The use of flipped classrooms to stimulate students’ participation in an academic course in Initial Teacher Education

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ABSTRACT
This article discusses the use of flipped classrooms in the academic course ‘Philosophy of science and research methods’ in Initial Teacher Education. A socio-cultural perspective on learning was the theoretical foundation for the design of the flipped classroom, where the aims were to stimulate students’ participation and engagement in the course. Students reported that the combination of online lectures and writing mandatory texts – as a way of preparing for group and plenary discussions on campus – had, to some extent, stimulated greater involvement in the teaching and learning processes. How meaningful the group work on campus was perceived to be varied among the participants, and a critical factor seemed to be the way groups were organised on campus. Variation in modalities was highlighted among the students. They also pointed to this way of organising teaching and learning processes as relevant to their future teaching practices.

Keywords
initial teacher education, blended learning, flipped classroom, student participation
INTRODUCTION

Education paradigms are shifting to include more online learning, blended and hybrid learning, and collaborative models (New Media Consortium 2014). There is a pressure on all higher educational institutions to implement digital resources as part of regular courses, and also to develop and offer MOOC courses (NOU 2014). In the Norwegian reform of General Teacher Education (Circular F -05 -10), digital competency and skills are part of what are described as basic skills. These also include being able to express oneself orally and in writing, to read, and to do mathematics. The panel for the teacher education reform in Norway (KD 2011) claims that teacher education programmes seem to emphasise the basic skills differently. This is supported by Haara and Jensen (2013) arguing that there is little knowledge about how work on basic skills is handled in the different teacher institutions. The use of ICT is often related to the implementation of ICT as a tool and, to a lesser degree, to pedagogic uses (Tømte, Kårstein & Olsen 2013). Their latest report, ‘the Horizon Project Norway’, a collaborative research effort between the New Media Consortium (NMC) and the Norwegian Centre for ICT, describes current approaches to initial teacher training and in-service training in digital tools and pedagogies as insufficient for what is needed (New Media Consortium 2013). This situation is ranked as a key challenge related to teaching, learning, or creative enquiry, which Norwegian schools will face during the next five years (Søby 2013).

In this article our focus is on pedagogical uses of ICT and the use of flipped classrooms in the academic course ‘Philosophy of science and research methods’ in Initial Teacher Education. The following research question is addressed:

– Can the flipped classroom model stimulate students’ participation and engagement in the academic course ‘Philosophy of science and research methods’ in Initial Teacher Education?

Flipped classroom

The first well-documented example of the flipped classroom is from 2007, when two chemistry teachers in Colorado wanted to support students who missed class when travelling to and from other school activities. The teachers recorded lessons live and posted them on YouTube. They found that this increased interactions in the regular classroom, and that it seemed to involve students in the learning activities in a more profound way. Since then, technology has improved and become easily accessible, and the idea of flipped classrooms as a way of organising teaching and learning processes has become increasingly popular in higher education institutions. In the latest NMC Horizon Report, the flipped classroom is highlighted as a ‘near-term technology’ that is expected to achieve widespread adoption within the next one or two years (New Media Consortium 2014). The advantage or benefit of the flipped classroom model is that it rearranges face-to-face instructions, attempting to
create a more efficient and enriched use of class time. Ownership of learning is shifted from educators to students. Different learning resources are made available to students online before and after meeting on campus. On campus, time is mostly spent on students collaborating and working through problems in teams. The model is part of a larger pedagogical model that overlaps with blended learning, enquiry-based learning, and other instructional approaches and tools that are meant to be flexible, active, and more engaging for students (New Media Consortium 2014).

