Using Facebook as Social Learning Environment

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Abstract. It is important today to prepare pre-service teachers to integrate social media tools into their lessons and to teach them how to use social media as a learning environment for educational context. Based on this, an undergraduate course was designed to fulfil this need. Hence, the purpose of this study is to investigate the behaviours and perceptions of 27 pre-service teachers enrolled to a 14-week social-media enriched blended course. Facebook was used to support an out-of-class teaching and learning process. During the course, students developed educational content and were informed on how to use social media as a learning environment in an educational context. After implementation, they were asked to respond to an open-ended questionnaire related to the 14-week course process and social media usage in lessons. According to the findings, pre-service teachers stated that the use of social media tools, in addition to face-to-face learning, can enhance the dissemination of announcements, communication between students and instructor, the sharing of instructional activities, discussions, and the use and creation of multimedia tools and applications 24x7, by extending the limits of normal class hours. Most also stated that they would use Facebook for material and announcement sharing once they were in-service teachers. In addition to Facebook, they emphasised that they would also use Prezi, Glogster, MindMeister and Edmodo for their lessons and that they had learnt new concepts and social media tools during the course. They also suggested increasing the number of course hours and reducing course content per course session.

Keywords: Facebook, pre-service teachers, course design, blended learning.

1. Introduction

With developments in technology, most higher education institutions and instructors find themselves expected to catch up with social media application usage and to appeal to social media users of various age groups (Selwyn, 2012). Ease of access and its lack of cost (free of charge) are shown as the main reasons for the widespread usage of social media in education. Also, it facilitates open communication, leads to enhanced information discovery and delivery, allows students to discuss ideas, post thoughts, ask questions, and share links. In addition, the opportunities to widen knowledge context and interaction with others are the most prominent features of social media tools (Pilli, 2014).

Higher education institutions rely on traditional platforms instead of social media that allow learners to facilitate their own learning activities, connections to peers and social networks across time and place (Dabbagh & Kitsantas, 2012). However, social media usage should be supported by academics in order to build a community and to increase student engagement in higher education (Toliver, 2011). According to Neier and Zayer (2015), social media should be seen as an educational tool by instructors to engage students in open discussion and seek expression of their ideas both in and out of the classroom. Also, McCarroll and Curran (2013) stated that social media enables and encourages participant cooperation and collaboration. According to Siemens (2005), connections and connectiveness via networks leads to learning because of the nature of learning, which is no longer an individualistic activity. It is defined as 'connectivism', of which there are eight principles:

- Learning and knowledge rests in diversity of opinions.
- Learning is a process of connecting specialised nodes or information sources.
- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known.
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
- Decision-making is itself a learning process.

According to these principles, teachers have new roles such as helping the learners to find appropriate resources and experts, and building relevant connections in their learning networks. When students involve a community in the learning process, they can identify useful and applicable knowledge, and understand the environment and circumstances which increases the value of education (Liu, 2010). Students can play an active role in their learning process with social media and technology; but only if technology is effectively integrated into the curriculum. For this, teachers should plan how best to use technology in their lessons. Pre-service teachers often have difficulty integrating technology into a lesson plan and fail to select the appropriate technology features or functions when they become in-service teachers (Mustafa & Trudel, 2014). They need to prepare for combining new technologies with their pedagogies in teacher-training institutional curricula (Szeto, Cheng, & Hong, 2016). Teacher education programmes should guide pre-service teachers' learning strategies in order to integrate Web 2.0 technologies that support learning according to their grade level interests and specific subject areas (Sadaf, Newby, & Ertmer, 2012). Therefore, teacher education programmes need to build upon pedagogical practices, technical skills and content knowledge in order for pre-service teachers to successfully integrate technology into their future classrooms (Tondeur et al., 2012). One important point is that technology-rich instructional activities should be provided in order to integrate appropriate technologies into their future classrooms for pre-service teachers (Gülbahar, 2014).

Hence, the aim of this current study is to shed light on this phenomenon, not only by exploring the process of supporting pre-service teachers in how to use social media as a
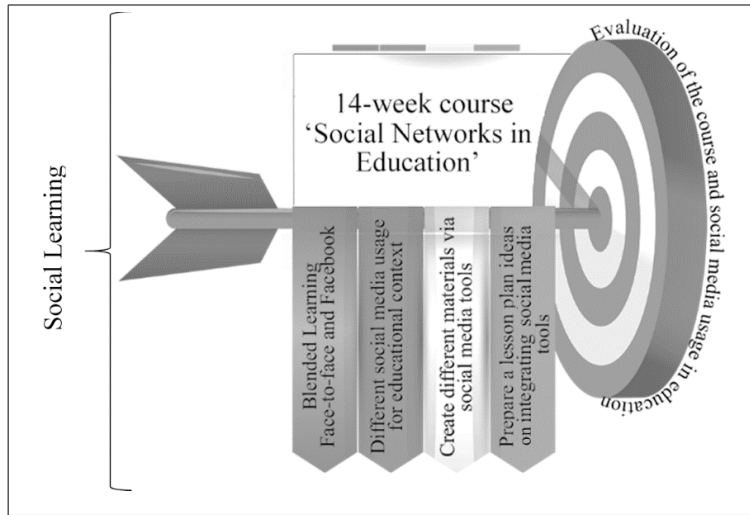
Fig. 1. Process of the study.

learning environment for educational context, but also sharing an instructional design, based on social media. In this study, pre-service teachers were expected to learn how to use social media tools effectively for educational context in social learning processes. After a 14-week course based on technology-rich instructional activities, their views were canvassed related to their experiences with using social media tools in an educational context and designing a 14-week course (see Fig. 1).

