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Message from the Editor-in-Chief

Dear Colleagues,

TOJET welcomes you. TOJET would like to thank you for your online journal interest. We are delighted that almost 740,000 academicians, teachers, and students from around the world have visited for 19 years. It means that TOJET has continued to diffuse new trends in educational technology. We hope that the volume 19, issue 2 will also successfully accomplish our educational technology goal.

TOJET is confident that readers will learn and get different aspects on educational technology. Any views expressed in this publication are the views of the authors and are not the views of the Editor and TOJET.

TOJET thanks and appreciate the editorial board who have acted as reviewers for one or more submissions of this issue for their valuable contributions.

TOJET will organize IETC-2020 International Educational Technology Conference (www.iet-c.net) at Cyprus International University. This conference is now a well-known educational technology event. It promotes the development and dissemination of theoretical knowledge, conceptual research, and professional knowledge through conference activities. Its focus is to create and disseminate knowledge about educational technology. IETC – 2019 conference book has been published at **http://www.iet-c.net**

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TOJET invites you article contributions. Submitted articles should be about all aspects of educational technology. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJET. Manuscripts must be submitted in English.

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April 01, 2020
Prof. Dr. Aytekin ISMAN
Sakarya University

Editorial Board

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Social Media Addiction of New Media and Journalism Students[*]

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ABSTRACT
Social media addiction problem emerges when the users cannot limit the use of social media networks and spend more time online. Today social media platforms have become work habits in many work areas as well media industry. So, it is important to determine the social media addiction tendency of university students who will work in the media after graduation.

The aim of this research is to investigate social media addiction of the New Media and Journalism students, who were heavy users of new media tools, at Üsküdar University. The sample of the research consists of 85 students from New Media and Journalism Department. The research was conducted using a comparative survey model, with the data collected from Social Media Addiction Scale developed by Tutgun-Ünal and Deniz (2015); and social media addiction of students were examined in terms of various demographic variables. In the research, social media addiction of the students was found to be low. When the sub-scales were examined, occupation and mood modification levels of social media addiction of students were found to be moderate. The findings of the research revealed that (a) Social media addiction increases as the daily time spent increases, (b) Students sharing photos in social media by applying filter/makeup were found to be more addicted regarding the mood modification aspect, (c) Students use social media when they wake up in the morning, during the day, and before bed, (d) New Media and Journalism students' Instagram use is high, followed by students using Twitter the most.

Keywords: Social network, Social media addiction, New media, Journalism

INTRODUCTION
Social media addiction, defined as a psychological problem, has become important with various negative outcomes in daily life and relationships when the social media use gets out of control. The increasing use of the social media not only transformed how we work in many sectors, but it also affected our social life both positively and negatively, as it became part of our everyday life.

Social media provided communication on a global scale, enabling access to people who are hard to reach, or even impossible. We engage in and continue online communication disseminating information through various channels and social media applications that are interconnected. According to Akyazı and Tutgun-Ünal (2013), today the dominant culture is participatory and manifests itself best through online social networks. What matters in the participatory culture is that social bonds are made through online social networks; and individuals share information about what they have done through images, videos and texts in their profiles to track other people's reactions to them. In this sense, the sphere of influence the social networks possess make their use attractive.

As a result of these attractive properties, the social networks gain an increasing number of users every day; and when they go unrestrained, negative consequences follow. Researchers report numerous adverse effcets of social media addiction in people's lives. (Savci, Ercengiz and Aysan, 2017; Şahin and Yağcı, 2017; Tarhan, and Nurmedov, 2019; Taş, 2017; Tutgun-Ünal and Deniz, 2015, 2016; Tutgun-Ünal, 2015, 2019, 2020). They even claim that as the youth today feel competent in their use of the social media, they tend to overuse it. (Tutgun-Ünal and Deniz, 2019).

In the initial studies about social media addiction, researchers examined a possible correlation between Facebook addiction and sleep habits (Abhijit, 2011; Andreassen, 2012; Dewald, Meijer, Oort, Kerkhof, and Bögels, 2010; Kuss and Griffiths, 2011). These studies have shown that social media use may lead to many problems such as a decrease in social activities, deterioration in academic performance, as well as relationship problems (Brunborg et al; 2011; Deniz and Gürültü, 2018; Dewald et al, 2010; Kuss and Griffiths, 2011; Tutgun-Ünal, 2015, 2019).

On the other hand, there are also many studies on the effects of social media in order to create a scale such as levels of social media use (Deniz and Tutgun-Ünal, 2019), social media addiction (Ayğar Bakır and Uzun, 2018; Fırat and Barut 2018; Taş, 2017; Tutgun-Ünal, 2015, 2020; Tutgun-Ünal and Deniz, 2015), Facebook addiction (Andreassen, 2012; Çam and İşbulan, 2012), social media adoption (Usluel and Mazman, 2009), and purposes of social media use (Karal and Kokoç; 2010).

When we examine these studies that try to measure social media addiction, we observe reports of addiction aspects such as (1) salience, (2) mood modification, (3) tolerance, (4) withdrawal, (5) conflict, and (6) relapse. (Andreassen, 2012; Brown, 1993; Griffiths, 1996, 2005). So, these studies seem to be important regarding the determination of social media addiction.

When we review the literature, we see that as these measurement tools are applied to different groups, many studies have been carried out. Even though most of these were performed with young people (Aktan, 2018; Akyazı and Tutgun-Ünal, 2013; Balcı and Baloğlu, 2018; Deniz and Gürültü, 2018; Tarhan, 2018, 2019; Tutgun-Ünal and Deniz, 2016; Tutgun-Ünal and Köroğlu, 2013; Tutgun-Ünal, 2019, 2020), it can be observed that the discipline expands incrementally as various psychological and behavioral disorders are also reported in these studies (Baripoğlu, 2012; Correa, Hinsley, and Zuniga, 2010; İşiten, 2012; Wilson et al, 2010).

In one study, in individuals with some other disorders such as hyperactivity, and attention deficit disorder (ADD), social media addiction is examined through some other variables (Uzun, Yıldırım and Uzun, 2016). On the other hand, it is stated that since social networks enable the individual to present himself or herself in his or her own self image, highly narcissistic people tend to be more active in social media platforms (Buffardi ve Campbell, 2008).

In previous studies, it was reported that the internet use started to demonstrate behaviors similar to substance, alcohol or gambling addictions (Goldberg, 1999; Young and Rodgers, 1998; Young, 1996a, 1996b, 2009), while nowadays, the same claim is made for online social media networks which increasingly became more popular with Web 2.0. They even emphasize that social media addiction is more harmful than alcohol or drug addictions (Baripoğlu, 2012; Tutgun-Ünal, 2015, 2019).

So, we see that studies on socia media addiction and its definition as well as identification have been carried out based on definitions of internet addiction. DSM IV or later versions are taken as reference in defining cyber addictions, unrelated to substances such as internet addiction, social media addiction or digital game addiction (American Psychiatric Association, 1995). In this sense, Young (1998) preferred adapting the criteria of pathological gambling while defining internet addiction; and claimed that, just like gamblers, internet addicts also displayed certain characteristics such as overconfidence, emotional sensitivity, reactivity, alertness, inability for self-expression and adaptation. Goldberg, on the other hand, defined internet addiction based on DSM-IV substance criteria as "inappropriate use of the internet which accompanies three or more of the symptoms that occur at any time over a twelve month period and leads to a clinically distinct disorder or disturbance" (Goldberg, 1999).

In studies done later, definitions shifted towards a more dimensional direction when it was understood that internet overuse hurt people in many ways. For example, Caplan (2005) defines problematic internet use as a multi-dimensional syndrome. That refers to many aspects of life such as work/school, social life, and personal life. Tutgun-Ünal (2015) tried to collect definitions of internet addiction; and defined social media addiction as "a psychological problem that leads to such issues as occupation, mood modification, relapse and conflict in many aspects like personal, social, work/school areas of daily life, growing through cognitive, emotive and behavioral processes." This definition actually includes the addiction dimension found in social media addiction scales, too.

Data was collected from users to proceed to situation assessment studies that include definitions and scales. In this context, it can be observed that studies were carried out with many samplings from different age groups; and that the importance of working with young people in terms of early intervention was emphasized (Deniz and Tutgun-Ünal, 2019; Tutgun-Ünal, 2013, 2015, 2019, 2020; Tutgun-Ünal and Deniz, 2019, 2020).

It is stated that overuse of social media leads to academic failure among young people who happen to be students. It is also predicted that this might affect their future education and professions (Deniz and Gürültü, 2018; Tutgun-Ünal, 2015, 2019, 2020). So, it can be seen that studies done with generations Y and Z are considered important; and that their use of social media habits and preferences are established (Ekşili and Antalyalı, 2017; Onurlubaş and Öztürk, 2018; Özdemir, 2017; Tutgun-Ünal, 2013; Tutgun-Ünal and Deniz, 2019, 2020). So, these studies demonstrate the importance of working with such specific groups.

On the other hand, the internet and social media are used intensively in many business sectors, too. They became an alternative way of doing business, replacing conventional media. With the emergence of new media, economic and technological developments, conventional media got inevitably transformed. According to Turgut (2013), it can be said that, just by looking at its economy, conventional media is replaceable by the new media. In this sense, conventional journalism evolved into new perspectives and professions like internet journalism, and even social media journalism. This points to the fact that students who choose new media as a future profession will have to spend a lot of time on social media for business purposes.

Social media business dynamics work differently from conventional media work hours from 9 to 5. If we take journalism as an example, internet journalism is much more dynamic with constant updates and additions throughout the day in interaction with the world. This entails constant connectivity. According to İrvan (2014), it is possible to renew a newspaper almost every half hour with internet journalism with no shortage of space. When the said business model is applied to business done over social media nowadays, it becomes clear how much time will be spent on social media.

So, with this study done with Üsküdar University Communications Faculty New Media and Journalism students, we aim to establish the social media habits and the level of their addiction. As these students will be working in the new media sector in the future, it is important to determine their habits and take preventive measures against a possible social media addiction. It is also assumed to supply data for further future studies done with specific groups.

So, "Social Media Addiction of New Media and Journalism Students" comprised the problem title of the study.

Objectives
In this study, it is aimed to examine social media addiction of New Media and Journalism students in terms of many variables. For that purpose, the research questions below have been asked.
1. What is the level of social media addiction of New Media and Journalism students?
2. Is the social media addiction of New Media and Journalism students differentiated according to gender?
3. Is the social media addiction of New Media and Journalism students differentiated according to daily usage duration?
4. Is the social media addiction of New Media and Journalism students differentiated according to filters or make-up used in photographs?
5. What time do New Media and Journalism students use social media during the day?
6. Which social media applications do New Media and Journalism students use the most?

METHODOLOGY
Research Model
In the study, social media addiction of New Media and Journalism students was examined in terms of various parameters in order to establish the current status. Therefore, the comparative survey model was used. According to Karasar (2018), the comparative survey model aims to find out differences among groups formed on the basis of a variable.

Sampling
The sampling of the study consists of 85 students from 2018-2019 spring semester at Üsküdar University, Communications Faculty, New Media and Journalism Department. The age average is 22 as the students are between 19 and 35 years old. 35,3% of the sample is female (n=30); and 64,7% male (n=55).

Data Collection Tools
Personal Information Form. In the study, the researcher collected data on demographic characteristics (age, gender, department), social media preferences (which social media applications they use and how often), social media habitual use (what time and for how long) of the Communication Faculty students via a personal information form.

