



Using online peer assessment in an Instructional Technology and Material Design course through social media

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Abstract This study was designed to investigate the student teachers perceptions about and benefits and challenges of using Facebook as an online peer assessment tool for the student teachers' works. The study group included 24 student teachers in science education department of a state university located in the southeast region of Turkey. A case study approach of the qualitative method was employed in the research. Semi-structured interviews were conducted to collect the data. The interviews were audio recorded, and records of all the interviews were transcribed into full text in Turkish. Collected data were analyzed using an emergent coding approach. Codes, then, were categorized to constitute themes and subthemes. The findings indicated that the student teachers were able to give objective feedback on their peers' work and engaged more actively in class after participating in online peer assessment. Additionally, the students found it exciting and productive to use Facebook as a peer assessment tool in their learning.

Keywords Peer assessment · Social media · Instructional Technology and Material Design · Higher education

Introduction

New insights in the knowledge age, where change is constant and unpredictable and “the ability to accomplish difficult tasks is more likely to depend on one’s ability to navigate the vast array of informational resources than it is to based on static knowledge” (Schwartz and Arena 2009, p. 5), have resulted in a shift in education and assessment. Currently, students require critical thinking, analysis, synthesis, as well as creativity to be successful because just

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knowing something is no longer enough. In light of this, it is more important to be able to demonstrate what you can do with that knowledge, so educational circles debate effective learning and effective assessment of that learning (Whiteford 2014). Thus, the learning is individualized, socially constructed, differentiated, initiated by students themselves, and connected to authentic contexts, and quality assessment should embrace the same principles (Osborne 2013). Then, calls for a rethinking of the relationship between assessment and learning and indeed educational assessment standards and methods have already begun changing across the globe as “there is general agreement in the assessment field that times are changing.” (Whitelock 2010, p. 334). Moreover, proposed alternatives to assessment methods can be used for both formative and summative measures as an authentic context. Peer assessment is one prevalent example of alternative assessment methods.

Peer assessment is a process where individuals are evaluated by their learning peers (Lee 2008), and usually includes indicators for the process, quality, and outcomes of learning (Topping 1998). According to Falchikov and Goldfinch (2000), peer assessment has become a universal educational approach. Peer assessment tasks may include “writing, portfolios, oral presentations, performance tests, and other skilled behaviors” (Topping 2009, p. 21). Because of this wide applicability, peer assessment methods are being integrated with teaching in many fields, for example, geography, business, psychology, linguistics, and education (Topping et al. 2000; Tsai et al. 2002b).

The use of peer assessment has been increasing rapidly in higher education (Van den Berg et al. 2006; Wen and Tsai 2006). This assessment approach enables students to improve their critical thinking and analyzes processes and increases both student-student and student-teacher interaction. Additionally, peer assessment helps students better understand the evaluation process itself (Zevenbergen 2001).

The rapid increase in the utilization of online learning environments and social network sites, such as Facebook, Twitter, Instagram, and LinkedIn, offers additional potential for the pedagogical use of peer assessment through feedback. These websites have impacted education and changed the landscape of learning process by enhancing the pedagogical interaction (Moran et al. 2012). It was also asserted that using websites enables students to communicate and do various course assignments (Truong 2013). Currently, students demand greater autonomy in their own learning to create new insights, and share their ideas with peers (McLoughlin and Lee 2007). Facebook is one of the appropriate and widely used social network site for these functions to provides many pedagogical benefits (Selwyn 2007). Therefore, in this study, Facebook is being used as a learning tool to provide feedback, interaction, and social communication (Mason 2006). Students are ready for the prospect of using Facebook to support classroom assignments (Roblyer et al. 2010) to ask and answer questions, post their comments, support their peers in educational activities, and discuss their tasks (Haverback 2009). These interactions may have an influence on fostering student-student and teacher-student interaction and feedback, and may be useful to both students and teachers since peers are available online (Pempek et al. 2009).