2. Method

Integration of social learning with social media, known as connectivism theory (Downes, 2012; Siemens, 2005), provides social learning for the pre-service teachers who participated in this study. The idea being to act as a role model in terms of social media integration in order to provide them with real-life experiences. This research aims to provide some preliminary insight into the impact of social media usage by pre-service teachers in their lessons through social learning experiences after they graduate as in-service teachers. For this purpose, according to students' experiences at the end of the course, their views were gathered and Facebook group engagement analysed in order to answer the following research questions related to the course and social media usage in an educational context:

(1) To what extent did the pre-service teachers interact with their instructors'?
(2) To what extent did the pre-service teachers and instructors engage in course activities?
(3) What were the pre-service teachers' perceptions in using social media and creating content with social media tools in educational practice?

Convenience sampling method was used for this study, and case study approach was adopted as the means to explore the experiences of pre-service teachers enrolled on a social-media enriched blended course on which they aimed to learn how to integrate social media into their teaching processes.

2.1. *Participants*

Although there were 30 pre-service teachers enrolled to the course, only 27 of the pre-service teachers actually attended the course. The study group was composed of 14 female and 13 male second-year undergraduate students enrolled in a Social Networks in Education' course in Social Sciences Teaching at a public university in Turkey. A total of 26 pre-service teachers successfully completed the course.

2.2. *About the Course: Social Networks in Education*

In this study, the main goal of the course was enabling social media integration through the use of integrated social media. In order to achieve this, a blended learning environment was designed. Facebook as a social sharing platform was used to support out-of-school teaching lessons. Facebook was not only used for interaction and communication of what the students had learnt, but also for different educational activities such as discussion, peer-assessment and sharing individual experiences or research summaries.

The course was delivered by two instructors. The 14-week course was designed in such a way that each week students were expected to apply what they had learnt by using various social media tools following lectures about the theoretical framework and pedagogical insights.

At the beginning of the course, the enrolled students were registered to a closed Facebook group with a page set up specifically for the course. The syllabus included course details and weekly activities and was shared with the students, so up front they had an idea about the course details from the beginning. In addition, some discussion, peer-assessment and knowledge-sharing activities were carried out on Facebook throughout the course. Students shared all their activities, individual thoughts and instructions with their peers on the Facebook group page. The weekly schedule of the course is shown in Table 1.

For performance evaluation, two reports were prepared by the pre-service teachers. They were expected to prepare a reflection paper what they had been exposed to during the first seven weeks of the course. For the final exam, the students were required to prepare a lesson plan, scenarios and rubric with creative ideas for integrating social media tools into their existing subject field curriculum. During the course, the instructors provided weekly feedback to the students about their performance and work.

Table 1

Course syllabus

#	Face-to-face training topics	Social media activities & implementation	Points
1	Introduction to the course	Discussion activity #1: 'What do you think about the use of technology in education? What can be the benefits and problems of using technology?' Discuss.	-
2	Basic information about the e-learning concept	Reading Activity #1: Read different articles or resources related to 'e-learning terminology and concepts'. If you want, you can use the following as a reference.	5%
3	History of e-learning, learning theories and research results	Research Activity #1: Look for research on distance education and e-learning by using Google Scholar and the university library webpage. Specifically, review articles that examine the effectiveness of teaching methods and student achievement. Share the article found with the Facebook group as a summary with references. Reading Activity #2: Read different articles or resources related to 'the history of e-learning' and 'e-learning theories'. If you want, you can use the following as a reference.	5%
4	Characteristics of e-student, roles of instructor and teaching process	Reading Activity #3: Read different articles or resources related to 'e-students' and 'e-instructors'. If you want, you can use the following as a reference.	5%
5	Basic concepts related to social software, its history and purposes	Research Activity #2: Look for research on e-students and e-instruction by using Google Scholar and the university library webpage. Share the article found with the Facebook group as a summary with references.	5%
6	Information sharing on social software and network and discussion	Research Activity #3: Search and present on social networks using an online presentation software.	5%
7	Mid-term exam	Prepare a reflection paper.	15%
8	Concepts and using of blogs	Create an online multimedia poster and share its link with the group.	5%
9	Concepts and using of wikis	Create a wiki page in a relevant social science field. It must include at least three topics and some multimedia such as text, image, video, external links.	5%
10	Document sharing software	Create some documents on Google Drive with a four-student group and share them with instructors.	5%
11	Preparation of concept and mind maps	Create a digital story and share it with the Facebook group, tagging at least three friends.	5%
12	Educational use of social software	Create a document and share via sharing software with a four-student group.	5%
13	Ethical use of social software and copyright	Create an online mind map and share its link with the Facebook group.	5%
14	Final exam	Prepare a lesson plan, scenarios and rubric.	30%

2.3. *Data Collection Tools and Analysis*

Of the 30 students registered to the course, 22 pre-service teachers' data from the class Facebook group were collected at the end of the course for first and second research questions. Additionally, 27 of the pre-service teachers completed a questionnaire consisting of eight open-ended questions on their social learning experiences for third research question.