Social Media Addiction Scale (SMAS). Social Media Addiction Scale (SMAS) is developed by Tutgun-Ünal and Deniz (2015) in order to measure social media addiction of university students, having performed all validity and credibility tests. It is a scale that consists of 41 items and 4 factors (occupation, mood modification, relapse and conflict). It is a 5 point likert scale with "Always," "Often," "Sometimes," "Seldom," and "Never." SMAS has 4 factors which explain 59% of the total variance. The specific consistency coefficient of the scale is cronbach alpha .967. The highest point to be obtained from SMAS is 205; the lowest is 41. The sub scales can

be assessed among themselves. Accordingly, the items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 on the scale are concerned with the occupation aspect; and measure the cognitive occupation effect of social media. The items 13, 14, 15, 16 and 17 on the scale are concerned with mood modification; and measure the emotive effect of social media. The items 18, 19, 20, 21 and 22 on the scale are concerned with the relapse aspect; and measure how the desire to control social media use fail and lead to repetitive reuse. The items 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, and 41 on the scale are concerned with the conflict aspect; and measure how social media cause potential problems in an individual's life.

Data Collection and Analysis
Data was collected in class on a voluntary basis. It took 15 minutes to fill the questionnaire in class. It took three weeks to collect the data.

The difference between the lowest possible point and the highest possible point to be obtained from SMAS divided by 5 gives us an interval as to the levels of addiction "Not Addicted," "Little Addicted," "Medium Addicted," "Highly Addicted," and "Very Highly Addicted" (Tutgun-Ünal and Deniz, 2015). In the same way, the difference between the lowest and highest possible points in the sub scale divided by 5 give us an interval as to the levels of addiction. Points in Table 1 show these levels in the analysis of the study.

Table 1. Social Media Addiction Scale and the Assessment of Sub Scales

Level of Addiction	SMAS (Total)	Occupation	Mood Modification	Relapse	Conflict
Not addicted	41-73	12-21	5-8	5-8	19-33
Little Addicted	74-106	22-31	9-12	9-12	34-48
Medium Addicted	107-139	32-41	13-16	13-16	49-63
Highly Addicted	140-172	42-51	17-20	17-20	64-78
Very Highly Addicted	173-205	52-60	21-25	21-25	79-95

SPSS 18 (PASW) statistics program was used in the data analysis; several techniques like frequency, t-test, and variance analysis were applied.

Findings
In this section of the study, there are statistical findings on the research questions collected from 85 students at Üsküdar University Communications Faculty New Media and Journalism Department. Data collected on a personal information form using a social media addiction scale has been analyzed; and points shown in Table 1 have been taken into consideration in establishing the levels of students' addiction.

Findings about the Social Media Addiction among the New Media and Journalism Students
In this section, there are findings on the level of social media addiction among New Media and Journalism students. Analyses have been made according to the total points in social media addiction scale and sub scale. The results are given in Table 2.

Table 2. Social Media Addiction Levels

Sub Scale/Scale	n	$\bar{X}$	sd
Occupation	85	36,38	9,32
Mood Modification	85	13,30	5,31
Relapse	85	11,95	5,83
Conflict	85	40,94	18,70
Social Media Addiction	85	**102,58**	32,51

When the average points in Table 2 are examined, the total of 4 factors for social media addiction adds up to 102,58. Since the lowest possible point is 41, and the highest possible point is 205, the calculations indicate that the New Media and Journalism students are 'little addicted' to social media.

The occupation sub scale consists of 12 items. While examining the average point students got in the sub scale, interval calculations have been taken into consideration as 12 is the lowest possible point, and 60 is the highest possible point. So, the average point students got in the occupation sub scale is 36,38, which indicates that the students are 'medium addicted' to social media.

Mood modification sub scale consists of 5 items. The lowest possible point is 5, while the highest possible point is 25. Considering the addiction intervals, the average point the students obtained in the sub scale was assessed, which was 13,30. This shows that students are 'medium addicted' to social media in mood modification.

Relapse sub scale consists of 5 items; the lowest possible point is 5, and the highest possible point is 25. Accordingly, the average point students obtained was 11,95. This demonstrates that the students are 'little addicted' to social media in relapse.

Conflict sub scale consists of 19 items. The lowest possible point is 19, and the highest possible point is 95. The average point the students obtained was 40,94, which indicates that they were 'little addicted' to social media in the conflict aspect.

Findings about the Social Media Addiction According to Gender among the New Media and Journalism Students

The points New Media and Journalism students got in the social media scale and sub scales are analyzed through an independent group t-test in order to determine whether social media addiction differentiate according to gender; and the results are shown in Table 3.

Table 3. T-Test Results According to Gender Differentiation in Social Media Addiction

Sub Scale/Scale	Gender	n	$\overline{X}$	sd	df	t	p
Occupation	Female	30	38,40	10,14	83	1,479	,143
	Male	55	35,29	8,74			
Mood Modification	Female	30	14,43	5,46	83	1,454	,150
	Male	55	12,69	5,18			
Relapse	Female	30	13,36	5,80	83	1,667	,099
	Male	55	11,18	5,75			
Conflict	Female	30	42,46	19,70	83	,553	,582
	Male	55	40,10	18,26			
Social Media Addiction	Female	30	108,66	35,80	83	1,278	,205
	Male	55	99,27	30,41			

When Table 3 is examined, it is found out that New Media and Journalism students did not differentiate according to gender (p>0.05). When sub scales are examined, no significant difference is found. When the total of the scale and the sub scales is looked into, it is observed that the average point of females is higher than males.

Findings about the Social Media Addiction According to Daily Use Durations among the New Media and Journalism Students

One way anova variance analysis is used to determine whether social media addiction of New Media and Journalism students differentiate according to daily use duration; and the results are shown in Table 4.

Table 4. Variance Analysis Results According to Daily Use in Social Media Addiction

Scale	Daily Duration	n	$\overline{X}$	sd	F	p	Difference
Social Media Addiction	Less than 1 hour	4	82,50	31,00	5,256	,002	Less than 1 hour<4-6 hours 1-3 hours<4-6 hours 1-3 hours<more than 7 hours
	Between 1-3 hours	35	89,31	24,59			
	Between 4-6 hours	32	115,93	35,68			
	More than 7 hours	14	111,00	29,66			
	Total	85	102,58	32,51			

When Table 4 is studied, it was revealed that social media addiction of New Media and Journalism students differentiated significantly according to daily use duration (p<0.05). According to LSD analysis, as the daily use duration of social media increased, so did social media addiction. So, it can be said that those who use social

media between 4-6 hours a day are more addicted (medium addicted) than those who use it for less than one hour or between 1-3 hours.

Table 5. Variance Analysis Results Regarding Differentiation of Occupation According to Daily Use in Social Media Addiction

Sub Scale	Daily Duration	n	$\overline{X}$	sd	F	p	Difference
Occupation	Less than 1 hour	4	27,50	4,50	7,31	,000	Less than 1 hour<4-6 hours Less than1 hour<More than 7 hours 1-3 hours<4-6 hours 1-3 hours<More than 7 hours
	Between 1-3 hours	35	32,74	7,97			
	Between 4-6 hours	32	38,56	9,02			
	More than 7 hours	14	43,07	8,75			
	Total	85	36,38	9,32			

When Table 5 is examined, it is seen that daily social media use duration differentiated significanlty in the occupation aspect (p<0.01). According to LSD analysis, as the daily use duration of social media increased, so did addiction in the occupation aspect. Those who use social media between 4-6 hours a day are found to be medium addicted to social media in the occupation aspect. Those who use social media more than 7 hours a day are highly addicted to social media in the occupation aspect.

Table 6. Variance Analysis Results of Mood Modification According to Daily Duration of Use in Social Media Addiction

Sub Scale	Daily Duration	n	$\overline{X}$	sd	F	p	Difference
Mood Modification	Less than 1 hour	4	7,25	1,70	7,11	,000	Less than 1 hour <4-6 hours Less than 1 hour<More than 7 hours 1-3 hours<4-6 hours 1-3 hours<More than 7 hours
	Between 1-3 hours	35	11,25	4,34			
	Between 4-6 hours	32	15,28	4,73			
	More than 7 hours	14	15,64	6,40			
	Total	85	13,30	5,31			

When Table 6 is examined, it was found that daily use of social media significantly differentiated in the mood modification aspect (p<0.01). According to LSD analysis, as the daily use of social media increased, so did social media addiction in the mood modification aspect. So, it can be said that as the daily use durations of social media increased, the students take more emotional solace in social media. Additionally, those who use social media between 4-6 hours a day and those who use it for more than 7 hours are found to be medium addicted in the emotional aspect.

Table 7. Analysis Results of Relapse in Social Media Addiction According to Daily Use Duration

Sub Scale	Daily Duration	n	$\overline{X}$	sd	F	p	Difference
Relapse	Less than 1 hour	4	11,75	8,99	1,67	,180	-
	Between 1-3 hours	35	10,34	4,72			
	Between 4-6 hours	32	13,40	6,16			
	More than 7 hours	14	12,71	6,28			
	Total	85	11,95	5,83			

When Table 7 is examined, no differentiation was found regarding the relapse aspect in social media use (p>0.05). The average points in the Table indicate medium addiction in those students who use social media between 4-6 hours a day in the relapse aspect. This tells us that there is no decrease in the students' daily use of social media; and that it remained steady.

Table 8. Variance Analysis Results of Social Media Addiction Conflict According to Differences in Daily Use

Sub Scale	Daily Duration	n	$\overline{X}$	sd	F	p	Difference
	Less than 1 hour	4	36,00	19,06			
	Between 1-3 hours	35	34,97	14,75			
Conflict	Between 4-6 hours	32	48,68	21,51	3,40	,021	1-3 hours<4-6 hours
	More than 7 hours	14	39,57	15,82			
	Total	85	40,94	18,70			

When Table 8 is examined, it is seen that there is a significant differentiation in daily social media use regarding conflict (p<0.05). According to LSD analysis, those students who use social media between 4-6 hours a day compared to those who use it between 1-3 hours are more conflicted. Additionally, those students who use social media between 4-6 hours a day are medium addicted to social media in the conflict aspect.

Findings in Social Media Addiction According to Photograph Filter/Make-up Application Use among New Media and Journalism Students

In order to determine whether the social media addiction of New Media and Journalism students differ in accordance with the use of filter, or make-up in photographs they share, points taken from social media addiction scale and sub scales are analyzed with an independent group t-test; and the results are shown below in Table 10.

Table 9. T-Test Results According to Photograph Filter/Make-up Application Use in Social Media Addiction

Sub Scale/Scale	Filter/Make-Up	n	$\overline{X}$	sd	df	t	P
Occupation	Yes	50	37,50	9,57	83	1,320	,191
	No	35	34,80	8,85			
Mood Modification	Yes	50	14,26	5,46	83	2,013	,047
	No	35	11,94	4,85			
Relapse	Yes	50	12,22	6,04	83	,502	,617
	No	35	11,57	5,57			
Conflict	Yes	50	42,44	20,99	83	,882	,380
	No	35	38,80	14,86			
Social Media Addiction	Yes	50	106,42	36,44	83	1,304	,196
	No	35	97,11	25,42			

When Table 9 is examined, it can be seen that there is differentiation in mood modification sub scale (p<0,05). The mood modification addiction of those students who use filter and make-up in their photos is high. It can be concluded that these touches and changes on the photos make the students feel better.

Findings on When New Media and Journalism Students Use Social Media

New Media and Journalism students use of social media during the day has been examined with their frequency of use. The data is provided in Table 10.

Table 10. Social Media Addiction Levels

Time of Use	n	%
I check it in the morning	7	8,2
I check it before bed	3	3,5
I check it both in the morning and before bed	6	7,1
I check it only during the day	6	7,1
I check it in the morning, during the day and before bed	63	74,1
Total	85	100

When the following social media use times are examined, i.e. in the morning, before bed, both in the morning and before bed, only during the day, and all day (in the morning, during the day and before bed), the ratio of those who check the social media all day long was found to be 74,1%.

