

Challenges and lessons learned concerning learning in a social context in web-based education

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Abstract

This paper presents five identified challenges concerning learning in a social context in web-based education and discusses lessons learned on how to reduce these challenges in higher education. The study is primarily based on the authors' own experiences in conducting web-based education as well as on theories and research on learning and e-learning.

Keywords

Web-based education; learning in a social context; e-learning; online learning; higher education.

Introduction

The development of new communication and IT tools (ICT) in today's globalized society has led to new opportunities to communicate across time and space, which in the long run has impact on teaching and learning in higher education. *The Economist Intelligence Unit* (Glenn, 2008), for example, argues that the question is not whether or not higher education will be conducted in digital format, but in what ways technology will affect teaching and learning.

There exists a great diversity of different concepts for education conducted via ICT, to mention but a few, *open learning*, *distributed learning*, *online learning*, *blended learning*, *flexible learning* or *web-based education* (see, e.g., Hrastinski, 2009; Mattsson, 2008; Sundgren, 2012). These concepts are usually attributed various meanings in different contexts, but there is not enough space available for detailed discussions about the different concepts here. Our purpose is to briefly demonstrate the diversity of concepts in the field of education via ICT, and hereafter we will use the concept *web-based education* as a more general term which refers to higher education that occurs over time and space, between teachers and students, and with the support of ICT. However, we explicitly avoid the concept *distance learning*, based on arguments put forward by, e.g., Hrastinski (2009) and Mattson (2008). They argue that the concept distance learning is often associated with a more traditional information transfer perspective on education (the acquiring of concepts), following the *acquisition metaphor* (Sfard, 1998), which runs the risk of not utilizing the available technical possibilities to connect students, but primarily focuses on the, more or less,

isolated interaction between teacher and student. Instead, we adhere to the constructivist perspective on learning, following the *participating metaphor* (Sfard, 1998), which puts attention on the shared social and cultural aspects of the learning process. More specifically, our view of learning as both a phenomenon and a process has its origins in the interactionist approach, mainly inspired by Bron and Wilhelmsson's book *Learning in Higher Education* (Eds./2007). This means, learning is a reciprocal process that is shared between student and teacher, and as presented in Chapter 7, on page 101: "*The responsibility for the realization of learning in adult education is shared. It is shared between the learner and the educator. The outcome of the students' or others' learning success, depends on the students themselves, the teacher, and the interaction between them*". This quote really captures the heart of the matter when it comes to learning as a phenomena based on our values. But then we have to address the question of responsibilities, and we quote from Chapter 5, on page 70, the following: "*The learner is responsible for his own task to learn. The teacher is responsible for creating a good learning environment*".

However, it should be pointed out that we are not major opponents of the *acquisition metaphor*, since the combination of both metaphors is common in higher education, and both metaphors have their pros and cons. The *participating metaphor* has sometimes (wrongly) been considered as fuzzy and babbling, lacking coherence and structure. In order to reflect, think critically and synthesize different perspectives, students must have

constructed a thorough understanding of central concepts in the current subject area of study (cf. Feisel-Schmitz taxonomy of learning, 1986). Generally speaking, as a teacher you have to be aware of the different metaphors and apply them accurately in the course design so that the students will be able to reach the intended learning outcomes through proper course alignment (Biggs, 1996).

As a result of the development of ICT, different digital learning platforms have been developed that enable various forms of social interaction and communication between teachers and students. In addition to the new opportunities that learning platforms and their available tools provide for flexible web-based education, there are also some challenges concerning how to develop social interaction between students as well as between teachers and students in web-based education. According to the scientific literature, there are several implications that social interaction is more difficult to develop in online courses than in campus courses, due to the fact that humans are social beings and that many aspects present in face-to-face (f2f) interaction is actually missing, to various degrees, in web-based education.

