INVESTIGATION OF MATH AND PSYCHOLOGY TEACHER CANDIDATES' OPINIONS ABOUT THE SOCIAL MEDIA USE FOR INSTRUCTIONAL PURPOSES

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Abstract

This qualitative study aimed to investigate Math and Psychology teacher candidates' opinions about the use of Social Media Environments, namely, Facebook, Instagram, Twitter, YouTube, Blogs, for Instructional purposes. These social media environments were selected because they were the most popular ones. 20 math and 22 Psychology teacher candidates were participated to the study. The data were collected through focus group interviews (3 groups of Math teacher candidate and 3 groups of Psychology teacher candidates). Each interviews were lasted about 30 – 35 minutes. According to the results, the all teacher candidate groups were very positive to use Facebook, YouTube, and Blogs use for instructional purposes while they (2 math groups and 2 psychology groups) were mostly positive to use Instagram for instructional purposes. However, out of one math group and one psychology group teacher candidates, other groups were negative to use of Twitter for Instructional purposes. The teacher candidate groups mostly pointed out the reasons of their opinions based on the capabilities and limitations of these environments. The teacher candidate groups mostly stated that they would use these environments for instructional material sharing by creating groups for their classes. The study suggested to provide specific experiences for teacher candidates about the use of social media environments for educational purposes since their views very conservative about just using these environments to share instructional materials.

Keywords: qualitative study, social media, instructional use, teacher candidates

MATEMATİK VE PSİKOLOJİ ÖĞRETMEN ADAYLARININ ÖĞRETİM AMAÇLI SOSYAL MEDYA KULLANIMINA İLİŞKİN GÖRÜŞLERİNİN ARAŞTIRILMASI

Özet

Bu nitel çalışma, Matematik ve Psikoloji öğretmen adaylarının; Facebook, Instagram, Twitter, YouTube, Blog gibi Sosyal Medya Ortamlarının öğretim amaçlı kullanımı hakkındaki görüşlerini incelemeyi amaçlamıştır. Bu sosyal medya ortamları en popüler olanları oldukları için seçilmiştir. Araştırmaya 20 Matematik ve 22 Psikoloji öğretmen adayı katılmıştır. Veriler odak grup görüşmeleri aracılığı ile toplanmıştır (3 grup Matematik öğretmen adayları, 3 grup Psikoloji öğretmen adayları). Her görüşme yaklaşık 30 - 35 dakika sürmüştür. Elde edilen sonuçlara göre, tüm öğretmen aday grupları Facebook, YouTube ve Blogları öğretim amaçlı kullanmaya çok olumlu yaklaşırken, Instagram'ın öğretim amaçlı kullanımına çoğunlukla olumlu yaklaşmışlarıdır (2 matematik grubu ve 2 psikoloji grubu). Bununla birlikte, bir matematik grubu ve bir psikoloji grubu öğretmen adayları dışında, diğer gruplar Twitter'ı öğretim amacıyla kullanmaya olumsuz yaklaşmışlardır. Öğretmen aday grupları çoğunlukla görüşlerinin nedenlerini, bu ortamların yeteneklerine ve sınırlamalarına dayandırdıklarını belirttiler. Öğretmen aday grupları bu ortamları çoğunlukla dersleri için gruplar oluşturarak, öğretim materyali paylaşımı için kullandıklarını belirtti. Çalışma, bu ortamların sadece eğitim materyali paylaşmak amacıyla kullanımı konusundaki görüşleri oldukça tutucu olduğundan, öğretmen adaylarının sosyal medya ortamlarını eğitim amaçlı kullanımına ilişkin farklı deneyimler önermiştir,

Anahtar Kelimeler: nitel çalışma, sosyal medya, öğretim amaçlı kullanım, öğretmen adayları

1. INTRODUCTION

Today's society is full of citizens who have at least one social media account. According to the reports of Turkey Statistical Institute for the year 2015, %81 of internet users were the members of at

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least one social media (TUII, 2016, Internet Use). Del Valle et al. (2017) state, in a 2015 survey of social media use in the U.S., 90% of young adults 18-29 years of age were using social media. Perrin (2015) presented analysis results of 27 US surveys conducted by the Pew Internet and American Life project, in that between 2005-2015, there is a widespread and rapid uptake in use of social media environments, especially among collage age users. The same picture can be seen for the middle school students in that the Pew Research Center statistics survey results showed that 71% of youth between ages 13- 17 reported to have more than two or more social media account and 71%of them use Facebook, followed by Instagram (52%), Snapchat (41%), Twitter (33%) and so on (Lenhart, Duggan, Perrin, Stepler, Rainie & Parker, 2015 as cited in Martin, Wang, Petty, Wang & Wilkins, 2018). Moreover, Oh, Roumani, Nwankpa, and Hu (2017) state Facebook, YouTube and Twitter have become essential communication tools for millions of people.