Findings on Social Media Applications Used by New Media and Journalism
In this section, social media applications New Media and Journalism students use have been questioned; and the frequency analysis results are given in Table 11.

Table 11. Social Media Applications

Social Media Applications	n	%
Instagram	81	95,3
YouTube	74	87,1
Twitter	67	78,8
Facebook	47	55,3
Snapchat	29	34,1
LinkedIn	28	32,9
Pinterest	20	23,5
Swarm	17	20,0

According to Table 11, Instagram was the most preferred application (98,3%). Almost all the students use Instagram (n=81). When the Table is examined, it can be seen that YouTube comes second with 87,1%; and Twitter third with 78,8%. Facebook is used 55,3%, which corresponds to almost half the students. The other applications remained below 50% (Graph 1).
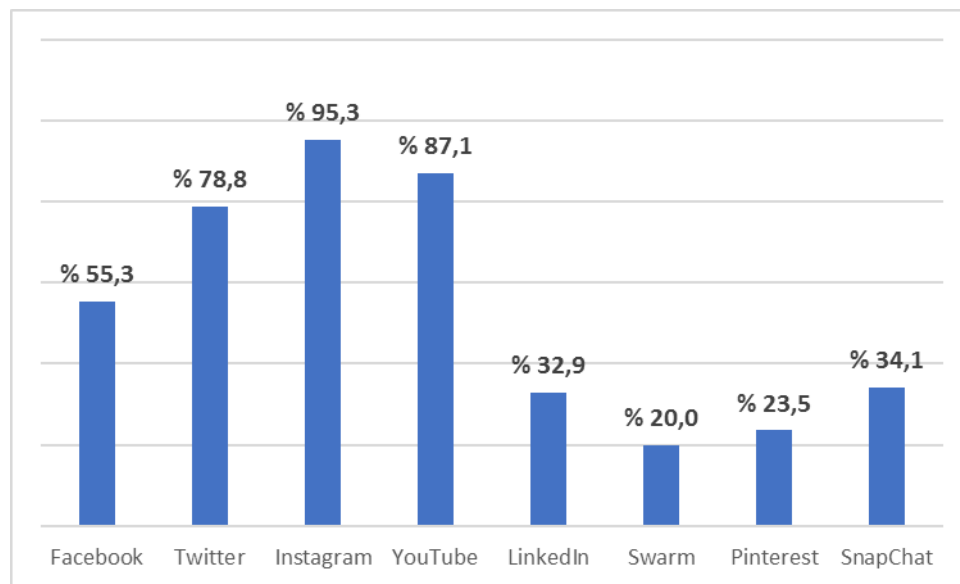
Graph 1. Social Media Applications Used by New Media Journalism Students

Considering that the students use several social media applications together, it was questioned which one they used the most; and some results have been reached (Graph 2).
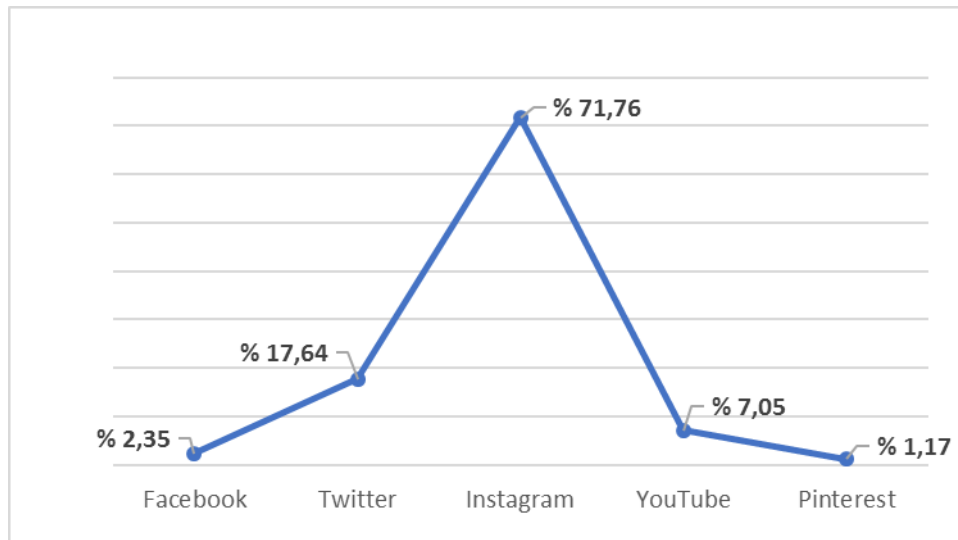
Graph 2. The Most Commonly Used Social Media Applications

The social media application New Media and Journalism students used the most turned out to be Instagram with 71,6% as can be seen in Graph 2 (n=61). The percentage of those students who reported to use Twitter the most is 17,64 (n=15). Only 6 students reported to use YouTube the most.

RESULTS AND DİSCUSSİON
As a result, social media addiction of New Media and Journalism students is found to be at a minimum level. When we examine the sub scales, though, we detect medium level addiction in the occupation and mood modification aspects. This result demonstrates that the students occupy themselves with social media in order to modify their mood, i.e. get emotional support.

In another study done with the social media addiction scale, which was developed by Tutgun-Ünal and Deniz (2015) for this study, also found the addiction level of Üsküdar University Communications Faculty students to be at a minimum (Tutgun-Ünal, 2019). Similarly, a medium level addiction is detected in the occupation and mood modification aspects. So, the levels of social media addiction at Üsküdar University Communication Faculty in general and also New Media and Journalism Department are found to be the same. The specific examination of New Media and Journalism Department yielded the same results as the Faculty.

When the sub scale items for occupation are examined, mostly items related to cognitive addiction to social media are found such as; "If I have a job to do, I first check the social media," "I sometimes spend more time on social media than I intend to," "When I do not check social media for some time, it occupies my mind." In the sub scale of mood modification; however, there are mostly items related to emotional addiction to social media such as; "I use social media to forget about my personal problems," "I spend time on social media when I feel lonely," "I prefer to browse through social media to get rid of negative thoughts." It is striking that students demonstrate medium level addiction in both aspects. So, it becomes apparent that more work is needed to support emotional and cognitive occupation.

In 2015, in a study done in universities in İstanbul, the same scale (SMAS) was used with 1034 students; and similar results were obtained. That means medium addiction was found in the occupation aspect. Even though addiction was found to be minimum in the mood modification aspect, in some faculties it turned out to be medium level addiction. According to research, addiction in the mood modification aspect differentiated among faculties. In the Faculty of Nursing, which mostly consists of female sudents, addiction according to the Mood Modification aspect was found to be at medium level. In the same study, it was predicted that as women get more emotional support compared to men, their social media addiction in the emotional aspect would be higher in faculties where they are in the majority (Tutgun-Ünal, 2015).

In this study, it is found that the students in the New Media and Journalism Department are little addicted to social media, which confirms other studies. Concerning the mood modification aspect, there is consistency with the social media addiction level of Nursing Faculty students, as reported in the Tutgun-Ünal and Deniz study (2015). So, it can be said that social media addiction can be different according to faculties and departments. These differences can be expressed via studies done with specific, small groups.

In this study, it is seen that the social media addiction of New Media and Journalism students did not differentiate according to gender. This result should be assessed only in relation to New Media and Journalism students. However, in a study done with 314 students from Üsküdar University Communications Faculty, using the same scale, there was no differentiation according to gender, either, which confirms the results of this study (Tutgun-Ünal, 2019).

Social media addiction manifested differences according to daily use. According to this, those students who use social media between 4-6 hours a day are found to be more addicted than those students who use it less. The students who use social media between 4-6 hours a day are also medium addicted according to social media addiction scale. In many studies, it is stated that as the daily use of social media increases, so does social media addiction (Tutgun-Ünal, 2015, 2019, 2020; Tutgun-Ünal and Deniz, 2016, 2019, 2020). Also, in some studies, it is stated that duration of internet use is not an indicator of addiction by itself, but after 4 hours, internet addiction is often observed (Tutgun-Ünal, 2015, 2019, 2020; Young, 1996a,1996b,1998).

Also, in this study, students who use social media between 4-6 hours a day are found to have relapse addiction. It can be said that these students cannot limit their social media use; and continue to use it the same way each time. As far as conflict is concerned, medium addicted people are found to use social media between 4-6 hours. It can be said that these individuals get conflicted about their social media use with people around them, and experience many adverse effects in their life because of it.

When the social media addiction of those who use filter/make-up in their photos versus those who do not is compared, differences are found in mood modification sub scale. Those students who modified their photos felt better about themselves, which led to emotional social media addiction. In another study done including other departments at Üsküdar University Communications Faculty, differences in both occupation and mood modification sub scales were found; and it was revealed that those who use filter/make-up in their photos are more occupied with social media and felt better about themselves (Tutgun-Ünal, 2019, 2020). In this study, New Media and Journalism students were found to differ only regarding the mood modification aspect, and not regarding occupation sub scale.

Social media drives out many mundane activities like getting into a vehicle, commuting, putting on make-up, and getting ready, forcing people to go online. Social media platforms enable users to get to places without even getting up or to look made-up with make-up applications. New studies question the filter/make-up features and find out that they lead to social media addiction.

Besides, it was determined that New Media and Journalism students use social media at all hours. That is, 74% of the students check social media as soon as they wake up, during the day, and before they go to bed. It can be said that they already integrated internet and social media into their personal life which will become a part of their professional life later on, without any time limits.

Lastly, almost all the New Media and Journalism students use Instagram (95,3%). YouTube comes second with 87,1%, followed by Twitter with 78,8%. The percentage of Facebook users is 55,3%, i.e., less than Twitter.

When asked which social media platform they used most, again the answer was Instagram (71,76%). What is striking here is the percentage of students who said they used Twitter most. 17,64% of New Media and Journalism students reported Twitter as the social media platform they use most, and not Instagram. This result is found quite significant for the said department.

When we consider that the students in the Department of New Media and Journalism also engage in social media journalism, or "Twitter journalism," they are probably interested in Twitter for that same reason. Additionally, the students who report using YouTube (87,1%) also said it is not their number one choice (7,05%).

In conclusion, it is possible to assess small groups specifically, like in this study. In this way, a potential social media addiction can be prevented considering the characteristics of the groups in the studies. In general, more comprehensive studies combined with those conducted on small groups should be evaluated together to obtain stronger data.

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Teacher Educators' Self-Efficacy Beliefs and Actual Use of ICTS in Teaching in the Kumasi Metropolis

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ABSTRACT

The study investigated how the Self-Efficacy Beliefs (SEB) of teacher educators in Colleges of Education in Ashanti Region of Ghana influenced their actual use of ICTs in teaching prospective teachers. Employing a mixed methods descriptive survey design, the views of 115 teacher educators were randomly sampled on a closed ended Likert-type scale questionnaire. A convenience sample of thirteen (13) of the teacher educators were subsequently observed for their actual use of ICTs in their teaching. The data were then subjected to frequency counts, percentage, and mean and correlational statistics analyses. The results indicated that the teacher educators were not certain on their ability to use ICTs in their teaching, besides not actually using such tools in their teaching. Furthermore, it can be inferred from the analyses that the lack of belief in their ability to use ICTs to teach translated into the teacher educators not actually using these tools in their teaching. It is recommended that the Colleges of Education collaborate with the government and T -TEL to empower the teacher educators through pedagogical training to enhance their ICTs self-efficacy beliefs and actual use

Keywords: College of Education, Teacher Educators, ICTs Self-Efficacy Beliefs, Teaching Experience, Actual use of ICTs.

