SUPPORTING ONLINE COLLABORATION: DO BLOGS DO THE TRICK?

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Abstract

Blogs are often assumed to promote collaboration amongst students at all educational levels, and considerable interest has been invested in research into the relationship amongst blogs, collaboration and learning. On the basis of two learning designs, this paper investigates how educator orchestration influences students' experience of collaborating on a blog in initial teacher training.

The study used a mixed methods design and an overall grounded theory methodology inspired the analysis. Data were generated though questionnaires, student activities and discussions. The quantitative data sets were analysed in SPSS.

Findings show that in order to make the students actually collaborate and see blog collaboration as relevant in their education, the educator needs to scaffold the process thoroughly. However, on the basis of such scripted instruction, the students found that the blog supported collaboration only to some degree, but that it supported individual work and knowledge sharing more.

Abstract in Danish

Der har gennem flere år været investeret stor forskningsinteresse i at undersøge forholdet mellem blogs, samarbejde og læring generelt, og her finder man ofte, at blogteknologien fremmer samarbejde blandt studerende på alle uddannelsesniveauer. På baggrund af to it-didaktiske designs undersøges det i denne artikel, hvordan underviserens løbende design påvirker de studerendes oplevelser af at samarbejde på en blog i læreruddannelsen.

Metodisk er undersøgelsen inspireret af mixed methods og grounded theory, og data er skabt via surveys, samt gennem observationer af de studerendes aktiviteter og diskussioner. De kvantitative datasæt er analyseret i SPSS.

Resultaterne peger på, at for at understøtte, at studerende samarbejder, men også ser blogs som relevant teknologi for dette samarbejde i deres uddannelse, er det nødvendigt, at underviseren stilladserer processen grundigt. Men, på trods af udførlig stilladsering, finder de studerende, at bloggen kun støttede samarbejde til en vis grad, men at den derimod langt mere støttede individuelt arbejde og videndeling.

Introduction

The use of technology in educational settings is a sizeable and evolving field of research, and both gains and threats in relation to learning and social interaction are found and discussed amongst teachers and researchers. During the last two decades at least, a special focus has been on the web 2.0 technologies and their advantages in relation not only to consuming but also to producing and collaborating on web content. In teacher education particularly (Biberman-Shalev, 2018), due to the goals of working with twenty-first-century technologies with young students in public schools, tools for collaboration both face-to-face and online are often integrated into teaching activities. The use of blogs can be seen as an example of this development, as it supports learning in various fields such as teacher education (Cakir, 2013; Deng & Yuen, 2011).

Although empirical evidence of educational blogging and discussions on the theoretical and pedagogical use of blogs are still in their infancy (Deng & Yuen, 2011; Biberman-Shalev, 2018),

research often reports on the effectiveness of the many ways in which blogs support learning and provide motivation for learning. Thus, blogs are found to stimulate collaborative, constructive learning and social knowledge construction by allowing students to share knowledge, receive feedback and derive social support from each other (Cakir, 2013; Wang et al., 2017). Blogs are both found to improve students' engagement in active learning (Jimoyiannis & Angelaina, 2012), and they are categorised as reflective as well as interactive formats (Deng & Yuen, 2011) and can provide power, voice and a sense of control of one's own learning (Kang et al., 2011).

Some educators, however, find that students need extrinsic motivators such as grades to participate actively in collaborative activities (Duarte, 2015), and that a higher level of collaboration amongst students needs guidance (Fischer et al., 2013). This raises questions about how the educator can integrate and use blog technology and what is his or her role in supporting student collaboration.

In this paper, I will present two learning design experiments from initial teacher training that focus on the role of the educator and the need for his or her scaffolding of activities and interventions to support students' collaboration on educational blogs. Thus, the research question is as follows: How does educator orchestration influence student teachers' experience of collaborating on a blog?

Context

In initial teacher training, there is often a double focus on the teaching activities taking place; educators are to support the student teachers' learning, but the teaching activities can also be objects for didactic and pedagogical reflections between the students and the educator in relation to the public-school teaching that the student teachers will eventually perform. Due to this double focus, it may be considered especially relevant to encourage the students to work with technologies that their future students should also learn how to use (Henthorn & Cammack, 2017). In this study, blogs where integrated as a part of a learning design in mother tongue (Danish) in teacher training; and the intention was to support collaboration and communities of inquiry in a blended learning setting.