Chugh and Ruhi (2017) state that via smartphones, social media becomes as a part of our personal life. It is a fact that people also have a life in social media. As a so popular environment, social media described as "…*Internet and mobile-based tools and devices that integrate technology, telecommunications and social interaction enabling the construction, co-construction and dissemination of words, images (static and moving) and audio.*" (Dabner, 2012, p.69). Actually, the popularity and properties of social media environments attract education field scholars' attention and conduct research aiming to explain or explore the educational uses of this environments. Dabner (2012) states perceived advantages of using social media affordances in learning/teaching as: 1) support collaboration; 2) the co-creation of knowledge; 3) student engagement, and 4) cost advantages. Similarly, Gruzd, Haythornthwaite, Paulin, Gilbert, and Del Valle (2018) suggest the educator to use social media for the purpose of support of teaching and learning by presenting three reasons: "…exposing students to practice; extending the learning environment; and promoting a social, collaborative approach to learning. (p. 477).

Although the literature shows the popularity of social media among young people and most of them suggest the educators to use them to support their teaching, successful integration of technology depends on teacher beliefs and competency to integrate them. Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) conducted a multiple case study investigating technology user teachers' pedagogical beliefs and classroom technology practices alignment. They found that there was a close alignment (Ertmer et al., 2012). In line with the literature, this qualitative study aimed to investigate Math and Psychology teacher candidates' opinions about the use of popular social media environments as Facebook, Instagram, Twitter, YouTube, and Blog, to support their teaching. In line with this aim, the research questions of the study were as follows:

A. How do the math and psychology teacher candidates use Facebook, Instagram, Twitter, YouTube, and Blog in their daily lives?

B. What do the math and psychology teacher candidates think about the use of Facebook, Instagram, Twitter, YouTube, and Blog to support their teaching?

B.1. How do they describe the use of these social media environments to support their teaching?

B. 2. What are the factors affecting their social media integration opinions?

2. METHODOLOGY

It was a qualitative research study. Yin (2005) states that qualitative research explains, explore or describe a case, phenomena, event in-depth. In this research study, Math and Psychology teacher candidates' opinions were explored via "how" research questions through focus group interviews. The mostly known and used social media environments as emphasized in the most literature were chosen to take the teacher candidates' opinions about integration of these environments to their teaching. These social media environments are Facebook, Instagram, Twitter, YouTube, and Blogs.

2.1. Participants

Participants of the study consisted of 20 Math teacher candidates and 22 Psychology teacher candidates who entered the Computer Assisted Instruction Course. They all the formation group teacher candidates who took educational courses from Education Faculty to have a teacher certificate. As seen Table 1, there were 6 female and 14 women in math group while 6 men and 16 women in Psychology group. The age range of the groups were from 21 to 38 (with average of 24,9) for Math group, and from 21 to 35 (with average of 23,6) for Psychology group. All the teacher candidates, except one teacher candidate from Math group, were the member of at least one social media environment, namely, Facebook, Instagram, Twitter, Youtube and Blog. 39 of them (17 from Math group, 22 from Psychology group) use Instagram, followed by Facebook (15 from Math group, 21 from Psychology group), Twitter (16 from Math group, 17 from Psychology group), YouTube (10 from Math group, 8 from Psychology group) and Blog (8 from Math group, 4 from Psychology group) (see Table 1. Moreover, all the teacher candidates stated to watch videos from YouTube videos, about half of them (n=18) have a YouTube account and channel. The teacher candidates (N=41 except one) reported to use Facebook, and Instagram more than about 5 hours totally in a day, while they use twitter mostly about 2 hours in a day, YouTube and blogs about 2 in several months. Although they stated to watch videos and read blogs more than 5 hour in a day, they did not entered your account to share their opinions, photos, videos from these platforms for several months. Even the teacher candidates who reported that they had not a social media account state that to watch video or follow other people's blogs.