A key element of blended learning is that the different modalities are integrated or connected to each other. Students learn through the use of new technologies that, to a certain extent, allow them to individually control time, placement and progress, at the same time as teaching is done in a ‘brick-and-mortar building’ with a teacher supervising students’ activities (Christensen, Horn & Slater 2013). Blended learning is difficult to conceptualise as a single idea. It refers to diverse aspects of teaching and learning. Blended learning is not a learning paradigm by itself. Rather, it must be seen as a mode to be used within other pedagogical models (Hansen, Manninen & Tiirmaa-Oras 2006). The majority of blended learning programmes fall into four categories – the Rotation model, the Flex model, the A la Carte model and the Enriched Virtual model (Christensen et al., 2013). The flipped classroom is a sub-model of the Rotation model. This model is described as one ‘in which within a given course or subject (eg mathematics), students rotate on a fixed schedule (or at the teacher’s discretion) between learning modalities, at least one of which is online learning’ (Christensen et al. p.28). Other modalities might also be included, such as group work, individual tutoring and written assignments.

‘There is a considerable amount of buzz in academic circles, at all levels, focused around the flipped classroom’ (Bishop & Verleger, 2013, p.3). Despite this buzz, Bishop and Verleger claim that there is a lack of consensus on ‘what exactly the flipped classroom is’, and that there is ‘a limited amount of scholarly research on its effectiveness’. Reports of students’ perceptions of the flipped classroom are mixed, but overall, generally positive. In a recently published report about ICT in Initial Teacher Education (Tømte, Kårstein & Olsen 2013), only two examples of flipped classrooms in Initial Teacher Education are mentioned. The report tells briefly how these courses are organised, but does not say anything about what results or what kind of effect flipped classrooms have on students’ learning, nor does it say anything about students’ perceptions of flipped classrooms. In the report, it is argued that there is a need to investigate the extent to which this way of working ensures academic quality.

THEORETICAL PERSPECTIVES ON LEARNING WHEN DESIGNING THE FLIPPED CLASSROOM IN THIS STUDY

Bishop and Verleger (2013) claim that the theoretical foundations used for justifying flipped classrooms focus on student-centred learning, instead of using
classroom time to deliver lectures. They point especially to Piaget’s (1967) and Vygotsky’s (1978) theoretical perspectives as influential, connecting constructivism to Piaget’s theory of cognitive conflict, and cooperative learning to Vygotsky’s zone of proximal development. This theoretical concept is based on the assumption that participation in social interaction occurs prior to individual learning.

In the flipped classroom model in this study, a socio-cultural perspective on learning was the theoretical foundation when designing the course. This perspective sees communication and interaction as prerequisites in pursuing and developing cultural resources. Individuals learn through participating in social practices and through interacting with mediating tools available in these practices. The individual’s engagement and involvement in these practices is, therefore, central to the construction of knowledge (Vygotsky 1978, 1986, Wertsch 1998, Säljö 2001, 2006). The course ‘Philosophy of science and research methods’ is a preparatory course for third year teacher students before writing their bachelor’s theses in ‘Pedagogy and pupil-related skills’. The bachelor's thesis is the final evaluation of the students’ learning outcomes. The aim of designing the course as a flipped classroom was to stimulate students’ participation and engagement in the preparatory course, and to make them put more effort into their work with the course curriculum during the course. Instead of ordinary lectures, discussions with fellow students, in smaller groups, were made the main activities on campus. From a Vygotskian perspective (1978), what the individual can do with the assistance of capable others is an indication of what he or she will be able to do on their own. Havnes (2008) argues that the concept of the capable other is often characterised by a vertical, rather than a horizontal, line of mediation, and that learning in this perspective tends to be reduced to learning by instruction and as ‘individual acquisition of the cultural given’ (Lave & Wenger 1991, p.47 in Havnes 2008, p.199). Learning in peer groups is of a different kind and has the potential to afford a more creative learning process, where all have an ‘[…]equally important contribution to make, the correct solution is not known […]’ (Havnes 2008, p.201). An important issue is that although peer learning has its own dynamics, they are related to the institutional practices in which they are embedded.