However, creating and maintaining efficient, effective and creative learning communities is easier said than done in practice. There is a lot of research that addresses several crucial aspects in order to create and enhance well-functioning learning communities, but typically the focus is on group work. We will address the issue of social learning communities from a more individual perspective, but still the learning is considered to occur in

a social context. Based on our experience, group work is a demanding activity in higher education in general, and especially in web-based education. We have encountered different kinds of problem situations and have tested different ways to overcome or, at least, limit the identified problems. The major goal has been to improve the students' learning environment and learning outcome, but the cost has sometimes been more administrative work as well as increased workload for the teachers (e.g. more assignments to examine). However, we have discussed the pros and cons of our way of working and concluded that the "traditional" way of group work also resulted in an increased workload for teachers, and increased drop-out rates for students. Altogether, the additional communication with students and administration regarding problems related to group assessments resulted in alternative ways of working in a social context in web-based education. It should be pointed out that the majority of our students are enrolled on freestanding and first-cycle courses. Another central issue is the legal aspect. According to the University's local Degree Ordinance, each student has to be examined on his/her own performance and not on group performance.

The aim of this paper is to present five identified challenges concerning learning in a social context in web-based education, and discuss lessons learned on how to reduce these challenges in higher education in general, and online courses in particular. The remainder of this paper is structured as follows. The following section provides some conceptual background on different aspects of

learning in a social context in web-based education that will be useful in motivating and framing the work discussed in this paper. The subsequent section presents the method and performance of the study. The next section presents the five identified challenges concerning learning in a social context in web-based education and discusses lessons learned on how to reduce these challenges in higher education. The paper ends with a summary and discussion of the work presented here, as well as addressing some future work, ending with conclusions.

Background: Learning in a social context in web-based education

The advent of ICT has resulted in a huge body of research over the years regarding different aspects of social learning in web-based education. It is not possible to review all the relevant research here, so we focus our attention on some underlying approaches, theories and concepts that address major characteristics of social interaction and communities of learners.

Web-based education is complex and provides a lot of pedagogical, administrative and technical challenges in general, and the social interaction between students and teachers in particular. Based on our adherence to a constructivist perspective on learning, following the *participating metaphor* (Sfard, 1998), we put attention on the shared social and cultural aspects of the learning process. For example, research has shown that students who interact with their peers and teachers often receive higher grades, have reduced dropout rates, experience that they have learned more, are more satisfied

with their education and more inclined to finish their education (Fredericksen et al., 2000; Hiltz et al., 2000, in Hrastinski, 2009).

Within the interdisciplinary field of Computer Supported Cooperative Learning (CSCL) the main concern is to explain, study and design learning environments which take place via social interaction using different kinds of interactive technology (cf., e.g., Stahl, Koschmann & Suthers, 2006). CSCL is characterized by the sharing and construction of knowledge among participants using technology as their primary communication tool. The role and relevance of technology as a supporting and mediating artefact is central in CSCL, which dates back to the socio-cultural work by the Russian scholar Lev Vygotsky. Moreover, CSCL's emphasis on students' learning in social groups has influenced pedagogics and learning sciences, and the combination of technology and education is considered a fruitful combination in order to enhance learning in a social context, from both individual and group perspectives (Mattson, 2008). Roughly speaking, there is compelling support for the role and relevance of social interaction for learning.

However, research on social psychology applied to group work in computer-supported collaborative work (CSCW) reveals that the intended positive outcomes with group work suffer from some drawbacks in the form of poorer performance (Kraut, 2003). Examples of drawbacks are process loss and social loafing. Process loss occurs when group members work less efficient in teams than

individually, and it is often the result of coordination and motivational problems. Social loafing is another identified issue that degrades individual motivation in groups, and it refers to the fact that individuals will engage less in a group activity if they suspect a poor outcome, if the task is not personally satisfying or engaging. In other words, social loafers do not contribute to the outcome of the group task as a whole, and instead try to sneak with minor effort.

A fundamental issue in web-based education is the distribution over *space* and *time*, and consequently the distribution has impact on the social interaction, the teaching and the course design. The design of web-based courses differs significantly from campus-based education, and consequently it radically changes the teachers' role and pedagogics (Hrastinski, 2009). Pedagogical digital competence, for example, is a central issue in web-based education that we address in more detail elsewhere (cf. e.g. Lindblom, Alklind Taylor, Rambusch & Svensson, 2011).

Moreover, the way learning is affected by *synchronous* or *asynchronous* interaction is of particular interest, given the fact that the majority of online students, seldom or never, come together in real life (IRL). The use of internet offers a tentative solution to enabling social interaction when located at different places geographically. As a consequence, some efforts have been made in order to create some kind of "virtual learning communities", as a substitute to meet IRL on campus (Mattsson, 2008). How is (social) learning affected by synchronous

or asynchronous communication through interactive technology?