Development of internet technologies and widespread use of social networking sites have led to increased use of online peer assessment in classroom settings (Steeple and Mayers 1998; Barrett and Lally 1999), “having positively affected student assessment processes” (Lu and Zhang 2012, p. 317). On the one hand, social sites “facilitate collaboration and offer the potential to move away from the assessment of individual skills to implement a social constructive view of learning” (Whitelock 2010, p. 320). On the other hand, the online assessment has a number of advantages, such as assignment submission, storage, communication, and review, over face-to-face assessment

(Tsai 2009; Yang and Tsai 2010). It also enables learners to interact and communicate with peers to revise their work based on feedback when and where they like (Yang 2011), and can increase the willingness of students to engage in the assessment (Tsai 2009). The idea of online peer assessment has recently been proposed, in which students assess their peers and provides feedback, and provides opportunities for assessment, and autonomy through online collaboration (Liu and Lee 2013; Loureiro et al. 2012). Through combining Facebook and peer assessment, learners can more interact each other, comment on their peers' work, and share perceptions about various issues (Shih 2011).

Online peer assessment provides better opportunities for learning and evaluation than traditional methods, and it can be more efficient than in a traditional classroom setting and reduce the cost associated with brick and mortar education. The online assessment allows instructors to monitor the progress of students and the activities more closely (Lin et al. 2001). Advantages include making the teachers' job more manageable in crowded classrooms (Davies 2000), time and cost-effectiveness (McGourty 2000), and the creation of an environment where students can provide feedback to their peers without being limited by time and place (Tsai et al. 2002a; Wen and Tsai 2006). Additionally, this assessment process provides students with the opportunity to freely interact, submit, store, review, and revise the assignments of peers whenever and wherever they are, as well as allowing students to monitor, track, and discuss revisions of their writing (Yang 2011).

A number of recent studies have focused on the use of online peer assessment in education context. Li and Law (2012) performed their study on the effects of online peer assessment, in form of peer grading and peer feedback, on the students' learning. The results show that the provision by student assessors of feedback that identified problems and gave suggestions was a significant predictor of the performance of the assessors themselves, and that positive affective feedback was related to the performance of assessees. Liu and Lee (2013) conducted their research with 12 graduate students with the aim of the influence of various forms of peer observation and feedback on student learning. The findings indicate that the students made valuable modifications to their work with the help of feedback from others, and most of them had a positive impression of peer observation after participating in online peer assessment. Cheng et al. (2014) focused on exploring the emotional responses and participation of university students in an online peer assessment. The results suggest that response behaviors play a role in reflecting a learner's participation and emotional response during an online peer assessment process. Cheng and Hou (2015) also performed their research on exploring the university students' behavioral patterns during an online peer assessment activity from the affective, cognitive, and metacognitive perspectives. According to the findings of this study, the students' behaviors in terms of peer comments providing and responding from affective, cognitive, and metacognitive perspectives show changes throughout the process of online peer assessment. Finally, Rosa et al. (2016), in their research, aimed to identify the digital information and communication technologies and the assessment methods used in online peer assessment strategies in higher education. It concluded that online peer assessment as a cognitive tool, contributing to the building of knowledge and to reflection about learning.

The literature review indicates that although there are several recent studies of online peer assessment and the use of Facebook (Deng and Tavares 2013; Shaltry et al. 2013), there are no studies encountered on the use of Facebook for peer assessment. However, integrating online peer assessment and Facebook might create more effective learning process, enable students with an environment to express freely their ideas about their friends' work, and provide to learners with opportunities to evaluate their peers effectively. I chose Facebook, because it is considered as one of the well-known social network among youth and university students