Online lectures and writing small individual texts as preparations for group discussions were introduced, to stimulate students’ individual learning processes, as well as to serve as mediating tools between the individual work online and the collective work on campus. Dysthe, Hertzberg and Hoel (2000) point to three main arguments for working with students’ writing in higher education: (i) to write is a central learning strategy; (ii) academic writing is a necessary competence in higher education; and (iii) academic writing is an important vocational skill after having finished studying. A fourth and important issue, they add, is that many students have difficulties with writing. An interesting distinction is made between what they term as ‘writing as thinking’ and ‘writing as presentation’. The first one refers to informal, explorative writing, where the main aim is to get ideas and to develop one’s own thinking, while
the other one refers to writing with the aim of presenting and communicating content to a reader. Often students get stuck when writing, Dysthe et al. (2000) argue, because the students move straight into writing a presentation before they have a clear picture of what they want to say. Through the individual written texts, the students would be able to give words to their own thoughts and ideas related to the curriculum of the course, and also to support and extend the construction of knowledge through peer-assisted and co-operative learning. Often in plenary sessions, a few participants do the talking on behalf of the others (Sahlström 1999). The written ‘thinking-texts’, in combination with a clear and distinct choreography in the group discussions, were meant to ensure distributed participation among the students, and to engage and involve all the students in the construction of knowledge.

THE ORGANISATION OF THE FLIPPED CLASSROOM

At the very beginning, the students were informed about the flipped classroom model – the ‘whys and hows’. A plenary lecture with the topic ‘What is research?’ was given on campus. Then the students reflected on, and discussed, the lecture in groups. Thereafter, they had to write an individual ‘thinking-text’, where they commented on one or more of the topics that had been introduced during the day.

The next two lectures were online, presenting and discussing the relationship between theory and empirical data. Student-oriented activities – as tasks to be done before meeting on campus – were presented in both lectures. A library course on how to search in databases was linked to the lecture on theoretical perspectives, and the students had to search for two articles relevant to the topic they had chosen for their bachelor’s thesis. In the individual ‘thinking-texts’, they were asked to discuss how they saw these articles as relevant and useful (or not) in relation to individual bachelor’s theses. After the second online lecture, the students had to watch two short video recordings from different classroom situations, and then write a short text on how these situations could be understood and interpreted with references to theoretical perspectives. The videos showed two very different examples of class management. The students brought these written texts with them for further elaboration and discussions in groups on campus. On campus, the students were organised into four classes, permanent groups of five to six students. All the group discussions followed a set choreography that aimed to initiate and establish productive learning communities, ensuring that all the students were taking part in the discussions. A university teacher was responsible for organising the plenary discussion based on discussions in groups. Following the online lectures and the group discussions, the students were presented with four short online introductions on research methods (text analysis, interviews, questionnaires and observation). After having been through these, they chose the two workshops they wanted to attend on campus.
The final individual task the students had to do was to rewrite the project outline they had handed in ahead of the course, to elaborate further on the ‘what, why and how’ according to the content that had been introduced during the course. A plenary lecture, highlighting models and concepts presented during the course, was the last activity of the course. The figure below illustrates the different elements and how they relate to one another.

Figure 1. The organisation of the course.

**EMPIRICAL DATA AND ANALYSIS**

Three sets of empirical data were collected during and after the course, in order to answer the research questions presented initially: (i) A semi-structured questionnaire going out to all students; (ii) interviews with a selected group of students; and (iii) individually written texts. Students were asked to report back if they did not want their texts to be used as empirical data, and both questionnaire and interviews were voluntary.

**The questionnaire**

Out of 105 students, 81 responded to the questionnaire, which was posted on the itislearning website on the last day of the course. The questionnaire was based on a five-point Likert scale (Johannessen & Tufte 2003), and the students were provided with the opportunity to comment on the questions.

**The interviews**

Based on an alphabetical list of students’ names, twenty students were later asked to participate in qualitative interviews. Due to too few respondents, twenty other students were approached. Altogether, only five students appeared for an interview. When answering the questionnaire, many students
wrote additional comments to the various questions. Their having done this might be a reason why it was difficult to get students for interviews. Also, a long interval between the time of the course and the time of the interviews might have influenced the final number of students participating in the interviews. Here, only a few extracts from the interviews have been presented and discussed, to highlight some of the main findings in the questionnaires.