Computer-supported communication provides several possibilities and media channels (such as text, video, audio etc) to social interaction in web-based education, which in the long run might establish “communities of learning” (Lave & Wenger, 1991). Hrastinski (2009) disentangles different pros and cons with *synchronous* and *asynchronous* communication in web-based education. Much emphasis in research has been on *asynchronous* communication given its flexible nature. It has been argued that the characteristics of *asynchronous* communication provide several possibilities for learning; independence from time and place, allowing students’ to decide by themselves when to communicate with other students and teachers. This offers students the possibility not to answer questions immediately, and then having more time for formulating and reflecting on their answers. This also has implications for course design, allowing assignments to be made during longer time-frames, flexibility and explicit social interaction among students. The flexibility in time and space allows other than ordinary student groups to participate in web-based education; students that live far away from campus, are working part-time, or are raising a family. They can then participate according to their own schedule; study on weekends, at nights or during shorter time-spans at daytime. On the other hand, the pros with asynchronous communication can also be considered cons. For example, students might be afraid of posting questions and texts in fora visible to others, since they

might suffer from performance anxiety, fear of making a fool of themselves by asking “stupid” questions or having misinterpreted an assignment task in front of their classmates (Hrastinski, 2009). *Synchronous* communication requires students to participate in real-time, but not being at the same place. Pros with real-time interaction are the possibilities of direct feedback on questions, to get immediate replies on follow-up questions, and the possibility of social “chatting” with other students beyond the course content, providing a foundation for a “virtual learning community”. The major con with *synchronous* communication is the inflexible nature of punctuality in time, since many online students are busy with other tasks besides their studies. It is easier, however, to use *synchronous* communication in smaller groups, in students’ own planning and in supervision of group work (Hrastinski, 2009). Generally speaking, *asynchronous* and *synchronous* communication complements each other, by providing different means for communication among students and teachers in web-based education. Concurrently with the technological development, and the considered advantages of social interaction among students for learning, different aspects of “collaboration” and “participation” have gained increased attention. For example, encouraging student participation and collaboration is considered as the teacher’s most important characteristic in order to succeed in web-based education (Hrastinski, 2009; 2011; Mattson, 2008). There exist a lot of relevant concepts concerning learning in a social context, for example, “collaboration”, “cooperation”, “participation”, “community of practice” and “virtual

learning community”. Taken together, without disentangling their similarities and differences, and philosophical underpinnings, these concepts stress, to various degrees, the significance of participating and sharing ideas and thoughts about both the course content as well as the subjective socially experience of being part of a group with shared interests in web-based education.

Method and performance

In order to identify the challenges and lessons learned concerning learning in a social context in web-based education, a case study was conducted (Patton, 2002). The chosen approach was inspired by action research (Argyris, Putnam & McLain Smith, 1982). Action research involves the process of actively participating in change situations while conducting research, in order to solve identified and upcoming problems through a reflective a developmental process, by individuals working together with others as part of a “community of practice” (Lave & Wenger, 1991) to improve the ways they encounter various concerns and disentangle problems. The action research approach was motivated to gain access to the authors’¹ own knowledge and experiences in conducting web-based education, as well as the involved teams of teachers. By this approach, we were able to reflect on our own ways of conducting web-based education while we practically ran the courses. Thus, we could modify the course design between every time a particular course was given, and

¹ We performed this study as course coordinators, examiners, educational coach and quality representative for undergraduate education in cognitive science.

then continuously evaluate the impact of our changes between different occasions, based on students' and colleagues' commentaries and criticisms. The students' comments were collected through course evaluations, e-mails and posts in different fora on various course sites on the learning platforms (they differed during the years). Colleagues' views were collected continuously during the courses and especially at the completion of course evaluations. The time-period for the data collection was 2008 - 2013 and the amount of courses was about 10-15 each year in the subject areas of e.g., cognitive science, human-computer interaction, philosophy, cognitive neuroscience and web design. Most students participated in freestanding courses but some were programme students.