It is a challenge for educators to make students engage in teamwork-based activities online (Saghafian & O'Neill, 2018), because e-learning students often have time constraints and/or family or job demands (Capdeferro et al., 2014; Romero & Barberà, 2011). Because of the students' interest in effectively focussing on tasks and the educator's pedagogical interest in enhancing and supporting the students' online collaboration, a blog was chosen as the common online space for asynchronous sharing of insights about as well as reviews of children's books. The student teachers were asked to collaborate on the blog over three months, and two different learning designs were created. During the first period, the students were asked to review a book, upload it to the common blog, read the other students' reviews and ask questions or write comments. In the second period, a different learning design was implemented. Here, the educator thoroughly designed for and orchestrated the students' interactions by asking specific groups to upload their books and reviews on specific dates and to give feedback and comments to specific other groups at certain dates etc. Thus, the first learning design was only orchestrated by the educator to a small degree, whereas the second one indicated in detail how collaboration was meant to take place, when and between whom. Using these two designs, we wished to discover how the students experienced collaboration on the blog.

The whole class consisted of 32 students; 24 of them participated in the evaluation of the first design, and 17 students participated in the second. The educator and the researcher (the latter being the author of this paper) collaborated on the creation of the two learning designs, on the creation of the survey and on the analysis and interpretation of the data.

Methodological and theoretical approach

A mixed method case study approach (Bryman, 2012; Creswell, 2013; Tashakkori & Teddlie, 2010) was used to generate empirical data to answer the research question. A survey of nine closed (four-level Likert scale) and three open questions was created. The closed questions asked the students to express their level of agreement with various statements regarding their experiences working and collaborating on the blog; the three open questions asked them to describe in their own words how they had worked on the blog and whether they saw other/better ways to design the implementation of blogs in teacher training as well as to describe what (if any) advantages they saw in having the students in public schools blog.

The participating students were asked to complete the questionnaire twice, one at the second and one at the third face-to-face (F2F) session of the year. (There are six F2F sessions per year in the e-learning/blended learning format of initial teacher training at this university college.) After the completion of the questionnaire at the end of each period, the students and the educator discussed and evaluated the blog process and the blog technology retroperspectively. Finally, the activities, contributions, posts and comments were also included in the analysis.

The theoretical foundation for the learning design is found in communities of inquiry (Garrison, 2011; Garrison & Vaughan, 2008; Garrison et al., 1999), building on the assumption that worthwhile educational experiences occur through interactions amongst the so-called cognitive presence, social presence and teaching presence. The authors of the above cited papers find that the educational experience is independent of whether the community of inquiry is found in a physical classroom, online or in a blended learning setting. Cognitive presence is understood as the extent to which a participant in a community of inquiry is able to construct meaning through communication and reflection (Garrison et al., 1999; Dewey, 1933; Dewey, 1997), whereas social presence means the aptitude of the participants to present themselves as real people (who are, for instance, not afraid to contribute to the discussion). Teaching presence, which is usually the responsibility of the teacher/educator in an educational setting, means that the participants face a learning design which the educator has created for the specific educational setting. Teaching presence is also established by the teacher through the organisation and presentation of course content and through the facilitation and orchestration of the learning activities.

In the present case, with the purpose of supporting the creation of knowledge and meaning in an online community of inquiry, a blog was chosen as the online context for the asynchronous collaboration. Thus, the focus of the study was on the teaching presence enhancing the experience of both the cognitive and social presence in the collaborative process, and specific attention was paid to the students' experience of working on an educational blog for the purpose of collaboration.

The quantitative data were analysed using SPSS Statistics, version 25 for Mac. The tests that were chosen for comparisons of the two designs will be discussed below.

Learning Design I: description and reactions

The first learning design focused on supporting student collaboration on a blog on children's book reviews. The students collaborated in small groups, but there was not much collaboration across the groups or amongst individual students outside the small groups. The students were encouraged to upload their reviews on a specific book, to read each other's reviews, to comment, ask questions and have a discussion on the blog. Since everybody reviewed the same book to begin with, all students were able to ask and answer questions on the book and then help each other deepen their knowledge of reviews in general and of the commonly read book in particular.

Although the educator had designed for collaboration and more independent work on the blog, the blog activity and the students' responses showed that not all expectations were met. In the

first survey, in the open question about how they had worked on the blog, the students wrote that they did not see the meaning of working on a blog:

> *I read all the books like we should, but I have contributed to the blog with only what was the most necessary, because I have had difficulties with seeing the meaning of working on the blog.*

> *I wrote only what [the educator] required.*

> *I wrote what I had to, but I only read sporadically.*

The students did not collaborate or study more than usual, and they did not read each other's postings; collaboration in this learning design was voluntary, because it was expected that the blog and the course content and relevance would support and inspire collaboration in itself. However, the students found it difficult to understand why and how they could collaborate on the blog in any way that was different from their daily work in the Learning Management System (LMS), Fronter:

> *I have used the blog like we should. I find it useful, but we have worked with it too little to see its full potential.*

> *I didn't read many posts. It's boring when there are many almost identical ones.*

Although the students found it demanding to see the relevance of a blog in their own education, they saw considerable potential in relation to their pupils' collaboration:

> *It is a means for sharing ideas and it supports collaboration amongst the elder pupils.*

> *It would be very useful in public schools!*

> *Blogs will be another tool that the pupils will find useful.*

> *I definitely think they would find it fun to upload posts and read each other's.*

Apart from the open questions, the students were to indicate in the survey whether they agreed or disagreed with the following statements:

> *I read all the postings.*

> *I answered/commented on more posts than I posted myself.*

> *I wrote more than I expected I would.*

> *I found useful knowledge on the blog.*

> *I studied more than I expected.*

> *I believe the blog supported collaboration.*

> *I believe the blog supported individual studies.*

> *I believe the blog supported reflection.*

> *Our usual LMS would have worked better for the same purpose.*

Out of 34 students, 24 students showed up on campus and answered the questionnaire in the classroom. Their answers are shown in Table 1 below.

Table 1: Results from student teachers to the survey questions. Design Version I

	Read all	Ans. more	Wrote more	Useful knowledge	Studied more	Collaboration	Individual Studies	Reflection	LMS
Totally agree			12.5%	**20.8%**	16.7%	4.2%	8.3%	**16.7%**	**16.7%**
Almost agree	37.5%	4.2%	33.3%	**45.8%**	25%	25%	20.8%	**54.2%**	**54.2%**
Almost disagree	45.8%	20.8%	25%	25%	25%	**41.7%**	**41.7%**	25%	29.2%
Totally disagree	16.7%	75%	29.2%	8.3%	33.3%	**29.2%**	**29.2%**	4.2%	8.2%

As shown in Table 1, all students (except one) disagreed that they commented on more posts than they initiated themselves. This is in accordance with their comments that they did what they were told to do but no more than that. However, more than half of the students (66.6%) *agreed* that they found useful knowledge on the blog, and they (70%) *agreed* that the blog supported reflection. But when considering the blog technology, they found that they could have worked as well in the LMS with the same learning outcome. This was confirmed when the blog was consulted; most of the comments to the posts were created by the educator. To summarise Table 1, when the students answered based on their experiences from Learning Design I, 70.9% of them indicated that they *disagreed* that blogs supported collaboration.

Learning design II: description and reactions

Due to the fact that collaboration in the groups was found to be insufficiently supported by the subject matter and blog technology alone, a new learning design was created. Here, the educator specifically pointed out which group should write posts on the blog and when, who should comment on the post and so on, to teach the students collaboration on a blog in a very structured and thoroughly orchestrated way. Thus, in this design, all students knew what to do, they knew that their postings were read and commented on and they knew what was expected of them. No two groups had the same assignments, so the class saw that if they covered everything and read and reviewed all the books as designed for by the educator, the blog would end up containing a lot of relevant information and discussion about how to find the best children's books for reading in Danish.

The learning design thus thoroughly focussed on creating a community of inquiry (Garrison, 2011) where the teaching presence was more clearly expressed in the formulation of ways for groups to collaborate with each other. It was also the intention that social presence would be supported through this focussed collaboration and that the cognitive presence was made visible to the students through the activities and collaborations on reviews of children's books.

In the second survey, where the students were to answer the same questions as in the previous one, a strong tendency towards more use of the blog was found in the open questions:

> *I have read many blog entries, and I have had a lot of inspiration. But I only wrote what I had to.*

> *I have done [what the educator demanded] but read a whole lot of what the others had written.*

> *I made the posts like [the educator] told us, but I have also shared books and tools that I thought the others might find useful.*

The students found inspiration in reading the contributions of their fellow students, but only a few of them contributed actively to the blog by writing more than they should. However, the students saw that due to the scripted activities, the contributions were relevant, and many wrote that they found the blog content important and stimulating.

Most of the students in this class had been unfamiliar with blogs both as a genre and as technology. And perhaps due to the (slightly too complex) blog design, many found it difficult to navigate in the blog:

> *A more simplistic blog would have been nice.*
>
> *Better separation in the blog; difficult to navigate in it. There should be better opportunities for search, for instance.*
>
> *I think the reviews should be better indexed.*
>
> *The student work should be even more regulated, and the students must engage from the beginning.*

Thus, the students asked for even more help and scaffolding, not only with the technology but also in the learning design and orchestration.