The Facebook group's data were analysed with UCINET 6, which is a software for social network data analysis. Since five of the teachers deleted their Facebook accounts as soon as the course ended, their Facebook information was no longer accessible as deleted accounts' posts or comments disappear from the page upon account closure. Therefore, 22 pre-service teachers' data from the Facebook group page were analysed. Two matrices were created to look at participants' interaction in Excel according to numbers of comments and likes recorded for the Facebook group. Then, the participants' interaction was visualised with UCINET 6.

A questionnaire consisting of eight open-ended questions was created by one of the researchers and checked by the other. It was developed by using the Google Forms application as an online form and embedded to the course Facebook group page via an application. Afterwards, the pre-service teachers' answers to the questionnaire were analysed through content analysis software. Hence, during the content analysis process, categories and themes were created using NVIVO according to questions of the two researchers who worked together to ensure common understanding. Coding was performed after reaching 100% agreement for ensuring its reliability. The coding of each pre-service teachers' note is indicated in parentheses at the end of the quote. Their names have been substituted for codes ranging from S1 to S27, and with the researchers coded as R1 and R2.

3. Results

3.1. *Pre-Service Teachers' and Researchers' Engagement on Facebook Group*

Likes, comments and shares for posts are a way to measure engagement on Facebook groups (Clements, 2015; Cvijikj & Michahelles, 2013; Moore-Russo, Radosta, Martin & Hamilton, 2017; Peruta & Shields, 2017). Fig. 2 shows the participants' Facebook engagement on the group page according to the number of comments made and likes made to others' comments and posts.

Numbers of comments and likes by S3, S4, S9, S10 and S15 are shown in Fig. 2 as '0' because their accounts were deleted at the end of the course, and therefore null data was available for analysis.

According to daily Facebook group usage, it was used most extensively on the days when the course was held (see Fig. 3).
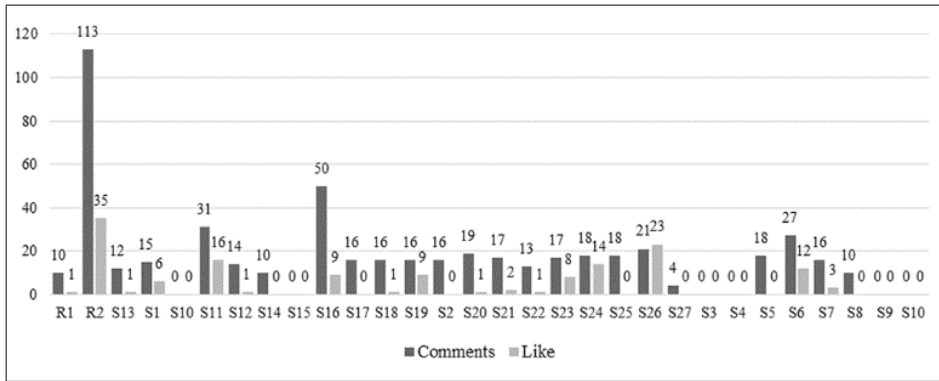
Fig. 2. Pre-service teachers' and researchers' engagement on Facebook group page according to comments and likes.
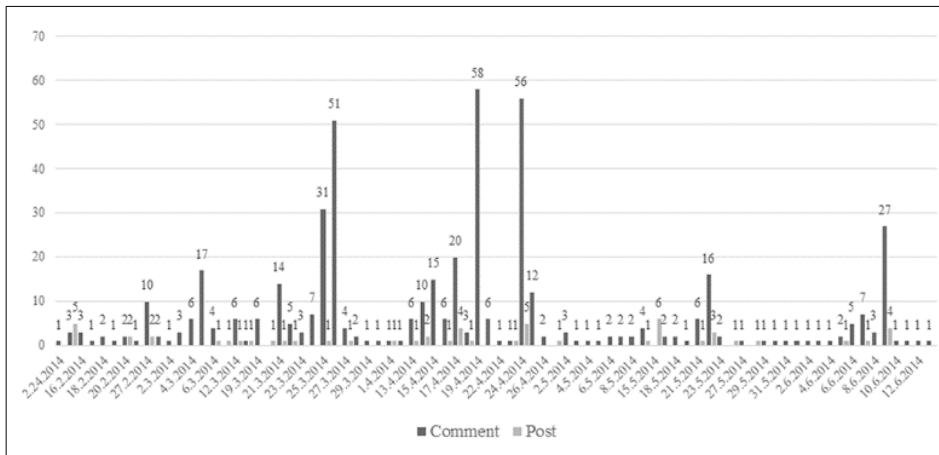

Fig. 3. Daily activities on Facebook group according to comments and posts.