Five challenges and lessons learned

Based on the action research approach, we have identified the following challenges. We provide our experience and lessons learned for each challenge concerning learning in a social context in web-based education:

- Students' expectations that they participate in education as individuals, and not as learners in a social context
- Students' individual interpretations of the study pace and the role of deadlines for examinations for the progress of learning in a social context
- Students' different ambitions and approaches of workload planning and the amount of social interactions with other students in performing course assignments

- The allocation of time and cooperation of learning activities together with other students
- Develop quality controlled examination for each student in a socially interactive learning context

Students' expectations that they participate in education as individuals, and not as learners in a social context

The students often have particular expectations on a course and we inform them of our view on learning in the “study guide” to prepare the students for our expectations and our view on learning (see the quotes in the Introduction). Some students view themselves as lone sailors, arguing that on a “distance course” one should not have to interact with other students, and therefore they are not supposed to interact with others, e.g., they are often proponents of the *acquisition metaphor* (Sfard, 1998). They present arguments such as it will be meaningless to interact with other students since only the teachers will provide necessary knowledge to them. Moreover, they often put forward the time issue, they are not interested in ‘wasting’ (spending) time in student interactions, they have limited time available for their studies due to personal reasons. We also inform the students about our view of what it means to be enrolled in higher education, and what this responsibility means more concretely is clarified in the following: From the student's perspective, we want to emphasize that the students must be aware that an academic education is an active choice, which periodically is more or less demanding, requiring hard work and some challenges that one may not directly grasp the benefit of. If students are ready to take

up the gauntlet to develop, will we as teachers provide a creative and knowledge-intense environment for students’ to progress in, through our competence, a scientific perspective and our commitment to the subject.

It is important to develop a good learning environment, to be distinct regarding course structure and to clarify what the demands are in workload and time spent on a course. One successful way to be present early on is to write concise messages to the students on the course's digital bulletin board, which leads to fewer questions and more satisfaction among the students, and has resulted in an increased quality of the courses. We continue with these messages usually every Monday throughout the whole course, addressing the planned work of the week and offer some pieces of advice in reading the literature, upcoming assignments, and provide general feedback on prior assignments. This way of working has been appreciated by most students. In addition, we have different fora at the courses’ site on the learning platform, where students can post questions on course content and about the assignments. As teachers, we encourage students to help each other, and we are keen to answer their questions very quickly. In the beginning of a course, we respond to their questions several times every day, as a way to create a sense of social presence, in order to develop towards a “virtual learning community”. We always answer the students’ questions in a positive manner, e.g., thanks them for posting their question as a way of working with the course material or getting to know the learning platform. We hope that our positive tone of voice encourage other

students to post their questions on the available fora. If we receive course related questions in form of emails, we kindly reply that we will answer the question when it is posted on the course's fora, since the question and the answer might be useful to the other students too. This is another way to further promote social interaction with others.

Students' individual interpretations of the study pace and the role of deadlines for examinations for the progress of learning in a social context

Social presence needs to be initiated in the course introduction and "rules" that provide confidence in communication. Early social interactions create conditions for a good virtual learning community. Our experience is that a large percentage of students taking an online education view it as something they will carry out all on their own and the assignments that are included should be assessed shortly after they are submitted. It is important at an early stage to provide students with all the course material and also inform them of when they can expect feedback. There is sometimes an expectation to be able to have control over the time they have available to conduct the course. The supposed idea that on-line studies are more flexible than campus courses are usually experienced as very positive. However, many students unfortunately misinterpret this into believing that you can do things whenever you want.. Some students interpret web-based education as just reading the textbook and then making a final individual assignment on the whole course material when they feel it would be appropriate. However, we do not consider this approach as favorable. Firstly, our experience indicates that many students

have a tendency to procrastinate their study start, and therefore we have minor assignments early on, e.g., basic concepts in the subject area, in order to encourage their reading of the course literature and to start to discuss these concepts with each other on the course forum. Secondly, some students have applied for study allowances and the rules for obtaining this economical support are very strict in regard to study outcome during a certain time period. Thirdly, we have strict deadlines so the students can interact on certain issues and assignments simultaneously and then both supporting and assisting each other on individual tasks as well as discuss and comment on each other's assignments. Some students view the other students as competitors rather than resources for their own learning. Finally, we have experienced that it is fundamental to encourage and initiate social interaction among the students already in the beginning of a course, otherwise it is much harder to accomplish this "social learning climate" later on, or sometimes nearly impossible. Many students enrolled in a web-based education, do it it aside of their own work or during parental leave and when they have allotted some time so study, so they presume that all information and answers are easily accessible. The timing is often important and there are no or very small margins in the time allocated for the course in their lives. It is therefore essential that teachers and other staff members are available and provide fast answers, especially in the beginning. It is necessary to inform clearly and early on what the quickest way to get responses is. There is a large profit referring students' questions to a course forum because many students struggle with similar issues and