(McCarthy 2010). For instance, in my university classes, it is not uncommon for student teachers to covertly check their Facebook accounts right in the middle of a lesson, and my experience is not unusual. I wondered how effective it would be transferred class content to a Facebook that student teachers would use for the duration of the course. In my case, Instructional Technology and Material Design course content covered peer assessment of material design. I assumed that compound Facebook with peer assessment could facilitate and constitute the interactions among students that occur inside and outside of classroom that can prove to have pedagogical values. Therefore, I used peer assessment with Facebook in my classroom because it seems to provide more effective interaction and feedback for learners to enhance their learning, to enable students to acquire knowledge according to their peers' opinion, assess those of their peers, and make adjustments to their own assignments. Thus, the purpose of the study was to explore the student teachers' perceptions on integrating Facebook into peer assessment in the learning environment to promote students interest in higher education, and improve learner performance through interaction and feedback they receive. Specifically, the research questions addressed in this study are

1. What are the student teachers' perceptions in the course of Instructional Technology and Material Design regarding peer assessment using Facebook?
2. What are the benefits of peer assessment of the student teachers' work done on Facebook in the course?
3. What are the challenges encountered in the process of peer assessment in the course using Facebook for assessment?

Method

Research design

A qualitative case study approach was used in this study. A case study is a “descriptive, holistic, exploratory and inductive research method” (Rossman and Rallis 2003, p. 104) that was the best suited to this study because using Facebook as an assessment method in a relatively new phenomenon for education. A case study also focuses on a single unit, restricted milieus, and discipline (Merriam 2013) to determine relevant circumstances and offer solutions related to them.

Study group

This study was conducted in a state university located in the southeast region of Turkey. The study group consists of 58 student teachers studying third grade science at the university. The sampling process included three stages: (a) among the 58 students, those that were actively using Facebook were asked if they were willing to voluntarily participate in the research; (b) only 28 accepted to participate the study; and (c) three of them gave up before the start of the study for personal reasons. The 24 (15 females and 9 males) participants were included in the study sample and then grouped based on grade point average (GPA): successful (AA-BA), somewhat successful (BB-CB), and low level of success (CC and below). The researcher manually coded student teachers based on successful (S1 through S8), somewhat successful (S9 through S16), and low level of success (S17 through S24).

Procedures and data collection

The Instructional Technology and Material Design course was taught by the researcher in the spring semester (2014). The course was conducted as follows: in the first week of the course, students were required to select a topic from the middle school sixth grade through eighth grades science curriculum and develop appropriate materials for teaching. During in the 6 weeks of the course, which met once a week for a 3-h face-to-face class, I presented the content of the course, and the criteria that should be in the material. Individually, each student teacher was required to prepare and present their materials in the framework of criteria. After seeing materials brought to the class as examples, the class discussed the criteria, as stated in the following paragraph, to be considered for the final assessment. However, student teachers only made comments and gave feedback to their peers' materials because the course was assessed and graded merely by instructor using written examination and rubric including the following criteria. I carried the content of the course to Facebook using peer assessment to make it more attractive and increase the student teachers' motivation to the course.

The 24 participants were required to register and join a private "faceducation" group that was formed by the researcher on Facebook. Next, participants joined the faceducation group, and then, it was closed to random access by other visitors. Individually, the student teachers' works were uploaded to the faceducation group for feedback. There were four criteria used to evaluate the materials: (a) fit to course/subject; (b) simplicity, straightforwardness, and understandability; (c) accuracy/up-to-dateness; and (d) practicality/visual aesthetic. The criteria for participants to consider and provide feedback were posted on Facebook as well. For 2 weeks, all of the participants had to make comments and provide feedback to each other except for their own materials according to the criteria. Although it was not mandatory, the participants were encouraged to respond to the comments of their peers. The role of the instructor was as a facilitator to guide student teachers, and to check and confirm that they were participating and carrying out course requirements. However, the instructor never interfered with their peer assessment specific comments.

Semi-structured interviews were conducted with participants after they completed comments and feedback on each other's materials using Facebook. The interviews were conducted by the researcher in 25–30-min sessions and were recorded for transcription.