INTRODUCTION

Globalisation and innovations in technology have led to an increased use of ICTs in all sectors of human endeavour with education being no exception. The use of ICTS in education has become widespread and are continually growing worldwide. It is generally believed that ICTs can empower teachers and learners, making significant contributions to learning and achievement (Meenashki, 2013).

In Ghana, stakeholders and policy makers in education have realised the significant gains that ICTs provide in the field of education and are taking appropriate steps to ensure that the nation as a whole reaps the full benefits of this growing force. It is in this regard that the Government of Ghana commissioned the Ghana ICT for Accelerated Development Policy (ICT4AD) in 2003 under the Anamuah-Mensah Educational Reforms in 2007. This policy sought to create the necessary enabling environment to facilitate the development of a viable knowledge-based ICT Industry to facilitate the production, manufacturing, development and distribution of ICT products and services (ICT4AD, 2003). Furthermore, various teacher education institutions in Ghana are increasingly paying attention to the use of ICTs in teaching and learning. The government ICT connectivity project launched in 2010 covered the then 38 Colleges of Education (COE) by providing them with computing infrastructure such as computers, printers, scanners, projectors and internet connectivity (Ghana News Agency, 2010). Notwithstanding the numerous benefits that could be derived from ICT integration in schools, several factors could be outlined as constraining the realisation

of such benefits in teaching. These factors are identified as teacher-level and school-level factors (Balanskat, Blamire & Kefalla, 2007). Bingimlas (2009) outlined the teacher-level barriers or factors as; lack of teacher confidence, lack of teacher competence and teachers' negative attitude and resistance to change. The school related factors to combat these barriers according to Buabeng-Andoh (2012) are support, funding, training and facilities that influence teachers' adoption and integration of technologies into their classrooms. Further research has confirmed that many factors influencing teacher use of technology in a broader sense arise from the external environments where the teacher works. (Zhao and Frank, 2003; Teo, 2008). However, Ertmer (2005) also contended that while the external factors affecting technology use, such as funding, availability and access to infrastructure, have improved, personal factors such as teachers' competence and beliefs are yet to be resolved. This calls for more studies to be conducted with particular regards to personal factors that influence ICTs usage such as self-efficacy beliefs.

In Ghana, very few studies have been conducted in support of self-efficacy beliefs as one among other factors to positively or negatively influence successful ICTs integration in teaching (Caesar & Teye, 2012; Obiri-Yeboah, Owusu-Kwarteng & Kyere-Djan, 2013). Available research that exists mainly focused on the external factors that influence ICTs usage such as availability, access, infrastructure and funding (Sarfo, 2005; Buabeng- Andoh, 2012). Personal factors such as teacher competence, attitudes and self-efficacy beliefs have not been adequately investigated. It is in respect of these significant gaps in the literature that this article seeks to investigate how the COE teacher educators SEB affected their actual use of ICTs in teaching.

RELATED LITERATURE
Social Cognitive Theory
The social cognitive theory is the main concept behind self-efficacy beliefs. Social cognitive theory proposed by Albert Bandura (1977, 1986, and 1997) is a socio- cognitive perspective that enables individuals to self-regulate cognitive processes and behaviours, rather than simply react to events. This perspective ascribes to the belief that "individuals are capable of exercising a degree of control over their thoughts, feelings, motivations and actions" (Pajares, 2003) after a self-interpretation of performance. This control impacts and has the potential to alter subsequent actions and behaviours.

Bandura (1986, 1997) believed that behaviour is more effectively predicted by the beliefs that individuals have regarding their capabilities than what they are actually capable of accomplishing. Therefore, the beliefs individuals have about themselves provide a driving force in their academic accomplishments. It is these beliefs that determine "how well knowledge and skills are acquired" (Pajares, 2003).Research intensely demonstrates that self-efficacy can influence behaviour (Bandura, 1992; Delcourt & Kinzie, 1993). Miura (1987) also indicates that a person's self-efficacy belief towards a task will influence the decision to take on a task, the amount of effort used on the task and the persistence in accomplishing the task.

Applied to ICTs self-efficacy, this would suggest that one's choice, effort and persistence in using ICTs is influenced by one's level of self-efficacy in the use of ICTs.

Figure 2.1: Conceptual framework for teachers' ICT usage in teaching
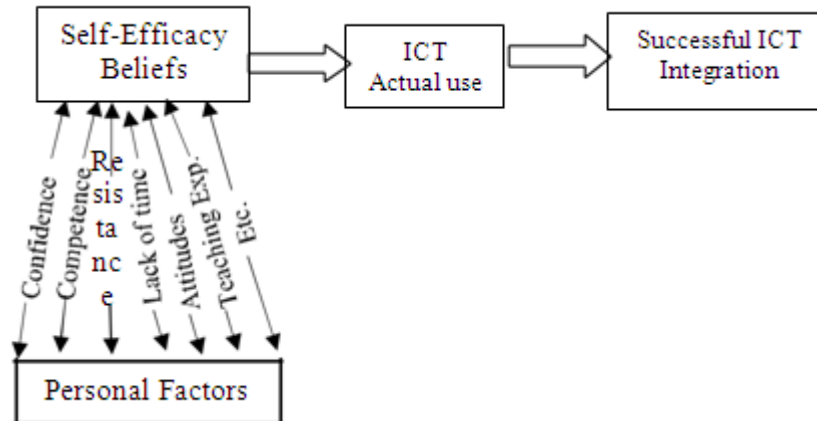
Source: Field survey, 2016

The impact of ICT integration cannot be underestimated in any educational setting. It is expedient that teacher educators gain insight into ICTs and how they can be integrated efficiently and effectively into teaching. For a teacher educator to effectively use ICTs in their teaching it requires sufficient mastery and confidence in their usage. Personal factors such as self-efficacy beliefs are better exhibited when put into practice, especially in the use of ICTs. However, personal factors such as competence, confidence, resistance in ICT usage, lack of time, number of teaching experience, negative attitudes, etc. appeared to be related to teachers; SEB in the use of ICT tools in teaching and learning.

The literature indicates that SEB is a major and happened to be more significant than others when it comes to the use of ICT by teacher educators in teaching (Becta, 2004; Taylor, 2011).

When teacher educators believe their actions can produce the outcome they desire, they have the confidence to act and persevere in the face of difficulties or when influenced by other personal factors.

On the contrary, when teacher educators have no belief that their actions might lead to the required results, they become less confident to persevere or act in the face of adversity. It must also be noted as shown in figure 2.1 that even though self-efficacy beliefs relate to actual practice, they may or may not necessarily predict practice. The success of ICTs integration in teaching depends on its actual use which is influenced by Self-Efficacy beliefs of teacher educators. Self- efficacy beliefs is therefore believed to constitute personal factors affecting ICT integration in teaching.

METHODOLOGY
This study adopted the descriptive design and mixed methods approach. According to Best and Kahn (2007), descriptive research is concerned with the conditions or relationships that exist, practices that prevail, beliefs, points of view or attitudes that are held, processes that are going on, effects that are being felt or trends that are developing. The purpose of the mixed method approach in the context of this study was to "obtain different but complementary data on the same topic" (Morse, 2003) to best understand the research problem. Creswell (2013) explains that mixed methods is an approach to inquiry involving collecting both quantitative and qualitative data and integrating the two forms of data to provide a more complete understanding of a research problem than either approach can achieve alone.

The population for this study comprised all the teachers of Colleges of Education (both public and private) in the Kumasi Metropolis who operated on regular basis. Based on the staff list provided by the various heads of institution, the total number of teacher educators was 135.Out of this number, 115 teacher educators were randomly sampled. This number was selected based on the suggestion of Cohen, Manion & Morrison (2007), that a sample size of 85% of the total population in a study is considerable for achieving a 95% confidence level and also sufficient for generalisation purposes. Furthermore, out of the sample of 115, 13 teacher educators were selected again to

collect observation data. This was done in line with Morse's (2000), suggestion that for qualitative studies, a sample size of 10% to 30% of the population is sufficient for generalisation purposes.

Research Materials
In the collection of data for the study, a structured questionnaire and an observation checklist were used. The questionnaire was used to collect quantitative data whereas the observation checklist was used to gather qualitative data.

The questionnaire consisted of three (3) parts; A, B and C. Part 'A' provided six (6) items that dealt with demographic information of respondents: age, gender, educational qualification, years of teaching experience, type of institution and subject taught. Part 'B' consisted of ten (10) items, that elicited information on Teacher Educators ICT self – efficacy Beliefs, whilst the last part, Part 'C' comprised five (5) items which measured teachers' actual use of ICTs in teaching. To achieve the study's objectives, the researcher adapted the Professional Self-Efficacy Scale for Information and Communication Technology Teachers developed by Koksal *et al.,* (2015). This constituted part 'B' of the questionnaire. The scale used measured teachers' perceived ICT self-efficacy beliefs and ICT actual use on a 5-point Likert-type scale from 1= Strongly Disagree' to 5= 'Strongly Agree'. Examples of the items, included in the part 'B' of the questionnaire, are "I can use PowerPoint Presentations for classroom delivery, "I can engage students in using the computer to make their own meaning of content during lessons", "I can use PDAs as an alternative to other ICTs during teaching", "I can implement teaching methods effectively using ICTs" and "I can use the LCD projector to present lessons".

Part 'C' of the questionnaire consisted of ICTs actual use variables which were converted from the self-efficacy beliefs variables. They were also put on a 5-point Likert-type scale from 1='Strongly Disagree' to 5= 'Strongly Agree'. For instance, "I can use PowerPoint Presentations for classroom delivery" was converted to "I use PowerPoint Presentations for classroom delivery" to measure teachers' actual use of ICTs". Other examples followed as: "I engage students in using the computer to make their own meaning of content during lessons", "I use PDAs as an alternative to other ICTs during teaching", "I implement teaching methods effectively using ICTs" and "I use the LCD projector to present lessons".

The observation checklist was self-constructed based on a review of feedback of the quantitative results and 6, 5 and 2 departments from Wesley COE, St. Louis COE and Cambridge COE were selected respectively. This summed up to 13 respondents from all departments and COE on a whole for achieving a homogenous data.

A pre- observation was conducted at the COE to identify the ICT tools that were used to facilitate teaching according to departments. The common tools that were stated by HODs were selected and formed the items of the observation checklist. These were; Computers, LCD projectors, PowerPoint application, the Internet and PDAs. These items were put on a five point Likert- type scale; namely, Never =1, Rarely =2, Sometimes =3, Often =4 and Always =5.

Procedure
Prior to the administration of the research instrument, the researcher explained the purpose of the study to participants and they were assured that data collected will remain anonymous and that at anytime they could withdraw from the study. Before the administration of the questionnaire, an explanation of the purpose of the study was given to the participants at a gathering of a T-tel programme which was compulsory for teachers to attend. They were also informed of their rights to participate voluntarily or not to participate in the study.

The administration of the two research instruments, i.e., the questionnaire and the observation checklist was personally done in all the three colleges over a two month duration. A total of One Hundred and Seven (107) answered questionnaires were retrieved out of the One Hundred and Fifteen (115) administered questionnaires. The responses from the respondents were examined and entered into the SPSS software version 21.0. Descriptive statistics (frequency counts and percentages) were performed on the data to obtain summary information on respondents' gender, educational qualification, teaching experience. Also correlational statistics was conducted to examine relationships among variables with the significance level set at 0.05.