can then help each other on the course. If more individuals read the response to the posed question, the potential for rapid response increases. It's a win for both students and teachers and should be encouraged.

Learning with other students is often not included as an integral part of the student's life; it is a need to be structured within the layout of the course design. It is important to note that as students take their own responsibility regarding the study process. Students are required to read the literature and make reflections, for example, on the current theme for an upcoming assignment. The examined assignments should as far as possible be returned to the students using the same tools as for the submission, and the assessment criteria should be available before the assignment's deadline. It should be clearly stated for the students when they can expect feedback, when their credits are reported, and when the re-examination will occur.

Students' different ambitions and approaches of workload planning and the amount of social interactions with other students in performing course assignments Virtual learning communities in form of e.g. webinars, provide a changed role of the teacher since the teacher may act as a moderator or coach, instead of the classical role of a lecturer. Some webinars (we denote our online seminars as webinars) begin rather early in the courses, in order to initiate activity and interaction before an examination via a quiz on basic concepts (only individual examination) takes place. Our goal is to foster students to learn from each other, develop their writing skills

and provide them with new perspectives on the actual issue. Before the course's first webinar starts, we post an example of a relevant written text, as a kind of inspiration as well as a rough template. By so doing, a lot of questions about how to write the text for the webinars are answered as well as students' expectations of how to write and in what kind of style is illustrated in the example. Initially we were against the idea of providing an example, but we changed our minds when we experienced the positive results of posting an example in advance. Fewer questions about how to write an adequate and relevant text, fewer students that begged the teachers to pre-assess the text before posting (something that we do not do), fewer emails from students who were anxious that they would not succeed in writing a proper text, and the handling of academic referencing was significantly improved in the posted texts. When the webinar starts, only students that have posted their text the day before (absolute deadline) are allowed to participate. We nowadays usually have Mondays as *the* day to post the text for the upcoming week's webinar (the webinars usually start on a Tuesday and end on a Monday morning), instead of on a Sunday that we had earlier, since we can now assist and help students to post their texts on the fora when we are in the office/at work. The design of webinars often relies on students to publish a response to a question(s) before a specific date. The day after the deadline (usually on Tuesdays), we publish a list on what text each student primary should comment. They do not comment on each other's texts in pairs, since each student comments on student X, and receives responses from student Y. By this way of working, students get

involved in several social interactions. We encourage them to comment on more than the allotted students' texts. According to the instructions, the comment must be relevant to the task and content of the assignments. They should also respond to the comments they receive, demonstrating that they have read and carefully considered the comments. In our view, this is a kind of social learning process, following the participating metaphor (Sfard, 1998). We have recognized that this way of working has resulted in an increased student activity, better quality of texts and comments, and more satisfied students. Students spend more time interacting with each other in dialogue around concepts and course content providing more knowledge in the field and new angles that add value to the actual subject. They also share their own perspectives and experiences with each other that subsequently results in a kind of dialogue among the students, which, in the long run, hopefully increases learning. It is of major importance that teachers are actively involved during the actual webinar, commenting on student texts and also posing questions. There are always some student texts that will not pass the criteria for the assignment in its initial version, but an active teacher/moderator can pose adequate follow-up questions so that the student can improve the text, by adding clarifications or references in (a) complementary comment(s), and then pass the criteria during the webinar although the initial text did not pass. This also has a positive outcome on student comments to each other, seeing how the moderator formulates the questions as a kind of 'role model'. We have noticed as students develop their texts, we usually experience the positive trends that

students undergo during webinars, even in between different webinars we witness a positive development. One identified advantage compared to campus seminars is that everyone gets to "speak", silence can take place when it is needed, more focus on the text content than on the writer (more egalitarian) of the text, and comments and postings are more thought out and well-formulated. The quality of the subject content increased compared to campus seminars, which has resulted in webinars on campus courses as well, instead of regular seminars.