Table1. Participants Of The Study

	Math	**Psychology**
Number	20	22
Gender	6 men, 14 women	6 men, 16 women
Age	From 21 to 38; Average of 24,9	From 21 to 35; Average of 23,6

Social Media Use	19 of them are members of at least one social media environments	22 of them are members of at least one social media environments
• *Facebook*	15	21
• *Instagram*	17	22
• *Twitter*	16	17
• *YouTube (having a channel)*	10	8
• *Blog*	8	4

2.2. Data Collection instruments

Two data collection instruments were used in the study: 1) Demographic Questionnaire; 2) Interview Form. These two instruments were developed by the researchers and checked by two experts from Instructional Technology field. The experts have been studied as an academician in the Instruction Technology field for sixteen years.

2.2.1. Demographic Questionnaire

This questionnaire have five questions as major, gender, age, social media use and have an social media account, which social media, how frequently they used the listed social media as Facebook, Instagram, Twitter, YouTube, Blogs.

2.2.2. Interview Form

The interview form included five unstructured questions about the characteristics of each social media environments, use of them in daily life (aim and how), whether each social media can be used for instructional purposes, the reasons of their answers, and if their answer is yes how they can be used?

2.3. Data Collection Procedure:

The demographic questionnaire was applied at the first week of the course. After the demographic data analysed. The focus groups were formed about 6 to 8 participants in that each focus group had different social media environment members. In other words, the focus groups were defined in line with gender distribution and different social media environment uses. 3 focus groups form Math and 3 focus groups from Psychology group were formed. Teacher candidate numbers in each group were as: GroupMath1 included with 8 participants, GroupMath2 included 6 participants, and GroupMath3 included 6 participants, while GroupPsy1 included 7 participants, GroupPsy2 included 8 participants, GroupPsy1 included 7 participants. After Computer-Assisted Education course, each groups were interviewed in the course class. Data collection were lasted three weeks. In the third week GroupMath1 and GroupPsy1 were interviewed; in the fourth week GroupMath2 and GroupPsy2 were interviewed, and in the fifth week GroupMath3 and GroupPsy3 were interviewed. Before the interviews, teacher candidates were informed about the details of research, and wanted to volunteer ones to participate interviews. Class setting was arranged as U shape. The interviews lasted about 30-35 minutes.

2.4. Data Analysis

Open coding analysis was applied to the focus group interviews. The codes emerged as a result of the data analysis were checked and same codes were emerged under the same codes. Then, the themes were created with the same group of the codes. The data were analyzed by one researcher, and checked by the external expert from Instructional Technology field.

3. RESULTS

The results of the study were presented under two sub-headings in line with the research questions: 1) Daily use of social media environments; 2) Instructional use of social media environments.

3.1. Daily Use of Social Media Environments

The themes emerged as a result of data analysis were "Communication", "Financial Activities", "Sociability", "Entertainment" and "Learning" (see Table 2). According to the results, all the social media environments were described as providing "communication" opportunity for the users". Under the communication theme, the teachers' candidates stated that all the environments provided communication opportunity by having messages, sharing photos-videos-thoughts with their friends, following news through others' postings. YouTube and Instagram environments were also described to enable users to do financial activities as someone could sell or buy something or earn money from advertising. Under the sociability theme, all the environments had characteristics to provide socialization opportunity to people according to teacher candidates. These sociability opportunities were "sharing photos-videos-thoughts, friendship". Some environments as Facebook enable users to play games and watch videos (as well YouTube) for entertainment. Only YouTube was described to aiming to provide "learning" through videos according to teacher candidates.