Data analysis and coding procedure

The interview protocol presented interview questions for student teachers, and responses were coded for confidentiality of the teachers. The data collected from the semi-structured interviews were analyzed and coded resulting in the development of recurring themes. I used an inductive grounded theory approach allowing the codes to emerge from the data analysis (Rubin and Rubin 2005). The grounded theory approach assumes that "coding, recognizing concepts and themes, and theory development are parts of one integrated process" (Rubin and Rubin 2005, p. 221). Using three interviews, an initial codebook was developed, revised, and refined. These codes were then applied to all remaining semi-structured interviews while still looking for additional emerging code. After initial coding, codes were clustered by common ideas to create categories and themes.

The qualitative data were represented using narrative descriptions. These descriptions involved a "detailed discussion of several themes with subthemes, specific illustrations, and multiple perspectives from individuals, and quotations that provided a more profound understanding of the previously collected inquiry data" (Creswell 2009, p. 189).

Results

The participants of the semi-structured interviews were asked several questions relating to the use of Facebook as a peer assessment tool. They were also asked additional questions probing more deeply into the use of Facebook to explore issues of integration of student teachers learning and social media. The practices were coded into multiple themes falling under the general heading of use of Facebook, impact on student teachers work, benefits of peer assessment via Facebook, and the challenges encountered. Within these major themes, multiple subthemes emerged, including the use of Facebook, impact on student work, advantages of peer assessment in Facebook use, and the challenges with Facebook and peer assessment.

Student teacher perceptions

Each semi-structured interview participant was asked to share their perceptions of using peer assessment in the course through Facebook. Responses were coded as “use of Facebook,” “impact on student work,” and “moderator.”

Use of Facebook

A few of the interviewees reported that they were excited and happy and somewhat surprised when they heard of this study. The integration of internet use in education is still in its infancy in Turkey, especially the inclusion of social media. One interviewee reflected these perceptions indicating

I am both surprised and delighted. When I heard about the study I thought, why have I never thought of this before since it is a very original idea indeed. Our youth spends a lot of their time on the internet and social media sites, such as Facebook and Twitter. This idea, to present an environment where you can both have fun and learn to both have fun, will provide them with a great benefit. This combination of knowledge, technology, and the internet is a great idea. Student teacher no. 18

Other interviewees echoed these sentiments. Some of them said that they had used Facebook before for chatting, playing, and keeping up to date, but this was the first time that they used it to post their comments about class activities for educational purposes. Although one participant was skeptical about this project because the idea was so new to him, the other participants indicated that using Facebook was a communication and educational tool.

Nearly all of the participants stated that it was appropriate to use Facebook for educational purposes. There was a range of perceptions on the project, although one participant approached the project cautiously, because such a study has never done before; the majority of opinions was very positive. Most participants expressed excitement at the possibilities. For example, one of the participants who thought that it was appropriate shared the following:

Without Facebook, we cannot collect our thoughts in a common place and cannot share them. Facebook is a common social media community that is used by everyone from seven to seventy nowadays. Without Facebook, these comments would not be permanent, as in a case with comments made on the phone or in the classroom. I think that the most appropriate place to make comments is Facebook. Student teacher no. 4.

In the same vein, another participant expressed her excitement at the possibilities of combining social media with education:

Facebook is a very appropriate idea because of current internet and technology. Even a primary school student can have a Facebook account. As we study, we both adapt to today's technology and obtain education more efficiently. This study is very appropriate because children spend a lot of time on Facebook. Children will have fun and learn something as well, and thus, will not have wasted their time. Student teacher no. 14.

One participant who originally thought that Facebook had no place in the educational process even changed his mind after the project:

I thought Facebook was unnecessary before, but now this Facebook study completely disproved my hypothesis. Facebook can be a very useful social network website if it is used for educational purposes. Student teacher no. 21.

Other comments included that Facebook is a powerful strategy to make learning enjoyable, enhances interpersonal communication, increases the student teachers' self-esteem, increases the quality of education, and gives student teachers an opportunity to discuss issues if it is well planned and organized. These comments demonstrate the growing, though not universal, acceptance of Facebook as an educational tool.