The observation schedule was employed to observe the 13 selected teachers to check for the authenticity of their questionnaire responses as well what HODs reported on the ICT tools that the teacher educators use in teaching. The teacher educators were observed delivering their lessons from a reasonable distance and their actual use of the ICT

tools in teaching was recorded based on the scale on the observational guide. The teacher educators were observed while they were teaching to see whether they actually used the common tools in the observation guide as the HODs indicated during the pre-observation. Each of the teacher educators were observed on five separate occasions. These observations were deliberately made at times when the teachers had started teaching new topics. Even though permission had been sought for the observation, the researcher deliberately dropped in at those occasions without prior notice. The observation data were analysed systematically based on the themes on the observation guide.

FINDINGS

This section presents the findings of the study in Tables 1, 2, 3 and 4 under the themes of demographic information of respondents, teacher educators' levels of ICTs SEB, teacher educators' actual use of ICTs in teaching and Correlation between COE teachers educators' SEB and actual use of ICTs in teaching respectively.

Table 1: Demographic Information of Respondents

S/N	Variables	Frequency (f)	Percentage (%)
1	**Gender**		
	Male	63	58.9
	Female	44	41.1
	Total	107	100.0
2	**Highest Educational Qualification**		
	Certificate	-	-
	Diploma	1	0.9
	Bachelors	19	17.9
	Masters	86	80.2
	Other	1	0.9
	Total	107	100
3	**Teaching Experience (Number of years taught)**		
	1 – 5 years	11	10.3
	6 – 10 years	23	21.5
	Above 10 years	73	68.2
	Total	107	100.0
4	**Type of Institution**		
	Public	97	90.7
	Private	10	9.3
	Total	**107**	**100.0**

Source: Field survey, 2016

The demographic information presented in Table 1 as per the gender distribution indicates that the majority of respondents 63(60%) were males, whilst 44(41%) were females.

In terms of the highest educational qualification of respondents, majority of the respondents representing 86 (80%) possessed Masters' degree as their highest qualification with one respondent having a PhD. Nineteen 19(18%) respondents held Bachelor's degree and 1(0.9%) respondent also held Diploma as their; qualification, no teacher was reported to have ordinary certificate as their highest educational qualification. This result supports the fact that NTCE minimum academic qualification of Master's degree for teaching at the College of Education in Ghana was complied with.

Table 2: Findings on Teacher Educators' ICTs Self Efficacy Beliefs

Variables	SD	D	U	A	SA	Mean
	Freq.(%)	*Freq.(%)*	*Freq.(%)*	*Freq.(%)*	*Freq.(%)*	($\bar{x}$)
I can use PowerPoint presentations for classroom delivery	15(14%)	21(19.6%)	19(17.4%)	23(21.1%)	29(26.6%)	**3.28**
I can engage students in using the computer to make meaning of content	16(15%)	21(19.6%)	25(23.4%)	25(23.4%)	20(18.7%)	**3.11**
I can use LCD projector to present lessons	17(16%)	17(16%)	14(13.2%)	29(27.4%)	29(27.4%)	**3.34**
I can use available ICTs in collaborative activities	13(12.1%)	19(17.8%)	32(29.9%)	24(22.4%)	19(17.8%)	**3.16**
I can encourage students to think critically using ICTs	13(12.1%)	23(21.5%)	30(28%)	24(22.4%)	17(15.9%)	**3.08**
I can portray ICTs as learning aids and not objects of instruction	16(15%)	24(22.4%)	28(26.2%)	17(15.9%)	21(19.6%)	**3.93**
I can retain students' attention using ICTs	14(13.2%)	23(21.7%)	26(24.5%)	24(22.6%)	19(17.9%)	**3.10**
I can implement teaching methods using ICTs	15(14.2%)	22(20.8%)	24(22.6%)	23(21.7%)	22(20.8%)	**3.14**
I can evaluate lessons using ICTs	12(11.3%)	35(33.0%)	22(20.8%)	22(20.8%)	15(14.2%)	**2.93**
I can use PDAs as an alternative to ICTs	12(11.2%)	14(13.1%)	16(15.0%)	32(29.9%)	33(30.8%)	**3.56**
Average Total	17(16%)	17(16%)	14(13.2%)	29(27.4%)	29(27.4%)	**3.34**

Source: Field survey, 2016

The aim of the study was to find out the ICTs self-efficacy beliefs of teacher educators teaching in the colleges of education in Kumasi. In order to achieve this objective, a 10-item Likert-type scale questionnaire ranging from Strongly Disagree (SD = 1) to Strongly Agree (SA = 5) was structured around their beliefs in the use of ICTs in presenting lessons.

From the results showed in table 2, majority of teacher educators were not certain in reporting their ICTs SEB in teaching. Even though in comparison, a majority (44%) of respondents reported in agreement to have SEB in using ICTs to teach, this was below average (50%). Whiles 34% of respondents disagreed to have SEB in using ICTs to teach, 22% of the remaining respondents remained at the neutral level. This is further confirmed by the mean scores of the ten sub-scales of the ICT self-efficacy beliefs. All the self-efficacy variables presented to respondents recorded just around the neutral value (3.0).

Table 3: Findings of Teacher Educators' Actual ICTs Self Efficacy Beliefs

Variables	SD	D	U	A	SA	Mean
	Freq.(%)	*Freq.(%)*	*Freq.(%)*	*Freq.(%)*	*Freq.(%)*	($\bar{x}$)
I use PowerPoint presentations for classroom delivery	47(43.9%)	28(26.2%)	7(6.5%)	12(11.2%)	13(12.1%)	2.21
I engage students in using the computer to make meaning of content	43(40.2%)	19(17.8%)	12(11.21%)	22(20.6%)	11(10.3%)	2.43
I use LCD projector to present lessons	50(46.7%)	21(19.6%)	10(9.3%)	17(15.9%)	9(8.4%)	2.20
I use available ICTs in collaborative activities	38(35.8%)	22(20.8%)	13(12.3%)	22(20.8%)	11(10.4%)	2.49
I encourage students to think critically using ICTs	37(34.6%)	16(15.0%)	15(14.0%)	27(25.2%)	12(11.2%)	2.64

I portray ICTs as learning aids and not objects of instruction	36(33.6%)	21(19.6%)	16(15.0%)	22(20.6%)	12(11.2%)	2.56
I retain students' attention using ICTs	37(34.6%)	23(21.5%)	15(14.0%)	18(16.8%)	14(13.1%)	2.52
I implement teaching methods using ICTs	42(39.3%)	23(21.5%)	12(11.2%)	18(16.4%)	12(11.2%)	2.39
I evaluate lessons using ICTs	44(41.1%)	26(24.3%)	11(10.3%)	14(13.1%)	12(11.2%)	2.29
I use PDAs as alternative to ICTs	23(21.7%)	13(12.3%)	8(7.6%)	31(29.2%)	31(29.2%)	3.32
Average Total	**39.7(37.17%)**	**21.2(19.85%)**	**11.9(11.14%)**	**20.3(19%)**	**13.7(12.83%)**	**2.51**

Source: Author's field survey, 2016

From table 3, teacher educators' actual use of ICTs in teaching was rated on a 5-point scale which ranged from Strongly Disagree (1) to Strongly Agree (5). The average totals from the table showed that majority (57%) of respondents were in disagreement that they actually use ICTs in teaching whilst only 34% responded in agreement, with 11% remaining uncertain. This indicates that teacher educators do not actually use ICTs in teaching.

To corroborate the results obtained from the questionnaire data, an observation was also carried out. While observing how the 13 teacher educators used ICTs (PowerPoint, computer, LCD projector, Personal Digital Assistance (PDAs) and internet) in teaching and learning, 3 out of 13 rarely used them in their lesson delivery whereas 10 never did. It was observed that they portrayed these ICT tools as teaching aids to increase comprehension and retention of lesson content. As a matter of fact, those teacher educators who used the above ICT tools happened to be ICT tutors who made use of the computer laboratory facilities. The same ICT teachers in addition to 1 teacher educator were also sometimes observed using PDAs such as smartphones, ipads, and tablets as reference tools where important points in lesson were referred to whilst 11 out of 13 never did. With the use of the internet, the teacher educators had limited access to the colleges' Wi-Fi (Internet). All the 13 teacher educators observed were never seen connected to the College's internet for teaching purposes.

Table 4: Findings on Correlation between Teacher Educators' SEB and Actual use of ICTs in teaching.

			Overall self- efficacy	Overall actual use of ICT
Spearman's	Overall ICTs self-efficacy	Correlation Coefficient	1	.666**
		Sig (2-tailed)	.	.001
		N	107	107
	Overall ICTs actual use	Correlation Coefficient	.666**	1
		Sig (2-tailed)	.001	.
		N	107	107

**. Correlation is significant at the 0.05 level (2- tailed).   Source: Field survey, 2016

Table 4 presents the correlation matrix for the self-efficacy variables against actual use of ICTs in teaching. Spearman's rho correlation coefficient was used in computing the correlation matrix because the variables, overall ICTs self-efficacy and overall actual use of ICTs, were not normally distributed. The correlation coefficient from the table was presented as (r=0.666, p<0.001) indicating that there exists a positive relationship between teachers' self-efficacy beliefs in ICT and their actual use of ICTs in teaching. This implies that the overall ICTs self-efficacy increases (or decreases) with the overall actual use of ICTs.

DISCUSSION
This study was conducted to find out the ICTs self-efficacy beliefs and actual use among teacher educators of colleges of education and to further examine the relationship that exist between their self-efficacy beliefs and actual use of ICTs in teaching.

From the results showed in table 2, majority of teacher educators were not certain about their ICTs SEB in teaching. Even though in comparison, a majority (44%) of respondents reported in agreement to have SEB in using ICTs to

teach, this was below average (50%). Whiles 34% of respondents disagreed having SEB in using ICTs to teach, 22% of the remaining respondents were within the uncertainty dimension. This is further confirmed by the mean values of the ten sub-scales of the ICT self-efficacy beliefs which were scored around the neutral level (3.0).

It could be deduced from the above that if truly teacher educators strongly held ICTs SEB in teaching, they would have reported in agreement to the variables presented to them rather than remaining at the uncertain and disagreement levels (66%).This outcome is in line with Bandura's theory that those who believe they have the ability to influence the activities in performing a task have high self-efficacy, while those who feel they are not in control and have little to no impact on what will happen to them in the future have low self-efficacy. (Bandura, 1977; Yelland, 2007; Teo et al, 2008; Beauchamp and Kennewell, 2008).

This result could be probably attributed to lack of ICT pedagogy training, resistance to change, lack of access to adequate technologies in classrooms and lack of internet accessibility meant for teaching and learning. (Agyei, 2013; Sumang-Ang, 2013; Gbemu, 2016).

Notwithstanding, this result is at variance with the observation of Taylor(2011) in a study conducted in Georgia on teacher self-efficacy beliefs in implementing computers for instruction' which reported that a majority (76%) of teacher educators have positive self-efficacy belief about computer integration and are likely to actually integrate computers in their classes.

Furthermore, the study revealed that most of the teacher educators do not actually use ICTs in teaching. From Table 3 above, the average totals from the analysis showed that majority of teacher educators negatively reported to have self-efficacy in actually integrating ICTs in their teaching. The average totals from the table showed that majority (57%) of respondents were in disagreement that they actually use ICTs in teaching whilst only 34% responded in agreement with 11% being uncertain.