The written texts

Two types of texts have been analysed, text 1 (n = 95) and text 2 (n = 12). All the texts were relatively short, one to one-and-a-half pages. It was only mandatory for the students to upload text 1 on the LMS system (itslearning). This alternative was chosen due to available resources. After the course, an email was sent to the students, asking them to upload text 2 as well. Despite reminders, we only received twelve texts. Still, we have chosen to implement these texts into our analysis, because we think they give valuable information about the flipped classroom as an integrated learning experience.

The analysis of the empirical data has been organised according to three key elements: (i) online lectures and individual written texts; (ii) participation in group discussions on campus; and (iii) the flipped classroom as an integrated experience.

1. Online lectures and individual written texts

In the questionnaire, the students (n = 81) were asked how they viewed the learning potential of the online lectures. The majority of the students had found the online lectures to be a useful learning arena. 25.9% of the students answered ‘to a very great extent’, 42% answered ‘to a great extent’, 24.7% answered ‘to some extent’, 2.5% answered ‘to a small extent’ and 4.9% answered ‘to no extent’. When asked to elaborate on their answers, many of the comments were related to elements of the students’ control over time, placement and pace (Christensen, Horn & Slater 2013).

As already pointed out, the written texts were meant to stimulate students’ individual learning processes and to serve as mediating tools between the individual work online and the collective work on campus. When asked whether the writing of individual texts was useful in working with the different topics of the course, 32.1% of the students found the writing useful to a great or to a very great extent, 43.2% of the students found it useful to some extent, while 24.6% answered in the negative. Thirty-eight students added comments to this question. Twenty of these comments were elaborations on positive experiences with having to write the texts, like ‘articulating my own thinking processes’ and ‘it was very positive to be given the opportunity to write and think. I enjoyed not having to think about layout or a certain setup – just letting my thoughts run freely.’ Some students expressed the opinion that the writing helped them to start thinking and writing around the bachelor’s thesis, to ‘make
me more aware of where I want to focus in my bachelor’s thesis’, as one put it. An argument also put forward was that writing as a mandatory task ‘helped me in preparing myself for lectures and group work on campus’. Only the first individual text was responded to by the university teachers. More responses on the written texts were asked for in students’ comments, for example, ‘What I missed was some more response on these texts. I couldn’t quite see the point of handing them in when we didn’t get any comments.’ In the course, the students were introduced to ‘writing as thinking’ and ‘writing as presentation’ (Dysthe et al. 2002). Some of the students’ responses illustrate ‘a conflict of interest’ between these two, for example, ‘I will not use any of these texts in my bachelor’s thesis, and therefore I found it rather a waste of time,’ and ‘To me this was rather useless. I already knew what I was going to write about, and I would rather have spent time on that.’ Even though ‘writing as thinking’ was presented to the students as a key principle in this course, these last comments show that this idea was either not communicated well enough, or was not accepted by some of the students as a legitimate reason for writing the mandatory texts.