Impact on student work

Most of the participants had positive reactions to their materials and reported that their participation made them happy and improved their self-reliance; some of them experienced an increase in their awareness and acquired distinct ideas. The following quote articulates this point:

I am delighted. It was very gratifying to see that other people accepted my comments and used them in their revisions. Being approved of by my peers made me very happy. By means of comments, I have seen that the material that I made reached its goal. Also, being approved for my material increased my self-reliance. Student teacher no. 13.

Nearly all of the participants stated that their comments and feedback on the material of other student teachers were not influenced by the friendships among them. Thus, they could comment on their peers' materials objectively and write down what they thought. They could also work it into their own schedule at their convenience. In addition, online assessment avoids putting a student "on the spot." This can help preserve friendships. However, a few of them stated that their friendships did influence the comments even if just a bit. As one participant commented

The friendship from before the study is not influenced by these comments. The participants who joined the group were chosen randomly. You might be able to find two people who are friends, but no one is friends with everybody from the study. That is, the comments were unbiased. Student teacher no 6.

Corresponding to the semantic value of comments, a majority of participants emphasized that the comments made by their friends were crucial to the success of their projects, and one participant cited the experience contributing to their development through being in touch with friends constantly:

Comments made on Facebook are meaningful and important to me. They show that critical thinking is taking place. The criticisms and comments which have been made as positive or negative point out the quality of the product and these help us to see our own deficiencies. Student teacher no 2.

Moderator

The majority of participant comments demonstrate a reliance on the instructor as an authority figure and source of expertise, because the instructor provides the control of the class, maintains discipline, provides severity and able to have the topic back on track, dominates the subject, and knows which knowledge is necessary; so, he is fruitful. The study reaches its purpose, because all student teachers respect the instructor. The following one quote exemplifies the opinion shared on this matter:

Instructor should be moderator because he had been respectful of most of students. Instructor absolutely should be a moderator because well-planned study should be done in a certain order as well. Otherwise, it can get complicated and messy. Without an authority figure, people, that is, friends, would not take the study seriously. The instructor as moderator can also help to see whether students improved as much. Student teacher no. 17.

Of course, not all participants shared these values. The remaining participants concern about being the instructor a moderator because of his authoritarian position. So, they suggested that the administrator should be a friend from the class in such a study due to individuals could express themselves more comfortably and communicate effectively if the admin was a classmate. One of the participants thought that a classmate should be admin, because

If the instructor is a moderator, students can be timid, but I think that if the admin or moderator is from the group, students will able to express themselves comfortably, study more comfortably and they will able to have more effective communication. Student teacher no. 11.

Advantages of peer assessment

Regarding contribution of the study to the learning process, the majority of participants indicate that the peer assessment had promoted not only current knowledge as well as new knowledge but also it provides to correct the deficiency on their material when the peers criticized. In addition, the feedback on materials helps the participants to focus on their work positively through the objective assessment so that a participant mentioned that he was able to think from many different perspectives on a subject matter.

With regard to the contribution of the study to their own assessment, the participants reach out that the feedback on Facebook develops their self-confidence, improves new perspective, provides them created original ideas with the study, and allows to express themselves more comfortably.

Regarding the effect on quality of the materials, all participants agreed on through feedback on their material helps them to overcome the deficiency. Perceptions of one participant about the advantages of this study included

I am open to criticism. The material that I made it is to be criticized by my friends provides me to see my inadequacies. I just did not do the material in order to pass the course, nevertheless. I learned a lot of thing from that material. My knowledge also increased with my friends' critiques and I am looking forward to new information about it. Writing comments on my friends' materials gained the self-confidence to myself. I felt that I have expressed my thoughts on Facebook environment comfortably. I noticed that escaped my notice several points during the material assessment process on faceducation environment. Student teacher no. 8.