3.2. *Interaction Between Pre-Service Teachers and Instructors*

The use of Facebook groups has the potential to provide connection between teachers and students when traditional forms of communication are limited (Bowman & Akcaoglu, 2014). Facebook users can interact through posts in several ways such as commenting, likes, and through shares (Moore-Russo et al., 2017). In the current study, based on the analysis results of the participants' comments in the group, interaction between student-instructor was greater than student-student and instructor-instructor. Only three of the pre-service teachers created their own posts on the group page, with posts usually created by R1 or R2. The pre-service teachers preferred to send their assignments and questions as replies to the posts of R1 and R2, as shown in Fig. 4 by the red square.

However, individual questions were usually answered by R2 (see the red circle marked as R2). It can also be seen that R2 interacted with S3, S4, S9 and S15, even though their accounts had been deleted (see Fig. 4).

Looking at the likes of the posts on the group page, all but eight of the participants liked each other's comments (see Fig. 5).
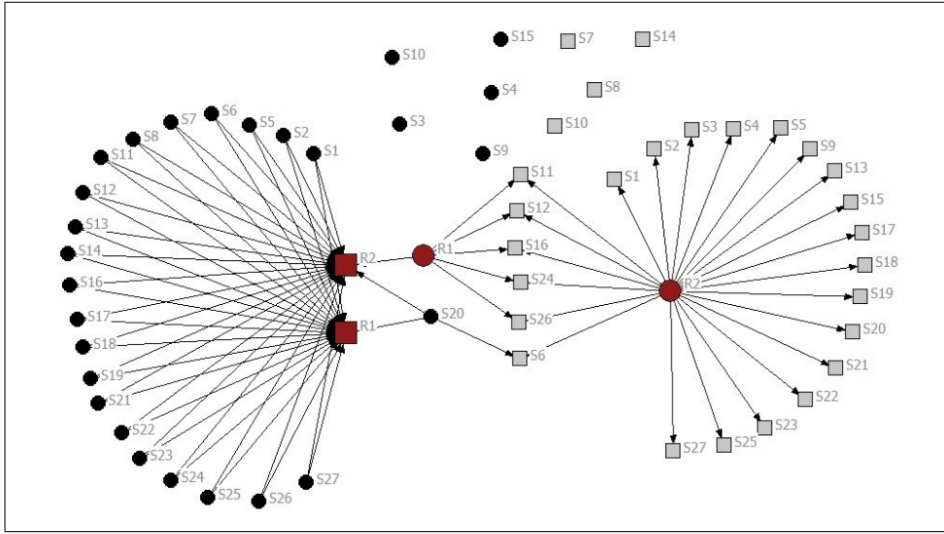

Fig. 4. Interaction between pre-service teachers and instructors according to comments.
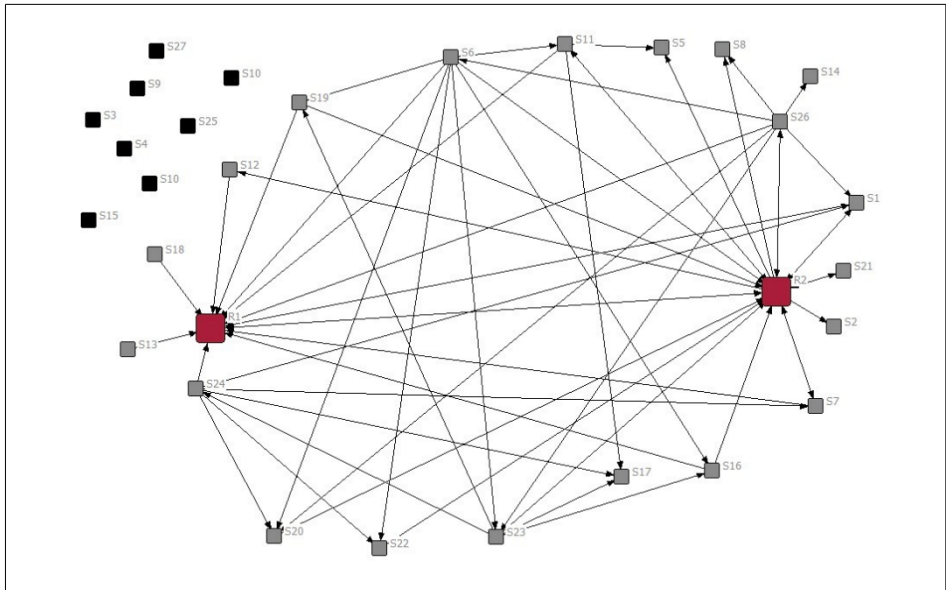

Fig. 5. Interaction between pre-service teachers and instructors according to likes.