To confirm or disconfirm the results obtained from the questionnaire data, an observation was also carried out. While observing how the 13 teacher educators used ICTs (PowerPoint, computer, LCD projector, PDAs and internet) in teaching and learning, 3 out of 13 rarely used them in lesson delivery whereas the remaining 10 never did. It was observed that they portrayed these ICT tools as teaching aids to increase comprehension and retention of lesson content. As a matter of fact, it turned out that those teacher educators who used the above ICT tools happened to be ICT tutors. These teacher educators made use of the ICT tools available in the computer laboratory. The same ICT teachers in addition to 1 other teacher educator were also sometimes observed using PDAs such as smartphones, ipads, and tablets as reference tools where important points in lesson were referred to whilst 11 out of 13 never did. With respect to the use the internet in the colleges of education, the teacher educators had limited and poor internet connectivity available. Therefore the 13 teacher educators observed did not have their ICT tools connected to the College's internet for teaching purposes. The above observational results were perhaps due to the fact that a greater number of classrooms observed lacked adequate ICT infrastructure and tools such as computers, LCD projectors, and internet connectivity. Some classrooms were even not wired. Therefore any other subject teacher educator who had a genuine competence to use these tools had to transport students to the computer lab which did not have enough space to accommodate all of them.A similar report from Kafyulilo & Voogt (2015) in their study in Tanzania on "factors affecting teachers' continuation of technology use showed that majority of teachers had a positive belief about technology though their actual use was low. This indicates that teacher educators who claimed to be confident in their ICT abilities could have developed their attitudes much more positively towards the actual integration of ICT than those who were less confident (Lee & Tsai, 2010; Yuen & Ma, 2008; Wadman, 2005).

The foregoing analysis extends the previous knowledge that even though teacher educators moderately accept to have Self-efficacy in the use of ICTs in their teaching (Naresh, Ruduan & Jeffery, 2008), Colleges and Universities have generally been slow in their actual integration of ICTs into instruction and learning processes. (Abrahams, 2010; Hammond et al., 2011; Havtlevik, 2017).

With regards to the relationship between Teacher Educators' SEB and Actual use of ICTs in teaching, the study revealed a positive association between teacher educators' SEB and their actual use of ICTs in teaching with a correlation value (r=0.66) from Table 4. This result is widely supported by Bandura's assertion (2001) that belief of personal efficacy is the foundation of human agency; that is, unless teacher educators believe that they can exhibit their ICT knowledge and skills in teaching, by their SEB, they can't accomplish the actual integration of ICTs in

teaching. Hence the self-efficacy beliefs of teacher educators about using ICTs for teaching are directly related to their practice. This result confirms previous research findings by Krumsvik (2011),Tondeur et al,2012 (2012) and Klassen & Chill (2011) that there is a positive relationship between ICT Self-efficacy and instructional purposes among teachers. The potential reason for this finding is the observation that many higher institutions are not yet ready to lead technological transformation. Consequently, technological transformation should be actively shaped by teacher educators and policy makers rather than something that simply happens to them (European Commission, 2014; Manda and Backhouse, 2017; Tondeur et al, 2008).

LIMITATION
There is the possibility that the teacher educator may alter their behavior to give a favorable impression of themselves to the observer. As a result the lessons were consciously observed from a reasonable distance. The researcher deliberately dropped in while the lessons were in progress without prior notice to the teacher educators.

CONCLUSION
In conclusion, Teacher Educators were found to be uncertain about their ICTs self-efficacy beliefs in teaching. The fact that teacher educators were uncertain about their ICTs self-efficacy beliefs translated into their not actually using them in teaching. It is recommended that the Government of Ghana updates its ICT policy frameworks to ensure the integration of cutting-edge technologies into teaching and learning at the Colleges of Education. The ICT facilities of the Colleges of Education should be updated. Teacher Educators should also be provided with adequate pedagogical training in ICTs use and online connectivity in the Colleges should be improved to enable them integrate ICTs effectively into their teaching. Furthermore, the curriculum for the teacher trainees should be expanded to incorporate pedagogical training in ICTs usage.

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Teacher Trainees' Opinions Regarding Video-Recorded Microteaching Sessions

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ABSTRACT
For many years, microteaching has been acknowledged as one the best training techniques in teacher education. It is a useful tool to apply theory into practice and to help teacher trainees develop their teaching skills. Yet there are some constraints observed in traditional microteaching. The two most important and common restrictions are limited opportunities of microteaching due to time constraints and lack self-reflection on microteaching performances. A mixed method research seemed to well suit to investigate this problem. The researcher conducted a video aided supplementary task, an out-of-class videorecorded microteaching session (*OCVMT*) for English language teacher trainees (n=55), to cope with the two common problems she faced in her microteaching sessions while teaching methodology classes. At the end of the semester, in addition to the portfolios including their self-evaluation reports and opinions of the *OCVMT* task, a survey was used to collect data about the teacher trainees opinions of the *OCVMT* sessions. The findings showed that the video-recorded microteaching sessions worked well in teacher education programs. The *OCVMT* sessions were found to solve the two most common problems faced in microteaching.

INTRODUCTION

Microteaching is a very effective teacher training technique that has been implemented since the 1960s in teacher education. It was first designed and used in Stratford University by Dwight Allen and his colleagues (Kochhar, 1997) with the intention of increasing the quality of teacher education. Microteaching sessions are mini lessons where teachers trainees (hereafter TTs) teach a lesson to their peers in front of a supervisor. After their teaching performance, the TTs get immediate feedback from the supervisor. At times, the peers are also asked to give feedback on the micro lesson.This is usually done via an evaluation form. The aim of both types of critical analysis is to help the TTs improve their teaching skills by correcting any weak points or deficiencies. As seen, microteaching is an indispensible part of teacher education as it helps teacher candidates to apply theory into practice.

In order to improve microteaching lessons, the lessons are supported with different technological devices. One of the most effective technological devices is the video. A number of researchers have investigated the use and impact of videos in teacher education, and discussed the affordances of video technology in the professional development of teachers. Copious research supports the view that videos are effective and beneficial tools used in microteaching to help TSs improve their teaching skills (Dymond & Bentz, 2006; Joshi, 1996; Hung, 2009; Kpanja, 2001; Olivero, 1970; Savaş, 2012; Wu & Kao 2008; Zein, 1976). Therefore, video has been valued as a beneficial technology in teacher education for connecting theory with practice and enabling TTs to access their teaching performances (Sherin, 2004). In this sense, researchers and scholars have recommended that video technology should be used to promote TTs' progress in teaching (Borko, Jacobs, Eiteljang, & Pittman, 2008; Sherin & Han, 2004).

According to Eddie (2001), videorecording of microteaching sessions is a necessary tool for the microteacher to reflect on his or her performance. In her study upon video in microteaching training to improve the TTs' performance, Kpanja (2001) designed a supplementary video task to be performed by a group of students, hoping that group members would motivate each other. She revealed that TTs who used video-recordings had significant improvement over those who did not. It was also observed that the TTs who used video-recordings in microteaching training had more positive attitudes towards the microteaching session. In this sense, Kpanja's (2001) research confirmed the importance of video-recordings in microteaching sessions.

Besides, several researchers have suggested that using video facilitates teacher reflection and gives TTs the opportunity to reflect on their teaching and explore their strengths and weaknesses (Akcan, 2010; Fuller & Manning, 1973; Grossman, 2005; Schön, 1983; Penny & Coe, 2004; Wang & Hartley 2003; Kourieos, 2016; Tuluce & Cecen, 2018). Video technologies are considered to be the most effective and the richest of ways to reflect on one's teaching (Wang & Hartley, 2003). Videotapes are also known to be means to help TTs reflect on their teaching performance (Dymond & Bentz, 2006).

Having analyzed 17 studies on the effects of video on teachers' self-reflection, Tripp and Rich (2012) stated that teachers achieved optimal learning when they reflected on their teaching by discussing their teaching videos with their supervisors, and they valued evaluating their videotaped teaching performance as one of the most important means of their professional development. Similarly, Rogers and Tucker (1993) conducted a study on TTs to find out whether videotaping their lessons contributed to their self-reflection or not. The 10 kindergarten teachers were videotaped while they were teaching, and later the teachers watched their videotaped teaching. The results showed that the TTs gained teaching knowledge, self-confidence, and professionalism from their video portfolio experiences. The teachers also decided to use this reflection procedure for their future teaching careers.

Additionally, Lee and Wu (2006) investigated the effects of using videos on the teaching experience of TTs on web-based computer mediated communication. Their data showed that using videos in microteaching enabled better self-reflection and provided more concrete feedback. In order to investigate the effectiveness of microteaching videos Savas (2012) conducted a similar study on 40 TTs and found that those microteaching videos in teacher education methodology courses contributed not only to participants' skills of teaching English but also to their English proficiency.

In another study, Esiobu and Maduekwe (2008) assert that the use of video-recordings of microteaching performances is one of the best strategies to encourage interaction and enhance reflection by allowing TTs and instructors to review their performance and make constructive criticism. In the study of Deary et al. (in Lee & Wu, 2006), video-based reflection was considered by the participating teachers to be more objective, efficient, and effective than peer or teacher feedback.

A relevant study by Kuter, Gazi and Aksal (2012) demonstrated that video-recorded microteaching contributed to TTs' lesson planning and helped them gain awareness concerning their teaching that they were not aware at the beginning of microteaching. Similarly, Kourieos (2016) investigated the effectiveness of video as a means of reflective practice and found data that videorecording microteaching sessions promoted trainees' awareness of classroom language, error correction and their ability for self reflection. In a recent study, Tuluce and Cecen (2018) also investigated the affordances and constraints of videorecording in microteaching sessions in a teacher training program. They found the affordances of videorecording as being "a resource for recall, for noticing, for critical reflection and for progression" and found being "a resource of anxiety" as the only constraint of videorecording.

Research has provided plenty of evidence to show the effectiveness of videorecordings in microteaching and its function as a stimulus for reflection. Besides its potential as a reflective practice, using videorecordings in microteaching may contribute to some other limitations faced in classical microteaching sessions.

The constraints of classical microteaching sessions
Despite many strengths having been put forth, microteachings are not free from some constraints. As microteaching requires the application of theory into practice, some difficulties and constraints exist in microteaching sessions. According to Lee and Wu (2006), a traditional microteaching session has two constraints. First, TTs have limited time during sessions as they are limited to 10 to 15 minutes. Because of this time constraint, TTs in the program can perform only one mini lesson which lasts a maximum of 15 minutes. This is a common problem of teacher education programs (Enginarlar, 1996; Seferoğlu, 2006; Struyk & McCoy, 1993). Secondly, TTs can seldom find opportunities to reflect on their own performances. Yet the importance of self-reflection in learning is unquestionable as reflection is crucial for professional development (Dewey 1993; Schön 1983;), and thus is encouraged in teacher education programs.

This situation is almost the same in many teacher education programs in Turkey. Seferoğlu (2006) conducted research on TTs who were enrolled in an English teacher training program and concluded that the TTS didn't have enough opportunities for microteaching during their pre-service education.

Similarly, the researcher of this study teaches ELT Methodology I and ELT Methodology II courses to third year undergraduate students. These methodology classes of the ELT teacher preparation program at a state university in Turkey take two semesters and help TTs prepare themselves for actual teaching by providing them settings in which to apply pedagogical theories. These courses are partly theory and partly practice in nature. During the courses, TTs both receive theoretical information and apply the learnt theory into practice during their microteaching by presenting their teaching in front of their peers and the instructor, who is an expert mentor. At the end of the second semester, during a class discussion, the participants of this study also stated that they did not have enough opportunities to develop their teaching skills during the 15 minutes of class time allocated to

them for microteaching. This inconvenience was due to the overcrowded microteaching classrooms where a minimum of 25 students were instructed.

Because of these limitations, TTs were not able to perform microteaching more than once in a semester, and the length of their teaching was usually limited to 15 minutes. They also mentioned lack of self-evaluation opportunities in their microteaching.

Keeping all these in mind, the current study aims to find an alternative solution for the above mentioned limitations by videorecording micro-lessons as out of class activity and to investigate TTs' opinions about video-recorded micro-teaching sessions.