2. Participation in group discussions on campus

The aim of the online lectures was, as mentioned earlier, to introduce students to topics that would later be worked on on campus. The students had to watch the online lectures in order to be informed about the task they were expected to do before meeting on campus. In the questionnaire, the students were asked how useful they thought working in groups on the basis of their own texts had been. 6.2% of the students answered ‘to a very great extent’, 27.2% answered ‘to a great extent’, 28.4% answered ‘to some extent’, 19.8% answered ‘to a small extent’, and 18.5% answered ‘to no extent’. As the numbers indicate, how meaningful the group work was perceived varied among the participants, and thirty-two students added individual comments on this question. Eleven of these were positive, thirteen had both pros and cons, and eleven were negative. The ones who found the group discussions meaningful highlighted the value of other students’ comments and responses, for example, ‘Reflections and comments from other fellow students helped me to understand the content of the course in a better way,’ and ‘...very important to be an active part of the teaching, not to just sit there and listen to lectures. It was productive to talk and discuss what we were planning to write about in our bachelor's theses.’ Other positive comments were related to being prepared for the discussions, for example, ‘It felt useful to be prepared for the discussions. I had more to contribute with and I also understood the others in the group better.’ The students taking part in the interviews were all positive toward having to write the ‘thinking-texts’ before meeting in the groups. This added value to the discussions and involved more students, they argued, for example, ‘I really enjoyed the way we prepared ourselves for the group discussions. Writing the texts made everyone more engaged in the discussions and also added to the actual value of the different responses. This is something I will bring with me when I start teaching myself.’ The students were divided into groups of six to seven,
though not according to related topics in their individual bachelor's theses. This was a common frustration among the ones who found the group work less meaningful: ‘As long as we were not divided into groups where we had the same topics I didn’t find it very useful. It is difficult to engage in others’ interests, when the focus mostly is on one’s own.’ Some of the pros and cons comments emphasised the value of the group discussions; at the same time, they drew attention to the fact that the students did not feel qualified enough, or they felt that fellow students were not qualified enough, to give productive comments on the different topics presented. ‘I felt that I myself gave constructive responses to fellow students in my group, but the others didn’t really have anything to say to me except ‘This sounds interesting’ or ‘I see you have worked well on this, and I don’t really have anything to add’. This really isn’t good enough, I think.’ In view of these last responses, a relevant question is whether our expectation about the students – that all third year students had the competence that this group work was depending on – was too high.

3. The flipped classroom as an integrated experience

In the questionnaire, the students were asked their views on the coherence between the different parts of the course. Here we find the students’ responses dominantly positive. 7.4% of the students answered ‘to a very great extent’, 58% answered ‘to a great extent’, 28.4% answered ‘to some extent’, 3.7% answered ‘to a small extent’, and 1.2% answered ‘to no extent’. 1.2% did not answer this question. 65% of the students answered that they found the flipped classroom to be an integrated experience either to a very great or to a great extent. When evaluating the ‘whole’, the students seemed to be more positive than when evaluating the different activities separately. The variation in the use of modalities and working methods was highlighted, for example, ‘I really enjoyed the variation in working methods that were used in this course. This is important to remember for us as future teachers.’ Also, online lectures, digital activity, and the combination of these modalities were indicated positively, for example, ‘The combination of online lectures and work on campus worked well. The future is with digital learning, we need to learn more about this in teacher education.’ Here again, even though the students experienced a connectedness between content and working methods, working in groups was pointed out as a debatable aspect, for example, ‘I think there has been a coherence in the course, but my experience was that working in groups didn’t function as well as I had hoped.’

The written texts were analysed using content analysis (Hsieh & Shannon 2005). Text 1 was analysed in order to see how students argued about the relevance of the two chosen articles in relation to the bachelor’s thesis writing process. To start with, all texts were organised in alphabetical order. Then, every second text was picked out for further analysis. We wanted to investigate whether we could see a link between the online lecture on theoretical perspectives, the library course and the individual work done by the students. The texts can be read as representations of whether such a link was established. We will
further argue that such a link can be interpreted as an indication of whether the written texts have stimulated students’ engagement and involvement in the course. The results of the analysis are shown in the table below.