3.3. *Pre-Service Teachers Experiences in Using Social Media Tools in Educational Practice*

The findings of the data analysis are presented in eight categories: expectations at the beginning of the course; most favoured social media tools; least favoured social media tools; views regarding Facebook usage as a supplementary course learning environment; suggestions regarding the use of Facebook throughout the course; benefits and obstacles faced during the course; views regarding evaluation activities throughout the course; and, suggestions regarding the whole course.

3.3.1. *Expectations at the Beginning of the Course*

Expectations of the pre-service teachers were revealed at the beginning of the course as the first research question. As can be seen in Table 2, their expectations were grouped into four categories. Most of them emphasised that they were taking the course in order to learn how to use social media and technology in education. They also mentioned that they wanted to learn new technologies when they become in-service teachers.

Some thoughts of the pre-service teachers follow; with 'S' and the following number denoting the code assigned to each participant:

> *I know of some social networks, but I don't know how they can be integrated into education and daily life… (S10)*

> *…learn about the usage of social networks in education. When I'm a teacher, I want to use them effectively in my courses. (S17)*

> *I chose the course because social networks are not only communication tools, but are also used as an educational tool and I am wondering how to use it in the learning process. (S22)*

Some of them thought 'I can do this course easily', and that was their reason for taking the course. The following are excerpts from the pre-service teachers regarding this:

> *I thought this course could be fun and I'll get good grades easily. (S6)*

> *I had no expectations when I chose the course. (S13)*

Table 2

Distribution of pre-service teachers' course expectations

Category of course expectations	f	%
Use social networking in education	17	57
Desire to effectively use technology in education	7	23
Acquire new knowledge	4	13
Complete the course	2	7

3.3.2. *Most Favoured Social Media Tools*

The second research question was posed in order to reveal the pre-service teachers' most favoured social media tools. Fig. 6 illustrates the results based on frequency.

Ease of use, ready-made materials such as videos and pictures that contain a combination of multiple features and facilitates learning, were among the most stated reasons for their preferences. Excerpts of some of their expectations were as follows:

> *Visual ready materials by Prezi are useful in preparing presentations. (S5)*

> *Glogster and MindMeister offer students remarkable and visualised knowledge to facilitate learning. (S2)*

> *We must learn most of the concepts in education, and MindMeister could facilitate this process. Information sharing in particular; we can look at them anytime through blogs like Tumblr. (S7)*

> *...younger students can use Facebook easily because of its simple interface... (S26)*

While most social media tools share similar functionality, they display different social norms and organisation (Tess, 2013). Although Edmodo is also a new educational tool with an interface similar to Facebook, the pre-service teachers still preferred the most popular social media tools. According to Menard and Olivier (2014), teachers may use popular social media tools such as Facebook, Twitter, emails, wikis, and blogs for interaction and communication. Blogs can also be used for the sharing of content or a blog can be created to cover the progress of a course, session by session, and by both students and instructors (Wankel, 2009). However, compared to other social media tools, Edmodo offers a reputable educational platform with more features designed specifically for social learning.

3.3.3. *Least Favoured Social Media Tools*

The third research question aimed to reveal the pre-service teachers' least favoured social media tools. As can be seen in Fig. 7, pre-service teachers' views about their least favoured social media tools are Twitter, Instagram, Pinterest, and Flickr.

They also emphasised that limited sharing of content was the most important reason behind their not preferring these social media in an educational context. Excerpts from the pre-service teachers about this issue are as follows:

> *Twitter has some risks in education. For example, students can click different links to follow people's statuses. (S14)*

> *Instagram does not offer rich materials without some visual materials. (S7)*

> *Flickr and Pinterest are not useful for education because they are only for video and photo sharing. (S2)*

Fig. 6. Pre-service teachers most favoured social media tools.

Fig. 7. Pre-service teachers least favoured social media tools.

3.3.4. *Views Regarding Facebook Usage as a Supplementary Course Learning Environment*

The fourth research question aimed at revealing the pre-service teachers' views regarding the use of Facebook as a supplementary learning environment for the course. As can be seen in Table 3, the views are grouped under seven categories.

According to Cadima, Ojeda, and Monguet (2012), social networks play a major role as a key channel in learning environments for the sharing of knowledge, and as a source

Table 3

Distribution of pre-service teachers' views regarding Facebook usage

Category of views regarding Facebook usage	f	%
Information collection	14	30
Communication	13	28
Content sharing	10	22
Feedback	3	6
Activities such as discussion and homework	3	6
Weekly follow the course	3	6
Evaluation	1	2

of social support. Many students and research studies follow simple steps to create a community, share knowledge, provide communication and feedback with social media with ease (Gülbahar, Kalelioğlu, & Madran, 2010). The participant pre-service teachers also emphasised sharing knowledge and resources, and feedback as examples of the usefulness of Facebook in education. Expressions of some of them are as follows:

> *Informing, sharing of assessments and communication between instructors and students were provided via a Facebook group. (S1)*

> *...because content, assessments and feedback were shared. (S7)*

> *...it was effectively used for the sharing of weekly topics and lesson preparation. (S23)*

While learners are undertaking learning assignments or activities, they usually look for knowledge through informal networks of colleagues and friends (Cadima et al., 2012). Two of the pre-service teachers' excerpts express their views as follows:

> *...when I was able to look at my friend's homework through sharing, I gained new ideas and the opportunity to self-evaluate. (S6)*

> *...when I wasn't able to participate in the course, I followed the course on Facebook. Because I looked at all the shared materials, they gave me ideas about the teaching process. (S15)*

Sometimes students in higher education cannot locate their instructors when they want to ask something about the course such as references, exams, or assignments. Therefore, social media tools were preferred in order to improve effective communication in support of face-to-face education. Nowadays, many higher education institutions use Facebook groups to facilitate online communication with students. The following excerpt shows one of the pre-service teachers' views regarding this issue:

> *...we cannot always reach instructors at school. Facebook allows us to communicate with instructors in an easier way. (S2)*

3.3.5. *Suggestions Regarding the Use of Facebook Throughout the Course*
The fifth research question was to consider pre-service teachers' suggestions regarding the use of Facebook throughout the course. As can be seen in Table 4, pre-service teachers' views were grouped under seven categories.

Students who are involved in an individual or group activity are not always aware of the activities of the other students within the course (Dalsgaard, 2005). Many of pre-service teachers said that they would like to share content with the Facebook group for the course for the purpose of increasing interaction and for the exchange of ideas.

> *I created a group on Facebook like on the course and I want all students to participate. I organise activities weekly, and I would like these to be shared with other students. (S3)*

Table 4

Distribution of pre-service teachers' suggestions about course Facebook usage

Category of suggestions for course Facebook usage	f	%
Create group	13	29
Activities sharing	10	22
Content sharing	8	18
Informing	6	13
Not used	4	9
Communication	3	7
Evaluation	1	2

Some of them indicated that they used Facebook to make announcements and to provide comment for discussion activities. According to Dalsgaard (2005), discussion forums and other tools for direct communication and collaboration can provide students with insights into working with each other, and to provide for increased consciousness and awareness of others' activities. These activities focus on direct sharing, and social networking that can support them in the direct sharing of resources, thoughts, ideas, productions, writings, and notes.

> *I would like to make announcements and share some discussion activities to provide for students' comments. (S1)*

> *I provide topics before the course. After the course, I share several of the materials to repeat what they have learnt in class… (S12)*

Some of the pre-service teachers preferred not to use Facebook on the course. S9, S10, S18 and S22 all stated that they would not to use it in educational practice. In addition, S9 and S10 did not prefer to use Facebook on a personal basis, so they deleted their accounts at the end of the course. Two of the pre-service teachers' excerpts show their views on this as follows:

> *I think that Facebook should not be used for lessons so I would not use it. (S10)*

> *I would not use Facebook. I do not think it is appropriate for students aged 9–13. (S22)*

3.3.6. *Benefits and Obstacles Faced During the Course*
The sixth research question regarded the benefits and obstacles faced during the course. As can be seen in Table 5, their views were grouped into 11 categories, with five positive and six negative.

Many of the pre-service teachers stated that they learnt about new social media tools and new concepts like distance education. Another point raised was that they could access content easily outside of the classroom. This situation had an effect on

Table 5

Distribution of benefits and obstacles pre-service teachers faced during the course

	Category of benefits and obstacles faced during course	f	%
Positive	Getting new information	13	35
	Communication skills and attitudes of faculty members	5	13
	Sharing of content	1	3
	It is a practical course	1	3
	Sufficient number of lecturers	1	3
Negative	Course content	6	16
	Lack of course hours	3	8
	Technical problems	3	8
	Lack of educational environments	2	5
	Lack of students' technological equipment	1	3
	English software interface	1	3

their levels of satisfaction. Another condition was the faculty members' interest in pre-service teachers.

If social media is being considering for inclusion in curricula, it is important to mention that social media is just a tool that teachers can use to motivate students and to enhance the teaching process (O'Mahony et al., 2013). In the course of the current study, a professor and lecturer were always in charge of facilitating the practical process with computers. Some of the benefits of the course were stated as follows:

> *I didn't have much information on social media tools before, but I have heard lots about it on the course. We signed up and we used them when we wanted. (S7)*

> *I favoured the detailed description of the activities in the Facebook group. (S3)*

> *The instructors' communication skills are really good. I think they showed considerable effort to inform us. Also they helped us during practicals in the class… (S16)*

The most important factors affecting the quality of courses are seen as the frequency and quality of interaction, students' instructor and technical support needs, and a minimum level of technical issues (Gülbahar, 2012). In the current study, as well as the positive side, pre-service teachers emphasised some negative situations such as the lack of technology, technical problems, too much course content, and a lack of course hours. Due to technical problems, the first 10 minutes of the lesson were spent trying to fix the situation. Some examples with regard to the obstacles faced during the course, as stated by the pre-service teachers, are as follows:

> *The only negative thing was the high density of course content. (S23)*

The class was crowded. It should be no more than 20 people in the class. (S26)

Giving of assignments every week… (S6)

….insufficient course hours. Course time could be at least half an hour longer. (S26)

Sometimes we had to share a computer with another student due to technical problems. (S24)

3.3.7. *Views Regarding Evaluation Activities Throughout the Course*
The seventh research question aimed to elicit the views of pre-service teachers regarding evaluation activities employed throughout the course. Table 6 shows their views grouped into four categories.