Table 2. Characteristics of Social Media Environments according to Teacher Candidates

Groups	Social Media	Characteristics
Math	Facebook	Friendship, communication, sharing personal images- videos-messages, games
	Instagram	Sociability, sharing images- story, advertising and shopping
	Twitter	Sharing thoughts, following news
	YouTube	Video sharing, opening personal channels, earning money from advertising, learning
	Blog	Personal web pages on personal experiences
Psyc.	Facebook	Groups creation, communication with friends, sharing personal images-videos-messages
	Instagram	Sharing moments with images and story, advertising and shopping
	Twitter	Sharing feelings-events, public organization, following idols
	YouTube	Video sharing, watching videos for entertainment, learning
	Blog	Environment of sharing experiences and thoughts

The themes emerged as a result of data analysis on the daily use of social media environments were "Communication", "Financial Activities", "Sociability", "Entertainment" and "Learning" parallel with their statements about the characteristics of these environments. According to the results, under the communication theme, the teachers' candidates write messages, share photos with their friends, and have new friends, and follow news. Under financial activities theme they tried to sell or buy something or earning money from advertising through social media environments. Under the sociability theme, they shared their photos, thoughts, moments, following friends' sharing. The teacher candidates stated that they entertained while using social media environments for example, by watching videos, playing games. As seen also Table 3, there are small differences between the Math and Psychology groups' daily use of social media environments. For example, Psychology group also mentioned the public organization on Twitter environment, the Math group did not mention learning experiences on the social media environments.

Table 3. Teacher Candidates' Daily use of Social Media Environments

Groups	Social Media	Daily life use
Math	Facebook	Communicating with old friends, images-video-text sharing, getting news
	Instagram	Sharing images- story, following friends, shopping
	Twitter	Following news, sharing thoughts,
	YouTube	Watching videos
	Blog	Getting information about a content searched
Psyc.	Facebook	Communication with old friends, taking attention on a public news, sharing personal images- videos-messages
	Instagram	Sharing images and stories, following famous people, shopping, follow hobby clubs
	Twitter	following news, Sharing thoughts
	YouTube	Watching videos for entertainment, learning
	Blog	Getting information about a content searched

3.2. Instructional Use of Social Media Environments

The two themes emerged as a results of data analysis were "suitable for using instructional purposes" and "not suitable for using instructional purposes". Under the "suitable for using instructional purposes" theme, the codes emerged as "creation class groups", "finding videos about content", "finding information about content", "make students to create and present products", "creation of discussion environment out of class" and "following educational pages". On the other hand, under the "suitable for using instructional purposes" theme, the codes emerged as "suitable for personal use", "limited for sharing content". The results of the study showed that both the Math and Psychology groups were positive about the social media environments for instructional purposes (see Table 4). All the groups stated that Facebook, YouTube and Blogs could be used for instructional purposes. 2 Math groups and 2 Psychology groups were mostly positive to use Instagram for instructional purposes while 2 Math groups and 2 Psychology groups were negative to use Twitter for Instructional purposes. The teacher candidate groups mostly pointed out the reasons of their opinions based on the capabilities and limitations of these environments. About the Facebook, the teacher candidates stated this environment was suitable for group creation, document share – videos. Similarly, they pointed out that YouTube and Blogs were used to find the information about content though videos and texts created by different users' experiences / thoughts. The most groups were negative to use of Twitter for educational purposes because of its it character limitation for text sharing. Moreover, the groups, who reported that Instagram was not suitable for instructional purposes, thought it was very personal environment for sharing personal moments through images. The data showed that Math and Psychology group teacher candidates

pointed out similar things about the use of social media environments for instructional purposes. There were small differences between groups in that Math group, who was positive to use Twitter for instructional purposes, stated students could follow scholars in this environment, while Psychology group, who was positive to use Twitter for instructional purposes, stated a discussion environment could be created by sharing hashtag about content from Twitter (see Table 4).

Table 4. Teacher Candidates' Opinions of Using Social Media Environments for Instructional Purposes

Groups	Social Media	Use of instructional purposes
Math	Facebook	YES (3 groups–suitable for group creation, sharing documents and materials
	Instagram	YES-(2 groups- suitable for following educational pages NO- (1 group- suitable for use of image or story sharing
	Twitter	YES-(1 group- creating hashtag for content. NO-(2 groups- character limitation for text sharing
	YouTube	YES- (3 groups- finding videos about content
	Blog	YES (3 groups- finding information about content, creating blogs
Psyc.	Facebook	YES (3 groups- creating class groups-educational groups, information sharing, being members of field groups
	Instagram	YES (2 groups- suitable for following educational pages. NO (1 group- more personal environment
	Twitter	YES (1 group- following news about field NO (2 groups- character limitation for text sharing
	YouTube	YES- (3 groups- finding videos about content
	Blog	YES (3 groups- finding information about content