**TABLE 1. ANALYSIS OF TEXT 1.**

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td>Have elaborated on relevant concepts in the two individual chosen articles.</td>
<td>45</td>
<td>3</td>
</tr>
<tr>
<td>Have related the articles to the student’s own bachelor's project.</td>
<td>19</td>
<td>28</td>
</tr>
</tbody>
</table>

The analysis shows that nearly all the texts elaborate on relevant concepts related to students’ bachelor’s theses and give a fairly thorough review of the chosen articles. In terms of connecting the articles to the specific topic chosen for the individual bachelor’s thesis, the texts are less explicit. We found this a bit surprising, since the students were asked specifically to look for this connection in the chosen articles. Based on the analysis, we have no reason to believe that this was because students had not worked well enough with the material. On the contrary, many of the texts are thorough in their descriptions of the articles. An interpretation of this is that the students were not yet ‘close’ enough to their own project. However, this ‘missing link’ gave us a good reason to address this issue when meeting student groups on campus. The statements below are taken from two of the students’ texts and can serve as an example of how students did try to connect academic articles to their own bachelor’s theses:

**Most of the articles I found during Monday’s search seem to be interesting and useful for my thesis. I have also found many books that can be useful – specifically one called *Web 2.0* by Solomon and Schrum, which talks about the web as a tool for learning and education. I also think this book can give me some useful definitions and explanations on terms I will use in my thesis.**

**and**

**One of the first articles I found is called ‘Homework or not?’ This is also the (research) question raised by Alison DeNisco. A quote from this article, which I will most certainly use for my bachelor’s thesis, is ‘There is a positive relationship between the amount of homework students do and their achievement outcomes’ (Harris Cooper, director of Duke University’s Programme in Education). This supports my own thoughts that homework is important for pupils in order to achieve more learning and keep knowledge ‘fresh in mind’.**

These texts were written early in the course and at a very early stage in the working and writing process with the bachelor’s thesis. From this perspective it is important to register that many of the students were putting in an effort in trying to make these connections. An essential part of the flipped classroom...
model is students' work before meeting on campus. Here this process involved different elements – students working with online lectures, attending a library course, identifying relevant articles and writing an individual text. Analysis of the texts indicates that links had been established between these different modalities. An adequate interpretation is that the individual work done before meeting on campus highlighted relevant topics to work on during group discussions on campus, and that through online lectures and individual written texts, the students were better qualified for participation in these groups.

In text 2, the students were to analyse and discuss two classroom videos. The students were asked to define relevant topics that described what they observed, and they were told to refer to theoretical perspectives that could throw light on the chosen topics. They were encouraged to use theories they had already worked with in their first two years in teacher education. In this way, we were hoping to establish a connection between empirical data, topics and theoretical perspectives.

The analysis of the texts sought to clarify whether the students had been able to make this connection. From the extent to which the students had been able to identify relevant issues in the classroom videos, and operationalised some theoretical perspectives with relevance for the chosen topics, we see this as an indication of the flipped classroom model being experienced as an integrated experience.

In the extract underneath, the student, who had identified teachers’ perspectives on learning as a relevant topic to investigate in relation to class management, describes one of the teachers in the videos in the following way:

> We might say that the teacher in the first video teaches according to a socio-cultural perspective on learning. Here the pupils are given the opportunity to discuss with fellow students, being involved in meaning-making processes in relation to the content taught. The teacher tries actively to involve the students in his teaching.

Some students stated their own opinions and used concepts without really elaborating on these theoretically, as illustrated in the extract underneath.

> The two videos show different types of classroom management. In the first case, a teacher is in total control of his class. He has an approach to teaching that involves a lot of pupil activity, and he has a way of keeping control by implementing some rules that the pupils follow when changing activity. In the other video the pupils seem to have no respect for the teacher and, especially, the start of the lesson is critical. I feel it is important that the teacher is ready for the lesson when it starts. In the video the teacher spends time, after the bell rings, to make copies and get ready. This gives the pupils time to run around, and many stupid things happen. I would say that the main thing separating these two teachers is their classroom management skills.
We found that all students (n=12) were able to identify relevant topics and make use of relevant concepts in describing the empirical data. The texts varied a lot in how explicit they were in discussing or elaborating on concepts or theoretical references, as the two extracts above illustrate. Watching the two videos and writing the individual text before meeting on campus prepared the students for the discussions on campus. Here, the texts the students brought with them to campus were very useful and productive, and helped clarify students’ understandings and misunderstandings. Discussions and summaries on campus made it possible to relate individual texts to general principles, and in this way these texts worked as mediating tools between individual and collective understanding.