THE STUDY
This study was designed for both quantitative and qualitative analyses. In the study, sequential mixed methods research was employed to collect and analyze quantitative and then qualitative data in two consecutive phases (Creswell, 2011; Tashakkori & Teddlie, 2003). The data collection procedure lasted throughout the spring semester of 2016-2017 for 12 weeks. The participants were already well informed and equipped with the teaching methods and techniques as they had been instructed about them during the previous semester.

Research Questions
By introducing the *OCVMT* task, the researcher aimed to help TTs become more effective teachers. To evaluate the effectiveness of *OCVMT*, the researcher elicited responses to the following questions throughout the study:
1) What are the opinions of EFL teacher trainees on the *OCVMT* sessions? Do they find it beneficial in terms of more teaching practice and self reflection? If yes, how?
2) What are the basic differences between classical microteaching sessions in the classroom and *OCVMT* sessions?

Participants
The participants of the study were selected by convenient sampling method. The study was conducted with 55 TTs enrolled in the Methodology course II at a state university, Faculty of Education, Department of English Language Teaching (ELT). Prior to participating in this research, all of them were familiar with microteaching technique as they had already performed a micro-lesson during the first semester. Twelve of the participants were male, and 43 were female. The avarage age of the TTs was 23. They were all efficient technology users and were able to videotape the microteaching sessions. Each group of participants had the necessary equipment to conduct the activity.

Procedure: The "*OCVMT*" task and its execution
In her microteaching lessons, the researcher, who was tutoring the English language teaching methodology course, faced the two most common shortcomings discussed above. Therefore, she designed a supplementary microteaching task with which she hoped to give TTs more opportunities to teach more micro-lessons and to reflect on their own teaching performance. By eliciting the TTs' opinions about the *OCVMT* sessions, this study investigated whether the addition of *OCVMT* could enhance the microteaching sessions, especially in terms of practice and feedback. By designing and proposing the task, the researcher aimed to help TTs become more self-aware, confident, and effective teachers. To carry out the designed task, the TTs were informed about the task in detail and were divided into groups of five so that there was an equal number of students in each group. The researcher divided them taking their preferences into account. Each student was assigned to prepare a lesson plan for teaching reading or listening prior to microteaching. The TTs prepared the lesson plan and teaching materials outside of the class a few weeks before they micro-taught. The microteaching performance of each TT was videotaped (by a member of the group) to be used as a device for self-evaluation. Each microteaching session lasted 25 minutes. At the end of the sessions, peer feedback was provided via the evaluation forms given by the researcher. The *OCVMT* study lasted for one academic semester, and the procedures for its execution consisted of the following steps:
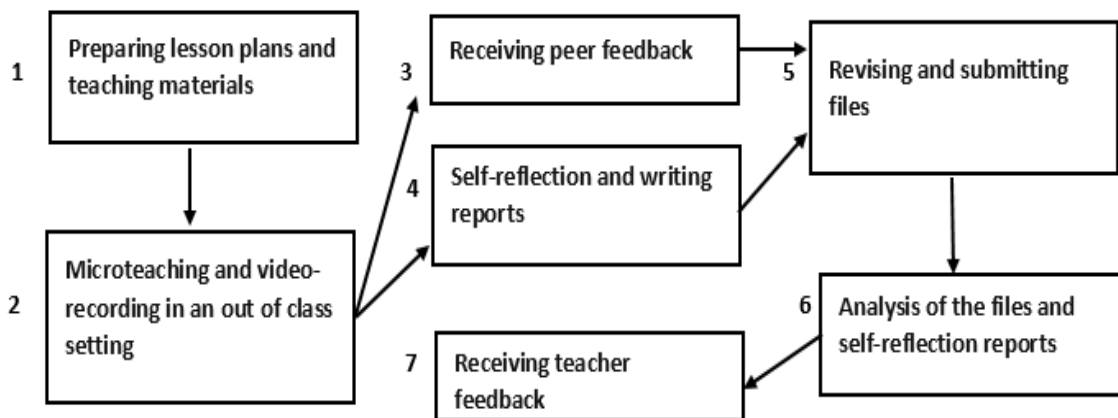
Figure 1. Phases of the *OCVMT* task

- TTs prepared their lesson plans as individual assignments and were assigned to do the microteaching in front of the other group members (their peers) who were given the roles of students.
- Each TT taught two micro-lessons in a setting outside of actual methodology classes (e.g. classroom, house, office, etc.). Each microteaching session lasted 25 minutes where the microteacher taught 20 minutes of the lesson and the remaining 5 minutes were devoted to peer feedback;
- Each trainee received peer feedback soon after his or her performance from the group members via an observation/evaluation form;
- Each micro-lesson was video-recorded by a group member. After each micro teaching session, one copy of the recording was submitted to the researcher for teacher feedback, and another was given to the teacher trainee for self-reflection;
- Each trainee watched his/her performance and answered the post activity questions in the file and wrote a self-evaluation report on their teaching performance;
- The files containing lesson plans, video recorded microteaching performances, post activity questions with their answers and self-evaluation reports were submitted to the researcher.
- The trainees' answers to post activity questions and their self-evaluation reports were analyzed by the researcher, and teacher feedback was given.

Data collection
After conducting the *OCVMT* performances, at the end of the semester, the TTs were given a survey (Opinions on the *OCVMT* Survey) developed by the reseacher. The survey included both Likert- type and open ended items. The Likert items asked the participants to rate 5 statements from strongly disagree to strongly agree in order to guage their views of the *OCVMT* task (see Table 1). In addition, the open-ended questions asked them to explain the reasons behind their rating values. The participants' answers to post-activity questions, which are in their assignment files, and their self evaluation reports in the files were the other data collection instruments. The validity and clarity of the survey questions were checked by conducting a pilot study. Following this, the questions were reorganized and some were rewritten to improve clarity. The participants were told that their reflections and feedback were very valuable and would be used in improving the course. Research ethics were considered and participation was voluntary; they signed a consent form. The participants were unable to be identified with their submissions to the project. This uphed the participants' right to privacy. They were referred by numbers during data collection and analysis. The quantitative data of the study were gathered via the Likert items whereas the qualitative data were collected from the trainees' answers to open-ended questions in the survey, from their answers to post activity questions and from their self evaluation reports submitted to the researcher in the files.

Data analysis
In order to better understand the TTs opinions on the *OCVMT* sessions, the data were analyzed both quantitatively and qualitatively. For the quantitative data analysis, their responses to the Likert items were descriptively analyzed. The participant's explanations for the open-ended questions were analyzed qualitatively to gain more insight into the reasons supporting the overall means for each statement.This was an effort towards triangulating the data (Denzin, 1984).

FINDINGS

This section presents the findings revealed through the survey, post activity questions and the self evaluation reports in the files submitted to the researcher following the micro-teachings.

    a) Analysis of the survey data

        Results from the Likert-type items are given below (see Table 1.).

Table1.Descriptives for the survey Items on the OCVMT

Opinions	*M*	*SD*
1. The OCVMT task has given me a chance for more teaching practice and helped me improve my teaching skills.	4.42	.56
2. My OCVMT performance helped me better understand the quality of my teaching skills.	4.29	.46
3. Watching my OCVMT performance helped me better understand my weaknesses and strengths in language use.	4.27	.45
4. As micro teaching performance was videotaped, I had the opportunity to watch my performance and later reflect on it.	4.25	.44
5. The OCVMT sessions contributed to my success in other lessons.	4.18	.58

Notes. Mean ratings based on (5) Strongly Agree, (4) Agree, (3) Neutral, (2) Disagree, (1) Strongly Disagree

Looking at the table, it is seen that almost all of the participants agreed or strongly agreed that the *OCVMT* sessions gave them a chance for more teaching practice and helped them improve their teaching skills (Item 1). When we analyzed their explanations for their ratings, many of them credited the *OCVMT* with improving their skills in writing lesson plans, using different teaching methods and activities and designing materials stating "*Teaching another lesson was very helpful as I practiced different teaching methods and activities*" or "*It gave me a chance to develop new teaching materials and to design new teaching activities*". Some others commented on the opportunity to prepare teaching materials stating "*It forced me to design better teaching materials*".

As another fundemental benefit of the *OCVMT*, the majority claimed the sessions helped them better understand the quality of their teaching skills (Item 2), and they explained the reasons behind their ratings with various wordings. For example one stated "I agreed with the critics from my group members after I watched my recorded performance." Another wrote "I was so surprised to see my teaching performance, it helped me understand better why my friends criticized my performance". One said "I noticed my weak points in teaching by the help of my recoded performance and I tried to strengthen them. Another trainee explained "When I watched my performance, I realized I could not arrange my tone of voice well. I found my lesson monotonous. I am trying to use my voice more effectively afterwards".

Understanding the weaknesses or strengths in language use emerged as the third most important benefit (item 3) and followed by its benefits for self reflection (item 4). Most of the participants claimed it was a great opportunity to watch and evaluate their teaching performance. And finally its contribution to the success in other lessons was picked as the last fundamental benefit (item 5), and they explained their reasons for their ratings. For example, one said "It contributed to my presentations in other classes."

As it is analyzed above, participants' responses to the survey highlight the contribution of *OCVMT* to their language skills and teaching skills, as well as its benefits on self- evaluation and on the success in other courses.

    b) Analysis of the post activity questions

Participants of the study revealed opinions in their files on the *OCVMT* task responding the post-activity questions: 1) "What are the benefits of the *OCVMT* in your opinion?" 2) What are the basic differences between classical microteaching and the *OCVMT* sessions? All the responses to the open ended question were analyzed line by line and patterns emerged from the data were analyzed through open, axial and selective coding (Strauss & Corbin, 1990).

Table 2. Four most commonly expressed benefits of the *OCVMT* task

Order	Benefits	*f*
1st	allowing self-evaluation	55
2nd	improving teaching skills	53
3rd	improving language skills	50
4th	contributing to the performances in other classes	24

In table 2 above, it can be seen that the first most common opinion stated by the participants was related to providing feedback and allowing self-evaluation. All the participants declared that the *OCVMT* task helped them correct their mistakes by providing them with invaluable feedback on their performances. For example, one participant wrote*: "It was a great opportunity to watch and evaluate my teaching performance. It has given me a chance to notice my weak points in teaching and correct them"* (participant 5). Another explained that he agreed with the critics from his group members after he watched his recorded performance. He wrote*, "I was so surprised to see my teaching performance. It helped me understand better why my friends criticized my performance"* (participant 12).

The second most common opinion was concerned with improving teaching skills. 53 participants suggested the *OCVMT* task contributed to their teaching skills, explaining this contribution in various wordings. One wrote: *"I noticed my weak points in teaching by the help of my recorded performance and I tried to strengthen them. It helped me improve my teaching"* (participant 16). Other participants gave more details about their self-evaluation. For example, one said*: "When I watched my performance, I realized I could not arrange my tone of voice well. I found my lesson monotonous. I am trying to use my voice more effectively afterwards"* (participant 9). Another wrote, *"I noticed my instructions were poor and I forgot to give feedback to the students. I am more careful about them now"* (participant 23). *"My students were not well motivated during my class. I am working on motivating strategies"* (participant 26). One participant admitted*, "I was too nervous. I was so surprised to see how I reflected my nervousness to my teaching. I am trying to manage my feelings better after I saw my video"* (participant 29). Still another noted that *"I saw I used my hands and arms more than needed. I am trying to manage my body language better now"* (participant 38).

The third most common opinion was about improving language skills. 50 students mentioned that the *OCVMT* task contributed to improving their language skills. For example, one said, *"I find it so important as it provides invaluable feedback on my linguistic errors such as my pronunciation and grammar mistakes"* (participant 8). Another commented, *"I observed that my English was not fluent. I am trying to be more fluent"* (participant 16).