The other participant indicating the benefits of the study gained a better understanding of his material progress, and he generates new ideas when the peers gave feedback; he declared,

Comments on the material by my friends indicated my mistakes, shortcomings, and errors. Namely, I decided whether I have a good grasp of the issue. My friends indicated me how I can improve myself. The peer assessment that was made on Facebook gained insight about the material the cost of material, the portable of material and the up-to-date of material, whether it is appropriate for purposes of itself. So, I have seen that I develop the material in this framework. As for the effect on the learning process, thanks to the opinions of my friends I have learned thinking versatile and produce original ideas. Student teacher no. 22.

The rest of participants also reported that the study helped them gain a new perspective, make objective assessments, and become positively motivated by critiques.

The challenges encountered

The participants are questioned about challenges they encountered in the process of the study. During this study conducted via Facebook, the majority of the student teachers reported no challenges, whereas a few respondents reported that they have some challenges.

Most of the participants reported that they had been impressed positively and have never encountered challenges during the study because the study was well organized, and the social media can follow anywhere. One of these participants appreciated this study and she describe her happiness that being a part of the study and using Facebook on learning environment that might be helpful to student learning efforts. The following two quotes exemplify some of the opinions shared on this matter:

I have not had a Facebook account. Probably I am the first person who opens a Facebook account for educational purposes. I willingly took part in this study. I had no challenges encountered in the study process. I delighted writing comments and read the written comments. Student teacher no. 5.

The study results were pointed out that a few participants encountered some challenges in the study process. They occasionally experienced internet connection problems, inadequate time, and the conversations among participants after completion of the study were disturbing. For example, one participant stated

I have had troubles entering Facebook in this process. It is true that sometimes, I have some troubles on the internet. Besides, after reading some of the comments, I felt awkward with some of my friends because some of the students have been very good at detecting. Student teacher no. 24.

In the context of the participants' perceptions, those comments regarding challenges experienced during the study indicate that this kind of studies may be quite efficient if they are well organized, sufficient time is provided, and the moderator is a teacher.

Discussion and recommendations

The purpose of this study was to explore whether the use of Facebook as a platform for peer assessment might be appropriate in higher education according to the student teachers' perceptions. This study also provided insight into to understanding Facebook integration into peer assessment, the use of peer feedback on Facebook in the learning process, and how peer feedback affects the participants' work. The study resulted in the following conclusions.

Participants found that it was exciting and productive to use Facebook as a peer assessment tool in their learning. So, most of them pointed out that they felt happy and confident when someone 'liked' their materials, and some of them indicated increased awareness and creative new ideas. In line with this finding, Cutler and Price (1995) stated that the feedback increased the students' confidence in their own work and then ability to perform new works. Some participants felt valued and satisfied with Facebook, and one of the participants supported this idea: "I had used Facebook before for chatting, playing and keeping up to date, but this was the first time that they used it to post their comments about class activities for educational purposes and to make learning interesting and enjoyable" (S19). Consistent with this finding, Ophus and Abbitt (2009) found that most students had never used Facebook to communicate with their instructors or for school tasks. However, others were afraid of some of the implications of using Facebook in this study, and they were skeptical about this project because the idea was so new, and Facebook was used as a communication and interaction tool for recreational activities. Thus, this was the first time that they used it to post their comments about class activities for educational purposes.

The participants' opinions were collected regarding how peer assessment on Facebook affected their learning processes, and the quality of the materials they prepared. Results showed that most participants increased awareness of their strengths and weaknesses in their work, and some increased their motivation levels because "for sure I was happy, because of the good comments from my peers, I felt that I was doing something right and that I was going on the right track" (S9). This is corroborated by other researchers who have found that peer comments on class projects or activities enhance learning by allowing students to define their own strengths and weaknesses (Boonmoh (2013); Koc (2011); Xiao and Lucking 2008; Crooks 1988). In addition, confirming the literature on online assessment, most of the participants stated that their self-confidence increased and that they expressed themselves better, and a few indicated that they gained different perspectives or produced original ideas through peer assessment (Peeters 2015; Tsai 2009; Tseng and Tsai 2007; Lin et al. 2001).