DISCUSSION

In this article we have discussed how the flipped classroom model can stimulate students’ participation and engagement in the academic course ‘Philosophy of science and research methods’ in Initial Teacher Education. Within a socio-cultural perspective, engagement and involvement in social practices and interaction with tools are essentials in individuals’ learning (Vygotsky 1978, 1986, Wersch 1998, Säljö 2001, 2006). Discussions in smaller groups with fellow students were, therefore, made main activities on campus, together with online lectures and written texts. Analyses show that this flipped classroom model, to some extent, seems to have stimulated students’ participation and engagement. The students find the flipped classroom model interesting and give a fairly high score when asked how they rate the different parts integrated or connected to each other. Variation in modalities is highlighted, and students also see this way of organising teaching and participation as relevant in their future teaching practices. Students rate online lectures and individual writing more positively than group work on campus. The critical comments on the group discussions relate to how groups were organised. Even though many of the students gave negative comments about discussions in groups, quite a large number of the students say that the combination of online lectures and mandatory texts, as a way of preparing for group and plenary discussions on campus, have contributed to a better understanding, and a greater involvement and participation in the teaching and learning processes. In this respect, the study supports the argument put forward by Havnes (2008) that peer learning has the potential to afford a more creative learning process.

Many of the students did not find the feedback from their peers useful, and they did not see the value in writing texts as long as they did not receive responses from their teachers. Students seemed to lack ‘feedback skills’ or ‘feedback competence’, despite the fact that they were in their third year of study. This is an issue that could have been better facilitated or worked on during this course and, presumably, this might have contributed to the strengthening of learning outcomes for more students. Still, this is an interesting finding, knowing that giving feedback and responding to what is put forward by others are very
important parts of teachers’ everyday work in all subjects – in all classrooms. Traditional teaching on campus is mostly organised as lectures, where students are listeners, not respondents. We would argue that how to give responses or feedback needs to be worked on more specifically for student teachers during all academic courses, in order for them to develop this competence and to experience it as a valuable part of their own learning processes.

One argument for ‘moving’ traditional lectures online was that this released time for other ways of participation when meeting with the students on campus. The flipped classroom model seemed to work well for many of the students, where they especially point to the benefits of being able to control time, placement and progress (Christensen et al. 2013). The fact of having seen the lectures and written individual texts before meeting on campus provided new opportunities for group activities and seminars as arenas for peer and co-operative learning and participation together with other fellow students.

Strong institutional values and norms related to what is considered as acceptable and proper ways to organise participation endure in higher education. If new models and methods challenge established practices and the costs of these changes become too high, both students and teachers will soon fall back into established patterns (Scott 2008). By designing this course as a flipped classroom, where students have been presented online lectures and given individual tasks before student activities on campus, we have tried to find an ‘in-between solution’, rather than introducing something radically new and opposed to well-established practices. We think the flipped classroom model, as a hybrid innovation (Christensen et al. 2013), is useful in challenging and changing established teaching practices in ways that can enhance students’ learning in higher education. We would argue that the flipped classroom model provides new technological opportunities to frame established practices in new, meaningful ways. As argued in the latest NMC Horizon report (New Media Consortium 2014), the flipped classroom is expected to achieve widespread adoption within the next few years. This, and similar courses in Initial Teacher Education, will also serve as models for how student teachers can organise teaching and participation, to bring about changes in future workplaces in schools.

There is a ‘buzz’ in academic circles about the flipped classroom (Bishop & Verleger 2013). This does not necessarily mean that the flipped classroom is the answer to complex questions of how to stimulate students’ participation and engagement in academic courses in higher education. We find, based on this study, that the flipped classroom model has potential. At the same time, we agree with Bishop and Verleger (2013) and Tømte et al. (2013) that there is a need for more research on how this way of organising teaching and learning processes ensures academic quality. This is a question for further investigation.
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