In the current study, process evaluation was preferred for meaningful and permanent learning experiences. The pre-service teachers created materials with social media tools such as blogs, wikis, Prezi, Glogster, and Google. They made presentations, read documents, and commented on discussions related to the weekly topics. Most of them stated that there was too much weekly homework and insufficient time to complete it. However, all of them were satisfied with the weekly evaluation of homework. Some of the comments from the pre-service teachers are as follows:

Although the mid-term report was fine, the final report was very comprehensive. In addition, whilst the weekly assignments were up to the mark, they could even be more comprehensive… (S10)

The evaluation process was necessary in order to repeat what we had learnt about social networks. (S19)

We experienced some difficulties doing the homework. However, the homework helped us to learn some social media types we had seen for the first time. (S27)

I was especially stressed when I tried to plan and create materials for my final assignment. It was a bit difficult. (S15)

Table 6

Distribution of pre-service teachers' view regarding evaluation activities

Category of views on course evaluation activities	f	%
Activities and reports	17	52
Assessments' difficulty	9	27
Course hours	5	15
Informing	2	6

3.3.8. *Suggestions Regarding the Whole Course*

The eighth research question looked at the pre-service teachers' suggestions regarding the whole course in terms of activities, topics, and evaluation materials. As can be seen in Table 7, their views were grouped under seven categories.

Facebook is one of the most widely used social media tools available. At the same time, it is the most effective tool which increases social presence in an online learning environment. Groups can be created, audio, visual and text-based materials can be shared, discussion platforms created; and synchronous and asynchronous communication can be made (Seferoğlu, Doğan, & Duman, 2011). As future course instructors, most preferred to create a group for their course and share all of the content, announcements, assessments with the group. Some of them stated that they preferred to use Facebook only for sharing materials or for making announcements.

> *I would not make any changes. The course was effectively thought out. (S18)*

> *...If I use social networks in the future, this course will be my inspiration. (S21)*

One of the important points made was about course hours. The pre-service teachers proposed to increase the number of course hours. In addition, they suggested to decrease the number of students taking the course. Some examples of their suggestions for the course as a whole are as follows:

> *Topics could be limited. Instead of teaching all social networks, perhaps just teach about using fewer social networks in the best way. (S3).*

> *The course must be held over two semesters. The first semester should focus on the teaching of social networks. The second semester should be about related educational activities, and how to use these social networks. (S6)*

Table 7

Distribution of pre-service teachers' suggestions regarding the whole course

Category of suggestion regarding whole course	f	%
Using same methods as course instructors	10	29
Content	8	23
Evaluation	7	21
Course hour	3	9
Activities	3	9
Transfer of the course	2	6
Course environment and student numbers	1	3

Another computer laboratory should be selected. There were 28 people in the same classroom and it was too crowded, so two groups should be created with less people in each. (S13)

As can be seen in the following comments, some of the pre-service teachers preferred exams instead of activity and report evaluation.

Just do a simple test instead of the final report. (S9)

If exams were made, the evaluation process would be better. (S12)

4. Discussion and Conclusion

The International Society for Technology in Education (ISTE, 2017) emphasised that an educator should be a learner, leader, citizen, collaborator, designer, facilitator and analyst. The ISTE underlined the importance of how educators can use technology to create learning environments. With the new ISTE standards, educators should learn and create constantly in order to help their students. However, novice teachers do not always feel prepared to use technology in their classrooms (Polly, Mims, Shepherd, & Inan, 2010; Samsung, 2015; Sang, Valcke, van Braak, & Tondeur, 2010; Starkey, 2010; Tondeur, Roblin, van Braak, Voogt, & Prestridge, 2017). Teacher preparation programmes must integrate technology for pre-service teachers to gain experience in the evaluation, selection and integration of technology in the curriculum (Kent & Giles, 2017; Sun, Strobel, & Newby, 2017).

Social media tools are a powerful and varied technology that need to be learnt by pre-service teachers for their ease of use and access, as well as for their low cost. Also, using online forums, blogs, videos and other social media tools provide an opportunity for authentic teacher online learning experiences (Mâță, 2014). However, pre-service teachers should learn how to use social media tools with instructional practices in technological, content and pedagogical knowledge before their graduation. In this context, the aim of the current research was to integrate social media tools into pre-service teachers' lessons and to teach them how to use social media as a learning environment in an educational context.

Social media tools ensure that pre-service teachers integrate technology into teaching and learning. Also, it may help them to be aware of students' problems socially (Boholano, 2017). According to Neier and Zayer (2015), social media can be seen as an educational tool by instructors if they engage students in open discussion and seek expression of their ideas both in and out of the classroom. However, social media usage is not an easy assignment and requires new ways of thinking, but the potential benefits are not insignificant.