All participants agreed that the use of Facebook for online peer assessment enabled them to correct the deficiencies in their materials and alter them according to feedback. Consistent with these findings, Yang and Tsai (2010), Tseng and Tsai (2007), and Sluijsmans et al. (2002) point out that online peer assessment helps to develop the quality of classwork by enabling learners to continuously revise their own work based on feedback. In addition, Boonmoh (2013) and (Shih 2011) found that one benefit of Facebook was that it allowed students to use peer feedback to develop the quality of their work and refine their skills. Despite one participant's concerns and fears about privacy issues, most of the participants argued that Facebook was

appropriate for peer assessment and that it helped them in terms of collaborative learning, creating peer connections, providing support, and sharing educational resources (Anam 2016).

The study indicated that online peer assessment led to more student participation than regular classroom peer assessment. Over time, student teachers began to participate more actively in class after participating in online peer assessment, personal relationships, and self-confidence among the students improved as a result of participating in the study, and it was a good way to take advantage of current technology because “the Virtual World is a big deal these days. A lot of people, from 7 to 70, spend at least one hour per day on the internet. I think moving education to the Virtual World would significantly benefit our country’s education system” (S3). This corroborated findings by Prescott et al. (2013), Zafar (2015), Wang et al. (2014) and McCarthy (2010), and Tsai et al. (2002a) found that using internet sites as a learning tool for peer assessment provides a learning environment for students to more easily share their ideas about their peers’ work as well as can interact with their peers and the instructors. Similarly, Shih (2013), Mills (2011), Yang (2011), Sluijsmans et al. (2002), and Topping (1998) found that peer assessment increases interest, self-confidence, and bonding the students’ interpersonal relationships in the classroom. Blattner and Lomicka (2012), Buzzetto-More (2012), and Mills (2011) also point out that learners find Facebook very helpful for socialization and strengthening interpersonal relationships.

According to participants who reviewed the participation comments, contrary to expectations, student teachers were able to give objective feedback on their peers’ work. Lin (2016) and Brindley and Scofield (1998) had found that peer bias was a concern for the objectivity of peer assessment due to the probability of peer bias when they comment. So, whereas a few participants said that friendship did have an effect on their comments and that their comments were biased, most participants felt that their comments were not influenced by their friendship. The participants in this study used comments to explore project shortcomings and improve their work. They also thought that the comments were realistic and important. The learners were able to give honest and fair assessments in the peer assessment learning process (Freeman and McKenzie 2002). Finally, even though most of the participants indicated that the comments seemed “objective,” it is important to note that the ways that peer assessment is carried out can have a significant effect on peer bias. For example, Topping (1998) emphasized announcing and clarifying the aims of peer assessment in order to create and maintain in a trusting environment. In this way, objectivity can be maximized.

In terms of who should be the moderator, nearly all of the participants suggested that the instructor of the course should be the administrator/moderator of the Facebook group, and a small number of participants thought that the moderator should be one of the students. The participants suggested that the instructor could bring discipline and order to the group as an authority figure and that instructors can facilitate learning and collaboration with an intended purpose. Generally speaking, instructors can help students improve their cohesive conceptions of learning (Yang and Tsai 2010). The remaining students reasoned that peer student acting as moderators would allow them to express themselves more comfortably and effectively. This position mirrors the finding of Van Gennip et al. (2009) that “in general, students were positive about two interpersonal aspects of peer assessment: students seem to feel safe when involved in peer assessment, and trust themselves and their peers as assessors” (p. 52). As for the challenges encountered during the study, while some participants said that they had problems with certain comments between friends and technical issues with lack of time to be actively participating, most of the participants indicated that they did not have significant problems. One of participant reported that she enjoyed browsing and discovering content using Facebook

on learning environment that might be helpful to student learning efforts, and she claimed that she did not across any problem because “I can follow social media everywhere on the phone easily. In this period, following up social media already is too easy thing” (S6).

