince, 2004; Tinto, 1997). Lectures in many universities are often given in large classes in an auditorium (Kvernbekk, 2011). Under these circumstances, it can be difficult to get students engaged in learning activities. In recent years online platforms and tools have given teachers new opportunities for interacting with their students. Many of these tools are designed for use in courses where the teacher or lecturer follows the students through a semester, and where there is some form of summative assessment as part of the course (Ludvigsen, Krumsvik, & Furnes, 2015). In this study, the purpose was to explore if such a tool could also increase the learning activity in a single "one-shot-session" lecture without summative assessment, because this is often the case for library courses. The study also wanted to examine whether information obtained using such tool could provide a basis for a better understanding of the student's knowledge on a specific theme, so that content in later courses could be adjusted to better match the needs of the students.

The particular digital online tool chosen to use in the study was crucial in determining what kind of information the study would be able to obtain. It was desirable that the tool would not require any kind of installation, registration, or credentials from the students, and that the students therefore would be able to be anonymous. In addition, it would be an advantage with an easy-to-use tool, that the layouts could be easily reused, and that the tool could be used in real-time, while allowing both students and teacher to return to the content in retrospect. Padlet was selected. Padlet is a community-centred tool that lets users easily express their thoughts on a topic and read what others have to say. It is essentially a virtual bulletin board, where collaborators can create and organize posts of any content type, whether text, documents, images, videos or links (Goel & Piyush, 2012).

Method

Padlet was used as a tool for library teaching for about 300 students studying for the exam philosophicum at the Faculty of Mathematics and Natural Sciences, University of Bergen, autumn 2017 and autumn 2018. The exam philosophicum is a mandatory introductory course in philosophy that is part of all bachelor degrees at the University of Bergen and has traditionally been taught in the first semester. The science library offers a lecture on information searching, source assessment, and academic citation practices to anyone who takes the exam philosophicum at the Faculty of Mathematics and Natural Sciences. The lectures are given in an auditorium. Students are asked to work on problems and are encouraged to sit together in groups of 2-3 and discuss while they work with the tasks. Their answers will be discussed in plenary. The lecture was given seven times during 2017-2018, with a varying number of students ranging from 20 to 63 (table 1).

Padlet as a tool to promote student engagement was tested on a handout task where the students were given an example of an assignment topical sentence, followed by a list of suggested readings on the topic. They were then asked to assess these sources and to think of arguments of why or why not they would consider using them in the given context. The assignment topical sentence was "Can global warming cause extreme weather". The seven suggested readings were an article from a website that conducts research dissemination, an article from Wikipedia, a university textbook in metrology, a peer reviewed scientific article, a couple of blogs, a newspaper article and a weather log from a neighbour. They were given a total of 15 minutes to read the handout, discuss and to comment on the Padlet board before the task would be discussed in plenary. The Padlet board was set up with fixed columns where each of the different sources was set as a column heading (fig.1). This was done to make it easy for students to place their comments on the wall without confusion in respect to which source they intended to comment on. A display of the results was intended to be a driver for a plenary class discussion, comments, questions and clarification.

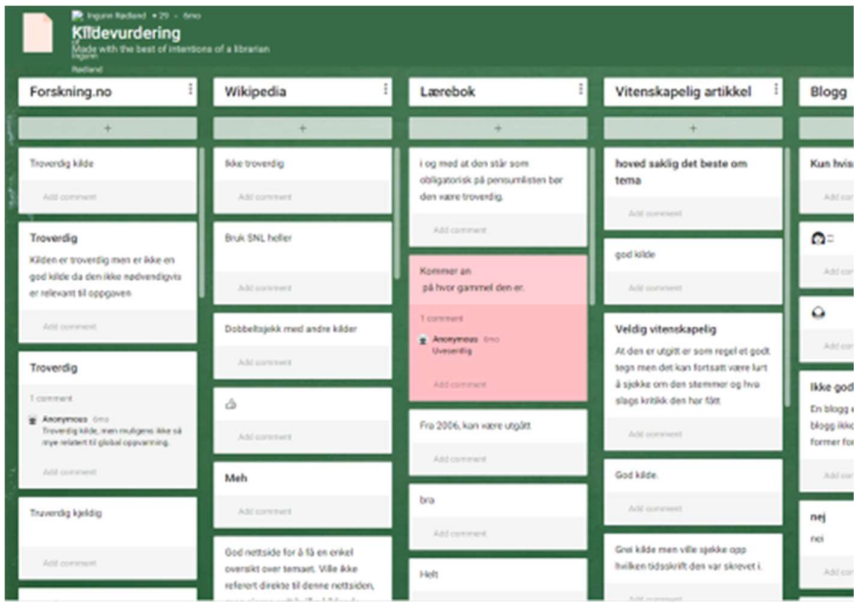

Figure 1. The Padlet setup.