The teacher candidates, who reported that the social media environments could be used for instructional purposes, were asked how they could integrate the social media environments while teaching their majors. The Math and Psychology teacher candidates mostly stated to use these environments before or after the class – sessions. They pointed out that both the teacher and students could share images, opinions, videos or any materials to extend the class sessions before or after the class time (see Table 5). Moreover, the teacher candidates emphasized to create a discussion environment through social media. The Psychology teacher candidates mostly mentioned to use these environments to share, find or pointed out opinions about the cases (the ones who have an interesting or rarely met psychological problems for example) through social media environments without sharing personal information, while the math group teacher candidates mostly mentioned to find videos, materials or create blogs and make students to follow and discuss on their sharing. While the math

teacher candidates to make live lessons via Facebook, the psychology teacher candidates mentioned to share surveys on their majors.

Table 5. Using Social Media Environments for Teaching their Majors

Groups	Social Media	Use of instructional purposes
Math	Facebook (3 groups)	Creating class groups, sharing content (video, document, images, making live-lessons
	Instagram (2 groups)	Sharing images about content
	Twitter (1 group)	Creating hashtag about content, making students' discuss
	YouTube (3 groups	Finding videos and using them during courses
	Blog (3 groups)	Making students search information, creating blogs and sharing
Psyc.	Facebook (3 groups)	Creating groups for psychology, making students be members of groups, Creating class groups, sharing content , sharing surveys
	Instagram (2 groups)	Making students follow pages about field
	Twitter (1 group)	Making students follow field experts
	YouTube (3 groups	Finding videos about experiments, cases; creating videos
	Blog (3 groups)	Sharing interesting cases; Making students search information

4. DISCUSSION AND CONCLUSION

This qualitative study aimed to investigate the Math and Psychology teacher candidates' opinions on the use of social media environments to teaching their Majors. In line with the literature, most popular and known social media environments were chosen to take their opinions. These environments were Facebook, Instagram, Twitter, YouTube and Blog (Oh, Roumani Nwankpa, & Hu, 2017). Totally 42 teacher candidates (N=20 Math teacher candidates and N=22 Psychology teacher candidates) enrolled to Computer Assisted Instruction Course were participated to the study. The data were collected though focus group interviews. Totally sixth focus group were formed to take teacher candidates' opinions. Teacher candidate numbers in each group were as: GroupMath1 with 8 participants, GroupMath2 with 6 participants, and GroupMath3 with 6 participants, GroupPsy1 with 7 participants, GroupPsy2 with 8 participants, GroupPsy1 with 7 participants. The participants were voluntarily participated to the study

and distributed to the groups based on Social media use habits and gender. After Computer-Assisted Education course, each groups were interviewed in the course class.

The results of the study showed that The participants of math and psychology group were members of social media environments and they actively use these platforms similar to the reports of TUII (2015) and Del Valle et al. (2017). Moreover, the teacher candidate groups mostly stated that they had been used these environments for communicate with people, entertain, do financial activities as shopping-earning money from advertising, and learn. These findings confirmed Chung and Ruhi (2017) who claimed that social media is a part of our personal life via smartphones, and Dabner (2012) who stated that social media environments were used for communication and social interaction purposes.

According to the results, most of the teacher candidates were positive about use of social media environments for learning/teaching activities. These result might stem from that the most of the teacher candidates were young and born in a world dominated by technology. As Malita and Martin (2010) state that the todays' generation were interested in participating online tasks which include multimedia images, and communicate with other people through mobile phones and social media environments. Similarly, Roblyer et al. (2010) also concluded the results of the National Center for Education Statistics (USA) in that teacher candidates were very positive about use of social media for learning/teaching while faculty were not. The results showed that the Math and Psychology groups mentioned to use these social media environments through similar ways with small purposes. While math groups mention creation of class groups, and making live lessons, psychology groups mention creating interest groups and sharing cases on these environments. Although many scholars as Romero-Hall, Kimmons, and Veletsianos (2018), Luo, Sickel, and Cheng (2017), Luo, Shah, and Crompton (2019) conducted studies about twitter use for instructional purposes, the study showed that 4 out of 6 group students were negative about twitter use because of character limitation of the platform.

This study had a limitation in terms of number of participants. In future, a study with a larger sample may provide additional results. Moreover, future work may be designed as a survey study which aimed to attitudes or beliefs of the teacher candidates on the use of social media environments for instructional purposes.

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