To ensure the validity of the results, the 24 of participants were recruited on a voluntary basis because of the researcher being also the teacher. Undue influence and manipulation as a result of a power relationship such as that of a teacher or professor and their students is one that requires careful consideration and scrutiny especially when the professor or teaching assistant is also a researcher wanting their students to become their study participants (TCPS2 2010). Students could feel that if they did not participate in their professor’s or teaching assistant’s research, this would reflect poorly on them and negatively impact their grade in the course or they would become ineligible for other bonuses or credits. Other students could take the opposite perspective and feel pressure because of a “good students participate” phenomenon and think that if they agreed to participate in the research, they would receive a better mark in the class or by that professor in future classes. To get to the front of it, I explained the research aim and how significant their participation was; nobody was unfairly advantaged in any way as a result of taking part in the research, since this implies a penalty for those who choose not to participate.

Although this study conducted is limited by the number of student teachers, the scope of this research is to explore the suitability of using peer assessment through Facebook, and give information on the impact of this procedure on the learning process. Thus, there should be experimental studies with detailed analyses to show the effect of peer assessment with Facebook and studies to enable teachers and students to provide their perceptions of self-efficacy related to using online peer assessment via Facebook. I, therefore, recommend that future research on the use of online peer assessments pays attention to these matters in order to develop quality research in this field. I also suggest examining the students’ and teachers’ attitudes towards using peer assessment with social media, the suitability of Facebook use with peer assessment, and the use of such instructional strategies in the learning environment. These attempts would broaden the scope of the present study and illuminate more potential studies for the improvement of online peer assessment with Facebook and other social media tools.

Study limitations

The study is an exploratory case study research, and the findings in this study should be considered with the limitations inherent in it. Although the generalization of the results may not be possible due to the nature of qualitative case study, the rich set of descriptive information regarding the context and students may enable readers to relate the findings of this research to their specific cases. Nevertheless, if similar studies were repeated at a later time and in different settings, it was possible to obtain distinct and generalizable results because of changes in conditions and the participants’ experience and approaching. Second, students who took part in the study were apt in using internet and active on Facebook. This leads us to be critical about the use of this online tool as a learning material in a regular classroom, because it may not be wise to simply expect that all students have a Facebook account or actively use it. Another limitation of the study is that the author played the roles of both of instructor and researcher. This may have put undue pressure on some students and therefore may have contributed to research bias. In order to avoid this, however, I explained that participation in

the study would in no way affect any grade or bonus in the course. However, if similar research was conducted by researcher and not by an instructor under different or similar circumstances in the future, it would perhaps be possible to obtain more objective results. Lastly, the study was limited to 24 student teachers, and participants that were included in the study samples were based on a voluntary basis. While we can conclude that this study positively contributed to the level of the participants' learning, no substitute activities were offered to non-participating students. Researchers who undertake similar research in the future can perhaps offer activities that contribute positively to the non-participants' learning as well.

Conclusion

The results of our research on Facebook reveal some critical issues in its suitability for educational purposes as well as some preliminary guidelines on how to use it effectively in an educational context. However, thus far, there has been no systematic attempt, specifically in higher education in Turkey, to organize the use of Facebook as a learning tool or to integrate it into assessment practices within a course. Thus, it is important to recognize that this research has contributed to the literature by providing information on how educators can use Facebook in the learning context to support the integration of peer assessment into a course. Facebook can be an alternative learning tool to increase interaction and participation in course discussions. This study also shows how Facebook can be used as a complementary educational platform that allows each learner to create a personalized online space to assess their peers. Facebook can be considered an effective way to promote the students' awareness and motivation levels, and to increase learning enjoyment, because it makes learning more inclusive by providing students with various learning pathways (Bull et al. 2012).

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Compliance with ethical standards

Conflict of interest The author declares that he has no conflict of interest.

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