The allocation of time and cooperation of learning activities together with other students

Presentations of group assignments are of importance and if students find them meaningful they engage themselves in these. Group work is frequently occurring and enriching the campus based education (though not without problems either), but leads to larger and more complex communication problems in web-based education. It can be viewed from different perspectives; we notice many benefits of student interaction, and try to create conditions for continuous student interaction through our structuring of the of the course syllabus in order to continually have different forms of student activity and interactions.

One major experience is the importance of providing clarity and reflecting upon what students need to know and how to design the course site on the learning platform. To navigate through a lot of information often leads to frustration and irritation among the students. As course coordinator, one has to consider what kind of information is required for the course and what it is intended to be used for.

Many times "less is more", and often it is preferable with as few avenues of information as possible. Some assignments are structured as group work and much effort has been put on making group work to run well. The grouping of the students is in itself a challenge. Firstly, to let the students themselves form the groups has resulted in a negative outcome. They do not begin in time and many are then left without any group involvement, resulting in extra workload for the teachers in order to solve the issue. Secondly, to form random groups based on officially enrolled students on a course is problematic. Many enrolled students are non-active participants in the course, causing frustration and problems for the other active group members. For example, they do not cooperate or respond to questions, and sometimes single student groups arise. Mandatory study contracts in the allotted groups did not solve the problems. As a result, there will be frustration from students and additional administrative work for the course coordinators. Some of the high-performing students dropped out because of the problems within the group. Based on the above issues we did some re-thinking about grouping that resulted in the following:

- 1) Grouping by location - good idea-but it turned out that several students were on other addresses than they had declared - so it did not match and sometimes there were not enough students geographically close to form a group.
- 2) Grouping by activity - active students were matched with active students, and stragglers were matched with stragglers. It sorted out pretty good but did not cover the whole picture of the problem.

3) Grouping by "mini quiz" based on ambition, residence, preferred study time (weekends, workweeks), programme or freestanding students, and then the students were divided into groups based on their preferences. Although the problems were reduced significantly, the "basic criticism" to group assignments remained and the quality of the final reports was often poor and this way of working was not satisfying enough. The reports were usually written by the different group members independently of each other's writing style etc., and did not end up in a uniformed final report layout or content. Often it was the result of a "copy and paste" exercise of the individual members' texts in the group. Many students were upset when the report as a whole did not pass the assessment criteria, and consequently all the group members did not pass the examination. They criticized our way of working with failed assignments since their own "text parts" had passed, and therefore these students argued that they should pass the group assignment on an individual basis. It was obvious that under these circumstances the students neither cooperated nor collaborated on the group assignment (although it was clearly stated in the description of the assignment), ending up in no overall responsibility and time-consuming discussion about who was responsible for the different parts. We then decided that the assignment should be carried out individually but to be presented and discussed in minor groups so that they will provide feedback and reflect on each other's work. The former group assignment was usually situated towards the end of the course, where students should analyze short movie clips (we had prepared 3-5 movie

clips in different situations, approx. 2-3 minutes long) that we as teachers had created. Generally speaking, the students had to find three to six specific scientific concepts from the course subject in the film clips, define them theoretically, identify empirical examples of these concepts from the allotted film clips, and then describe and motivate the connection between “theory and practice”. The assignment task as such was not criticized; instead it was the performance as group work that caused problems. After the shift from group work to individual work, the process was carried out in the following way:

Students performed the assignment individually according to the instruction. Their individual reports were submitted via the learning platform at the latest at deadline, and then we randomly grouped 4-5 students into specific fora, where both all the film clips as well as the students’ reports (in pdf format) were available. Then they had to comment on each other’s work and answer the responses received during a period of a week. In this way, we still have the individual work for the student (avoiding group related problems), increased quality control in examinations, more freedom and the opportunity to interact with other students and reflect on others’ perspectives and analyses on the same film clips. Taken together, the students became more responsible for their own work process and put more effort on the task since it was not only the teacher who would see their reports, the discussions on the fora were of high quality and the students were very engaged in the topics addressed. The students’ satisfaction with the assignment as such increased, the interactions with the

other students were highlighted as very positive in course evaluations, and also the report quality increased.