Findings

The proportion of students who participated in adding comments to the Padlet board varied slightly among the different classes. The percentage of unique students writing on the Padlet board ranged from 24 -61 % (table 1). Considering that most of the students were working in groups of 2-3 persons, only one of which was required to add comments, the participation rate was relatively high. On average, 47% of students wrote a comment. (table 1).

Table 1.
The table shows the total number of students in each group and how many unique students contributed with comments on the Padlet board.

Class number	1-2017	2-2017	3-2017	1-2018	2-2018	3-2018	4-2018	Total
Number of students	57	56	42	20	42	38	63	318
Unique contributors	35	29	10	8	16	21	29	148
Unique contributors %	61%	52%	24%	40%	38%	55%	46%	47%

Based on the responses on the Padlet, it was also considered whether the students found it easier to comment on certain sources over others. The proportion of students from separate lectures commenting on the various suggested readings are shown in figure 2. Seen overall, the students were most likely to comment on Wikipedia as a source, and least on the newspaper article. However, this may be due to coincidence, since the differences were relatively small.

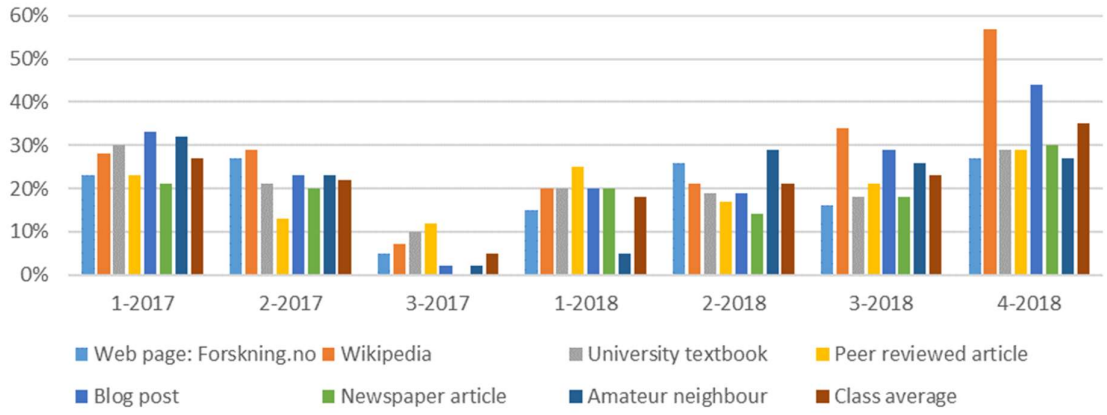

Figure 2. The figure shows the percentage of students from separate lectures adding comments on different sources.

Just the fact that students are writing comments on the board does not mean that what they write contributes insight into the theme. In many cases, it can be hard to differ between what is an expression of reflection and what is not. A way to avoid evaluation whether each comment is relevant to the task or not, is to consider the number of characters used in the comments. This is by no means an exact way to measure student engagement: students can use several characters writing some nonsense or a joke; conversely, they can have an engaged discussion with their peers but still just type “ok” on the board. But as a brief way to examine the comments, this seems to be a reasonable way to get a picture on how the students used this tool to contribute to the discussion. Figure 3 shows to what degree the student groups from separate lectures were adding comments with more than 25 characters. The number 25 was

chosen after considering a random selection of 20 meaningful comments and observing that the shortest comments of these had more than 25 characters. As figure 3 shows, how long comments the students were writing varied between the different classes. In class 3-2017, none of the comments had more than 25 characters. It also seems like the students who started in 2018 were more engaged on the Padlet than those starting the year before.