Social media such as Facebook ensures easy student access for certain class activities (Liu, 2010). Also, it provides access in this context at any time, so students have the chance to repeat any or all parts of a course (Jalal & Zaidieh, 2012). Social media is a

useful personal communication technology and it allows for the cooperation of students and encourages participants (McCarroll & Curran, 2013). When students involve a community in the learning process, they can identify useful and applicable knowledge, and understand the environment and circumstances which increases the value of education (Liu, 2010). Manca and Ranieri (2014) highlighted that social media tools should be used as an optional tool both inside and outside of classes. Also, it provides students with alternative assignments if they do not attend class. For this purpose, Facebook was selected for the current study in order to support out-of-school activities such as discussion, peer-assessment and sharing individual experiences or research summaries, as well as for in-class activities. In the current study, most of the pre-service teachers' views regarding the use of Facebook and its usage by instructors in educational practice were positive. However, social connections with students causes additional workload for instructors (Manca & Ranieri, 2014). Although there were two instructors during the course process for this study, there was an extra workload burden in answering students' questions and keeping track of their sharing. This problem was stated by Manca and Ranieri (2014) as a management issue. Being an active and attentive teacher, taking care of relationships via Facebook is a time-consuming activity because of the regular feedback, attention and commitment required. Daily usage of the Facebook group showed that sharing occurred every day.

Facebook usage allows for the creation of an attractive and interactive environment such as a Facebook group for students and instructors, and where students can post comments on course-related materials and activities, and restructure their thoughts on comments (Wankel, 2009). One of the biggest problems facing instructors is the speed of comments or posts appearing and disappearing on Facebook and the lack of a backup of such information. When posts appear and disappear on the wall very quickly, instructors cannot always read them. Another problem is that participants cannot be monitored directly (Kalelioğlu, 2017). In this study, five of the pre-service teachers' activity data were not saved before they deleted their Facebook accounts.

Social media tools provide accessibility, reviewability, and the updating and editing of content both easily and quickly, and at anytime and anywhere. Moreover, each student can study at their own pace and so their stress is reduced whilst their satisfaction may increase (Jalal & Zaidieh, 2012; Manca & Ranieri, 2014). However, in the current study, some of the students preferred not to use Facebook as a learning environment. When Facebook is proposed as a learning environment, participation must be maintained (Manca & Ranieri, 2014). In the current study, all of the pre-service teachers used Facebook voluntarily; however, five of them deleted their Facebook account as soon as the course had ended.

Social media tools facilitates communication between students and their instructors, and provides for participation in class discussions, and ensures the following of announcements, assignments and resources related to a course (Mazman & Usluel, 2010). In the current study, the pre-service teachers usually sent their homework to and interacted with the researchers (their instructors). Posts were usually shared by the instructors.

Teaching learners to use social media in an educational context can be as simple as modelling its usage as an instructor (Abe & Jordan, 2013). In the current study, the pre-

service teachers learnt how to use social media tools effectively for educational context in a social learning process. Their suggestions for the course included creating a group on Facebook for the sharing of content such as activities, announcement, and comments, and for communication and social support at any time as the most useful features of Facebook in an educational context.

For effective social media integration into the curriculum, students should be properly instructed in using social media in order to achieve the best learning outcomes, and it should be integrated into the curriculum in an informative manner so as to support the content (Abe & Jordan, 2013). Social media usage and influence are evolving depending on the context (Tess, 2013). In the current study, the pre-service teachers preferred to use Facebook, MindMeister, Tumblr, Prezi, Glogster, Edmodo, and Google Drive in lessons because of their ease of use, utilisation of ready-made materials, and the combination of multiple features with ease of accessibility.

Social media usage in education offers varied evaluation methods. In the current study, assignments and activities were presented related to different social networks each week. The pre-service teachers' activities were evaluated according to specified criteria. Most of them were satisfied with the evaluation of the homework each week, in spite of some of them stating that the assignments and activities took up too much time.

According to the study of Mazer, Murphy, and Simonds' (2007), Facebook had a positive effect on instructors' willingness to create a positive classroom environment. However, technical problems could be seen as demotivational for students and instructors in the current study, which could cause a loss of time.

For those wanting to use social media in a course as an instructor, the following suggestions might be helpful:

- Determine the social media tools that you will use in the context of learning activities.
- Use multiple social media tools in your class based on functionality.
- Support your students.
- Plan different activities weekly, follow your students' activities and give instant feedback.
- Use and create different media types.
- Follow your students' comments and share with them regularly.
- Prepare different evaluation methods and assignments.

As a summary, the use of social media as a support to traditional classroom instruction and delivering the course in a blended way can have various positive effects for students, particularly if well-planned and properly integrated. However, there needs to be adequate technical infrastructure in place and sufficient instructor numbers to facilitate the hands-on experience, as well as timely feedback provided to students.

Although the current study has limitations in terms of content, sample size and technical infrastructure, it is hoped to provide a useful instructional insight for both in-service teachers and pre-service teachers. With the rapid growth and use of social media in the educational context, it is believed that pre-service teachers should be introduced to the effective and ethical use of various social media, together with proper pedagogical approaches, by way of adding relevant courses to existing curricula.

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