Develop quality controlled examination for each student in a socially interactive learning context

We use continuous examination in trying to achieve higher learning outcomes, better workload for the students, and higher throughput. Social interactions via different kinds of webinars and fora on the learning platform are ways to broaden student perspectives and increase the activity level, as components of a participatory learning process in a social context. In order to encourage student activity, resulting in higher throughput and learning in the long run, we focus on clearly stated assignment descriptions and assignment criteria for pass or fail. In both cases it is clearly stated if social interaction with other students is required and in what forms. It should not be a surprise for the student that they have to comment on other students’ text and write relevant responses to posted comments. Students fail on the marked examination if they ignore to comment or respond on texts (they are offered a second chance at the re-examination). All texts, comments, and responses are posted on the learning platform and the students have to log on to the platform via their unique user accounts at the university. As a consequence, all posts are visible and traceable digitally to each and every student on the actual course, serving as a basis for examination for both students and examiners. By this way of working, students can themselves view what material they have posted and when, not being insecure if the material has reached the examiner in time. Lengthier student reports are handled

through digital aids in plagiarism control that automatically verify student texts against material on the internet, archives etc., reporting any similarities and provide feedback to the examiner in form of source track-back that then can be analysed further.

When it comes to group work, we see similarities with the identified major factors of process loss and social loafing (Kraut, 2003) in CSCW in our web-based education. Consequently, the challenges for quality controlled examination increase since group related conflicts might occur that have legal consequences. Students can, for example, be excluded from the final report by other group members on uncertain premises. The other way around, students that have not participated are included in the final report. We have used mandatory “study group contracts” to reduce these drawbacks of group work, provided special fora for each group to work within on the course site to minimize coordination problems, and tried a wiki tool on the learning platform in which one digitally can trace the contributions of every group member in accomplishing the final report. The use of the wiki tool was a good idea in theory, but it turned out that the usability and learnability was too low for the average students, and we received a lot of complains from students regarding the difficulty to use it properly in practice.

To summarize, the trade-off that we now have reach with more individual work that is complemented with social interaction with other students is a viable approach. The examiners and students have access to all the material and the student complains regarding group work have decreased,

they are more content with the assignments, highly appreciate the interaction with the other students, and the throughput has increased. We have much more control when doing examination given that the students are correctly graded on behalf of their individual performance, without viewing learning as an isolated interaction between teacher and student.

Discussion and conclusions

This paper has presented different challenges regarding learning in a social context in web-based education; resulting in some lessons learned to decrease, or to some degree, overcome these challenges based on our experience as teachers, course coordinators, examiners, quality representative for undergraduate education, and educational coach at our university.

This paper contributes to extending the understanding of different aspect of learning in web-based education in a social context, and our ambition is that colleagues should be inspired and find our lessons learned useful and effective in their daily work. However, the proposed challenges and lessons learned are still work in progress, and need further elaboration. Firstly, the identified challenges need to be developed further, since there is a need to incorporate relevant work from research in CSCL, pedagogics and related areas. Secondly, the lessons learned should be closer connected to current research, in order to the current gap between practice and theory regarding different kinds of social interaction. Thirdly, there is a need to incorporate our experience as students in various web-based courses that we have

participated in. On the one hand, we wanted some inspiration for our different roles as educational coach and teachers. On the other hand, we have so far not revealed that we actually were no “typical” students and have participated in various group works to gain a first-hand experience from the student’s perspective. Finally, there is a need to relate our work to a more general and unifying framework that integrates the different perspectives that we have addressed on a higher level. A tentative approach is to take a closer look at Garrison and Anderson’s (2003), Garrison’s (2008), and Anderson’s (2008) framework for research and practice which addresses social, cognitive and teaching presence in a community of learners, and investigate if our respectively work can complement and develop each other.

To conclude, we stress that a prominent teacher is someone who can enhance students’ learning in a social context. In this way, teachers motivate their students to learn through discussions with other students and student groups, which, to some degree, correspond to the learning outcomes laid down in the Swedish Higher Education Act. It is highly probable that higher education will continue to be conducted in digital format, and in what ways technology will affect teaching and learning is of major importance, and therefore it is necessary to pay attention to learning in a social context as part of our digitized and global society.

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