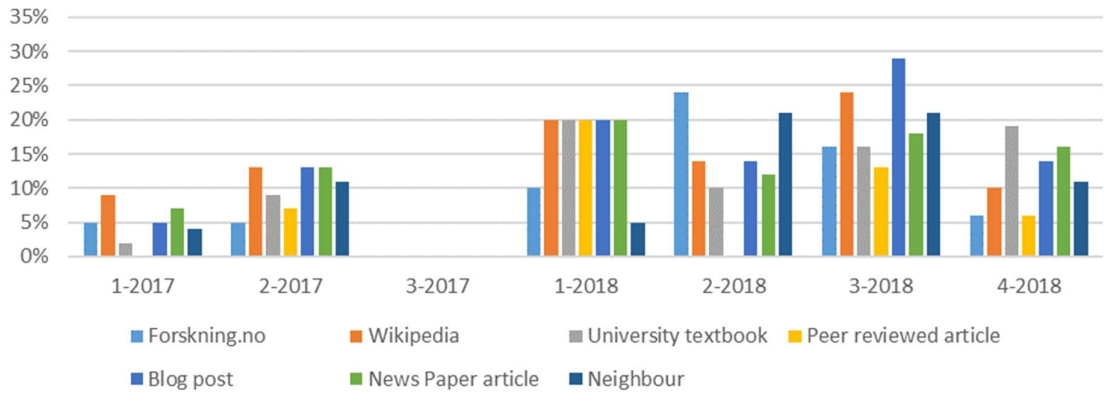

Figure 3. The figure shows in which degrees in % the student from separate lectures were adding comments with more than 25 characters on the wall

Some representative examples of what the student wrote is shown in table 2.

Table 2.
The table shows some examples of what students wrote on the wall. The comments were originally written in Norwegian.

Neighbor	**Web page: Forskning.no**	**Wikipedia**	**University textbook**	**Peer reviewed article**	**Blog post**	**News Paper article**
Depends on what information you are looking for and who your neighbour is	Never heard of this	English wikipedia is quite reliable and there is a source list at the bottom of the article	There is a reason why it is chosen for textbook	Sounds professional, so it must be good	Check who has written the post and where it is published. In this case, it's a blog post in the New York Times.	Newspapers tend to collect data from another source. Use the original source.
Hello! Has nobody heard of verifiability?	Quite reliable because there are often professionals who write these articles	Not reliable. Because everyone can enter text	Most often reliable information, but it can be outdated	Can be used and is mostly to be trusted, but make sure th it is not outdated	You do not always know if the person knows something about this field	Newspapers are more concerned with readers than professional content.
I'm in love with my neighbor	I don't know	Some pages are protected, so not everyone can edit them. But you have to find out if this applies to the page	Approved by the school therefore very safe	The author usually has education in the subject area	Only if it's a Kardishans blog	Only fake news

After each lecture, students were invited to say a few words about how they experienced the tool in this context. These are some examples:

- I haven't done this before, but it was a great way to do tasks
- It was nice to see what the others were saying
- It was nice that one could be to be anonymous, and still participate
- Made me discuss the handouts, instead of talking to my friends about other stuff.
- I had a lot of trouble getting on to the [Padlet] page
- It all went too fast for me. I did not understand what I was expected to do.

Discussion

A challenge for many librarians teaching students in higher education is that they are often invited into classes as embedded librarians in a "one-shot-session" (Drewes & Hoffman, 2010). Another challenge is that although the course content is highly relevant for the students to perform well in their studies, subjects covered by librarians are usually not part of the curriculum, and will therefore not be tested directly in exams (Soria, Fransen, & Nackerud, 2017). In addition, attending library classes is usually not mandatory for students. As a consequence, many students do not consider it important and tend to take it lightly. All these challenges set frameworks for teaching; you cannot see if students implement what you try to teach them, you cannot build up the teaching over time, or spend time in class to introduce a tool. Nor will you know the group dynamics in the class before you enter.

Experiences from previous years teaching this course suggest that the students have been engaged in the material and discussed the given problems. However, only a handful of the students have participated in the plenary discussion. Other studies on classroom behaviour have shown that class size is an important variable for student participation, and that it's typical that only a few students accounts for the majority of interactions with the lecturer (Crawford & MacLeod, 1990; Howard, James III, & Taylor, 2002; Karp, Yoels, & Research, 1976) . A study by Weaver and Qi (2005) found that students reported fear of peer disapproval as affecting participation the most. In this case, the students had just started at the university. They did not know each other, and few of them probably were used to speak in such large assemblies. The lecture in an auditorium situation was new to them, and many students were uncertain about how to act. A tool as Padlet that would let the students be anonymous would hopefully lower the fear of disapproval by peers.