Although the students found the technology challenging and asked for more teaching presence in the scaffolding and orchestrating activities, they saw considerable learning potential in the use of blogs for children in public schools. They had many ideas about how to integrate blogs into both language lessons and library activities, and many students wrote that they expected blogs to be motivating and very relevant for children of all ages:

> *They can see each other's stuff, comment on it and be inspired.*
>
> *They can inspire each other and reflect on things.*
>
> *Kids today spend more and more time on social media, and they use platforms in their daily life, so I think it makes good sense to introduce blogs as a way to highjack more students to produce more text.*

Although the student teachers found blogs relevant to use as tools in school teaching, especially for the purpose of sharing knowledge and writing texts, some of them highlighted the fact that the technology is not enough. The teacher needs to scaffold and oversee the blog assigned activities very closely in the classroom:

> *The kids can read and comment on the others' answers. But you have to force them to do it; otherwise it won't happen!*

In this last comment, one might suspect that the student's experience from his/her own studies were also in play, but again, many students highlighted a need for educator orchestration of activities as extrinsic motivators.

Table 2 summarises the students' answers to the questions after the Learning Design II period. Here, a majority of the students (88.2%) agreed that they found useful knowledge in the blog and that blogs supported reflection (76.5%).

Table 2: Results from student teachers to the survey questions. Design Version II

	Read all	Ans. more	Wrote more	Useful knowledge	Studied more	Collaboration	Individual Studies	Reflection	LMS
Totally agree	0%	5.9%	29.4%	**64.7%**	29.4%	11.8%	5.9%	**47.1%**	29.4%
Almost agree	29.4%	17.6%	23.5%	**23.5%**	29.4%	41.2%	52.9%	**29.4%**	17.6%
Almost disagree	41.2%	**41.2%**	35.3%	11.8%	23.5%	**41.2%**	35.3%	17.6%	23.5%
Totally disagree	29.4%	**35.3%**	11.8%	0%	17.6%	**5.9%**	5.9%	5.9%	29.4%

After experiencing the use of blogs during the period of Learning Design II, half of the students (47%) still disagreed that blogs supported collaboration. But, as showed above, before working the scripted blog collaboration design, this number was as high as 70.9%.

To test whether any of the changes in the teacher students' answers to the two questionnaires were significant, a dependent samples t-test was run in IBM SPSS version 25. The two data sets were compared to determine whether the null hypothesis stating that there is no difference between the answers in the two data sets could be rejected. Only in two questions "I found useful knowledge on the blog" and "I answered/commented on more posts than I posted myself" was it possible to reject the null hypothesis and thus state that there was a significant difference between the two groups of students' answers (with the p value < than 0.05) in relation to these two questions. This result indicates that when the collaborative activities on the blog were orchestrated by the educator, blog technology could contribute to cultivating relevant knowledge sharing amongst student teachers.

In Learning Design II, the educator thoroughly designed the assignment for collaboration on the blog, and this seemed to enhance the collaboration and interactions amongst the students in general, seen both when the activities were observed and when the comments from the questionnaire were analysed. However, it is also clear that even more technological support, educator scaffolds and orchestration are needed if student teachers who are not familiar with blogging as a genre are to collaborate actively – and voluntarily – on a blog.

Discussion and conclusion

As seen from the quantitative data, there was no significant improvement in the students' attitudes towards blogs supporting collaboration after the implementation of Learning Design II with the orchestrated and scripted design for student collaboration. About half of the students still disagreed that blogs supported collaboration. However, the number of students answering the questionnaire was small, and when the blog itself was observed, more collaborative activity had taken place during the Learning Design II period. Moreover, the qualitative reactions to the design also pointed in the direction of an improvement in the collaborative activities. The teacher students did see blogs as relevant collaborative tools, but they expected them to be more relevant for children in public schools than for themselves.

One might consider that the significant tendency towards increase in contributions to the blog and the more positive evaluation of whether the blog contained useful knowledge in learning design II might be due to the fact, that it was the same group of students that participated in both learning designs and answered the questionnaire twice. Thus, the students might have become just used to working on the blog, and it might not be the educator's orchestration that was affecting their behaviour or experiences of the blog collaboration. However, some of the students highlight the need for better orchestration and overseeing of the blogging activities in order to enhance collaboration. According to these comments, blog technology and experience are not enough.

Thus, this study finds in accordance with other researchers (Jimoyiannis & Angelaina, 2012), that using blogs as web 2.0 technology in the classroom or online is not enough to support learning. The instructor should also thoroughly introduce the blog technically and should design and organise the blog collaboration process pedagogically by setting learning goals and the duration and timeline of tasks and by scaffolding actions, feedback etc. (cf. Jimoyiannis & Angelaina, 2012; Fischer et al., 2013; Wang et al., 2017). Therefore, to answer the question of whether blogs support collaboration amongst student teachers in a university college, the answer from this study is that blogs alone do not do the trick. However, educator scripts and orchestration do not do it alone either. The students in this study did find blogging relevant, and many agreed that blogs supported both individual reflection and studies. Paradoxically, most of the students agreed that the blog contained useful information, but the fact that this was due to collaborative contributions from their fellow students was not taken into

consideration. Future research could focus on ways to support metacognitive attention in learning activities amongst participants in communities of inquiry online.

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