In this study, an average of 47 % of the students added comments on the Padlet board (table 1). This was a large increase in interaction with the lecturer compared to the handful of students who expressed their opinions in class before introducing this tool. Figure 3 and Table 2 show that the students wrote short comments on the wall. This was as expected. As a tool, Padlet also allows users to comment and like other people's comments. These features were not much used by the students in this exercise. Thus, one cannot say that the Padlet functioned as initiating discussions between the small groups of students working together. This could otherwise have been a nice thing. To promote this, in a next time, the students could be asked

to like and comment on a limited number of comments from other groups. After adding comments on the Padlet, the task was discussed orally in plenary in the same way as previous years. There were notably more students raising their hands compared to the previous years, although there were variations among the groups. There was no relation between the number of comments added on the Padlet and number of students raising their hands in the plenary discussion in a class. The overall impression was that the Padlet functioned as an ice-breaker in the auditorium, and that it seemed to help getting more students engaged in the task. The level of the discussions was higher than previous years, but this could possibly just be a reflection of higher level of knowledge among these students. An example of something that was well discussed in plenary, but which was not insightfully commented on the Padlet, was the example with the weather data from the neighbour. At least three of the classes had a nice reflection on why such data cannot be used in an academic context. Seen overall, the comments on the Padlet board showed a span in how familiar the students were with information literacy (Table 2). In previous years, it has often been the case that most of those who dared to speak in plenary have seemed very reflected and confident. Others may thus have had the impression that other students are more skilled than themselves, and therefor might fear that they appear ignorant if they speak. Seeing on the Padlet board that the majority of the comments does not reflect confidence might have encouraged some to contribute in the plenary discussion. From the written comments it is evident that few students knew what is considered a scientific article. This is also not expected knowledge for first year students. However, many seemed to be aware of the advantages and pitfalls of using Wikipedia. Wikipedia was therefore a good starting point for further discussions of information literacy in several classes.

Although the overall participation rate was high using this tool, Table 2 shows that this was not true for all groups. This was particularly evident in group 3-2017. In group 3-2017, the students were primarily confused by the arrangement. There was less participation and the comments were typically a “yes” or a “no”. Reasons for this could be that this group of students was generally less familiar with digital tools, or that the group was less motivated in general. In group 3-2017, there were notably fewer students with laptops as opposed to the other groups, so they used mobile phones to answer on the Padlet. This may also have affected the results. Another reason could be that instructions were not given as clearly to these students in the same way as for the other groups. Since these lectures were stand-alone, it was crucial that the tool would be intuitive and easy to use because there was no time to spend on instructions on how to use the tool. Studies have shown that instructors often underestimate the need students have for instruction in the use of new tools. Although today’s college students are immersed and fluent in digital media, this proficiency may not necessarily transfer to proficiency in the use of instructional technology (Buzzard, Crittenden, Crittenden, & McCarty, 2011). This is something to consider when introducing such tools students.

Conclusion and future perspectives

It is not possible to conclude from this study whether the students increased their learning outcomes, because there was no assessment included, and it turned out to be difficult to get in

contact with them later in the semester. However, other studies have found that instructional technologies do appear to have a positive impact on teaching and learning, (Deleo, Eichenholtz, & Sosin, 2009). That is, students and instructors did perceive a positive relationship between technology use and engagement in the learning process and in the outcomes of the process (Buzzard et al., 2011). The use of Padlet clearly gave an experience of increased student engagement. And increased participation, as said initially, will increase learning outcomes in most cases, and this hopefully also applies in this case (Ludvigsen et al., 2015; Tinto, 1997). Considering using the information from the Padlet wall as a basis for a better understanding of the student's knowledge, it was evident from this study that it will require a better plan. The questions would need to be expressed in a way so the students implicitly understand how they are expected to respond to them. In this study, it seemed to be too easy for the students to answers the questions with a “yes” or “no”. And these short answers will not give an indication of their knowledge.

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