As the last most common opinion, 24 students declared that the *OCVMT* contributed to success in other classes. The participants believed that the *OCVMT* task positively influenced their performances in other classes, as evidenced by the following comments: *"I believe the OCVMT task has influenced our practicum performances positively because we reflected whatever we learnt from our videos"* (participant 33). *"The OCVMT task has helped me improve my presentation skills and contributed to my presentations in other classes"* (participant 41). Besides the four most commonly shared opinions, the TTs also believed that the *OCVMT* task was fun and gave them a new perspective about their teaching. They suggested that their performances be videorecorded in other classes as well.

In sum, EFL TTS in this study believed that the *OCVMT* task was beneficial because it contributed to their linguistic and teaching skills by providing them invaluable feedback on their teaching. Additionally, they claimed the task helped them develop their presentation skills in general.

The answers of the participants to the second question tried to investigate their opinions about the comparison of the *OCVMT* session with the classical microteaching sessions and tabulated in table 3 below.

Table 3. *Classical microteaching sessions versus OCVMT sessions*

Classical microteachings	*n*	*f*	*OCVMT sessions*	*n*	*f*
More stressful	*51*	*93*	*More fun*	*50*	*98*
Strictly scheduled	*32*	*58*	*Convenience in time & place*	*38*	*69*
No self-evaluation	*55*	*100*	*More opportunity for practice*	*53*	*93*
Limited practice	*49*	*89*	*Requires technology using skills*	*33*	*60*
			More time consuming	*22*	*40*
			Enables self-evaluation	*55*	*100*
SUM	*55*		*SUM*	*55*	

As it can be seen in the table, all the participants assert that the classical microteaching does not allow any self evaluation whereas all of them believe *OCVMT* sessions enable self evaluation. The majority of the participants (93%) believe that the classical micro-teaching sessions are more stressful and the majority (98%) also believe the *OCVMT* sessions are more fun. Almost all the participants (93%) claim that *OCVMT* sessions provide more opportunity for practice whereas they (49%) believe classical sessions offer limited practice. When it comes to schedule flexibility, (69%) of them suggest that the *OCVMT* is more convenient in time and place whereas classical sessions are strictly scheduled (58%). The participants also believe that the *OCVMT* requires more technology using skills (60%) and it is more time consuming (40%).

The detailed analysis of the post activity questions above investigated the main supremacy and benefits of the *OCVMT* sessions. Additionally, it examined the basic differences between the two applications. In the following section, trainees' self evaluation reports will be analyzed to gather further data on the video-recording application in microteaching.

c)- Analysis of trainees' self evaluation reports
As the teacher trainees were not videotaped in their regular microteaching classes, they had no previous opportunity to watch and evaluate their teaching performance. Their comments on their first-semester teaching performances which they did not have any opportunity to watch, were very general and unreflective. The nature of their comments was, "I think that I did well" or "I was nervous" or "I talked fast" or "I got the order wrong". If they said they did not like their performances, when asked to give a reason, they did not make any further comment. The participants were given self evaluation reports to fill in and submit with their files after watching their recorded teaching performances. After they had watched themselves on video, the researcher asked the participants to write self evaluation reports on their video-taped teaching performances. The researcher guided the reflection by asking four questions: 1) What did you do well in your performance? 2) What did you do poorly and would change in your teaching? 3) What surprised you most about your teaching performance? 4) What was the most beneficial thing you learned during the course? The data gathered from the answers to the self reflection questions were analyzed descriptively. The evaluation forms of the 55 TTs showed that they were all involved in self-evaluation and consequently self-reflection process.

"I did well in my performance...." For question 1, the participants reflected on the strengths of several key aspects of teaching: *"My class management was successful"* (participant 3), *"When I watched my performance, I liked my tone of voice and the way I gave instructions"* (participant 7), *"I found my teaching effective because I used the appropriate teaching materials"* (participant 8), *"I liked the way I used the board"* (participant 12), *"My voice and body language were effective and my lesson was interesting*" (participant 16), *"I conducted the activities very successfully"* (participant 33), *"I liked my vocabulary teaching techniques using the effective visuals"* (participant 48).

"I did poorly... and I would change..." The answers to the second question, reflecting on the weak points of their teaching and what they would change, were also various: *"when I watched my performance, I noticed my instructions were poor and I forgot to give feedback to the students. I would be more careful with my instructions and feedback"* (participant 23*), "My lesson was not well organized so it was not easy to understand, I would be more prepared and organize my lesson better.* " (participant 27), *"I did not like my English as I made so many grammar and pronunciation mistakes, I would prepare better for the lesson and check my grammar and pronunciation before the lesson. "* (participant 32), *"My posture in front of the class was poor and I was not confident of myself, I would love to change my posture to a better one"* (participant 38), *"I was so nervous and reflected it onto my lesson. I would try to manage my feelings and calm down during my teaching"* (participant 42), *"My teaching materials were not effective enough, if I would teach this lesson again, I would bring more colorful and effective materials to the class"* (part 50). *"My lesson was boring, if I were to teach that class again, I would try to make a more interesting and fun lesson using more interesting teaching activities"* (participant 54).
The first two questions investigated the strengths and weaknesses of the TTs in their teaching practices. Their answers mostly addressed that the video enabled them to see their strengths and weaknesses especially in their teaching and linguistic skills. They noticed the following points in their video as either a strength or weakness:

-classroom management
-tone of voice and body language
-instructions and giving feedback
-lesson organization
-teaching techniques and teaching materials
-grammar and pronunciation mistakes
-emotional state

After watching their mistakes on the video recordings, the TTs explained they better understood why their teacher or peers criticized their teaching. Before TTs watched their videos, they thought their classmates and teacher were being strict or exaggerating their mistakes but after they watched their performances, they gave right to their peers and their evaluations.

"....surprised me most." The third question asked about what surprised them most in their teaching performance and some of the responses were: *"I was too nervous. I was so surprised to see how I reflected my nervousness onto my teaching."* (participant 29), *"I was so surprised to hear my grammar and punctuation mistakes."* (participant 44), *"My tone of voice was so surprising as it was ugly."* (participant 40), *"I was so surprised when I noticed my poor posture in front of the students. I was not self confident."* (participant 47). *"My body movements surprised me as I was exaggerating my gestures."* (participant 38). The TTs was surprised to notice

- their emotional state
- poor posture
- their tone of voice
- body movements
- their grammar and pronunciation mistakes

"The most beneficial thing I learnt was..." The participant reflected on the most beneficial thing they learnt during the videorecorded microteaching sessions with their responses to question 4. The answers were mostly about the opportunities provided by microteaching to watch themselves teaching. *"The videorecorded microteaching has given me a chance to watch my teaching performance and I have learnt about my own teaching."* – all participants made this statement or one which meant the same thing. *"This course helped me understand why my friends were criticizing my teaching. After watching my performance, I realized that they were right"* (44 of the participants), *"I learned that self awareness helped me to improve my teaching skills."* (11 participants). Almost all the participants agreed that *OCVMT* sessions were beneficial for:
- Watching themselves teaching and learning about their teaching performance
- Understanding and accepting their peers' criticizing their teaching
- Becoming more aware of their teaching ability

In light of the analyzed data above, it can be stated that the trainees find the *OCVMT* sessions beneficial as they provide them with additional time for teaching practice, are more enjoyable, more flexible, and less stressful than the classical microteaching sessions performed in the presence of a mentor supervisor. As is evident almost in every set of data, they also believe that the sessions served as a tool for self-reflection.

DISCUSSION and CONCLUSIONS
The effects and role of videorecordings in microteaching have been investigated in many studies. Research has provided us with valuable data to prove how effective a device the video recorder is in teacher education. Videotaped microteaching sessions contribute to the development of teaching skills of TTs (Olivero, 1970; Joshi, 1976; Zein, 1976; Kpanja, 2001; Sherin, 2004; Bentz, 2006; Wu & Kao, 2008; Hung, 2009; Savaş, 2012) by giving them opportunities to reflect on their teaching (Eddie, 2001; Esiobu & Maduekwe, 2008; Fuller & Manning, 1973; Lee & Wu, 2006; Rogers & Tucker, 1993; Schön, 1983; Tripp & Rich, 2012). Giving planned opportunities for preservice teachers to think about and reflect on their planning, implementation and assessment is a key strategy for bringing the misconceptions and misunderstandings to light (Amobi & Irwin, 2009). Amobi and Irwin (2009) also argue that videotaped microteaching offers a significant method of enabling TTs to develop skills in teaching and in reflection on teaching. Being videotaped and then reflecting on their performance gives TTs the opportunity to develop their ability to reflect. Research suggests that videorecordings of microteaching sessions is a necessary tool for the microteacher to reflect on his or her performance (Sherin & Han, 2004; Borko, Jacobs, Eiteljang & Pittman, 2008; Esiobu & Maduekwe 2008; Trip & Rich, 2012). The findings of this study regarding the video-recoded microteaching as an important tool for self-reflection coincide with the previous research when the student responses to the self-reflection questions are analyzed. It is obvious that the *OCVMT* sessions clearly gave opportunity to the participants to think about their own teaching. The responses from the participants suggest that there is clear evidence of a growing self awareness and the TTs gained teaching knowledge and professionalism from their video portfolio experiences by gaining a more concrete feedback from their self reflection.

The TTs of the study found videorecorded microteaching sessions beneficial for reflecting on their teaching performances. The out-of-class videorecorded sessions helped them find more opportunities to practice teaching and improve their teaching skills. Most of them expressed that it has given them opportunity for more teaching practice. In this sense, the task has proven to be effective in solving the problems of lack of teaching practice caused by time constraints in the regular microteaching sessions. Additionally, they had a chance to reflect on their teaching after watching their video-taped teaching performance. In the first semester, their reflections on

their regular performance in the class (untaped) were very poor but they gained self awareness and professionalism by means of the videorecorded sessions. Their reflections after the *OCVMT* sessions were more effective. Before watching their video-recorded performances, TTs self evaluations were consisting of quite simple and general wordings and did not go beyond explanations such as their being nervous, making some grammar mistakes or giving poor instructios. Yet, their self evaluation reports provide plenty of data showing that TTs have noticed so many of their strengths and weaknesses in their teaching performances and improved self evaluation skills thanks to videos. Besides their improved self reflection skills, TTs asserted that the *OCVMT* task also contributed to their presentation skills and school success (performance in other classes) in general. They said they easily applied their gains to other classes which required presentations. They had the opinion that the *OCVMT* task was more enjoyable, more flexible, and easier to conduct than the actual microteaching sessions in methodology courses.. They believed that the *OCVMT* sessions contributed not only to their teaching skills but also to their linguistic and presentation skills. As a natural result of these advantages of the out-of-class microteaching sessions, the participants believed that the *OCVMT* sessions need to be carried out more than once per semester. Previous research recommended that teacher training institutions should use videorecordings of microteaching sessions to raise interest, to provide microteachers the opportunity to assess their performance precisely, and to minimize unnecessary arguments among instructors, teacher trainees and peers (Eloma, Arikpo, & Ebuta, 2014). In light of the findings of this study, we recommend the use of the *OCVMT* sessions as an aid in methodology courses to provide microteachers the opportunity to reflect on their teaching performance and to eradicate those problems in methodology courses that are caused by time constraints during the actual class hours.

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The Current Use of Mobile Devices among Students and Faculty in EFL Teaching in a Saudi Arabian Context

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ABSTRACT
Mobile technology has significant potential to support learning and teaching in English. However, few studies attempt to explore current use by students and faculty members of mobile technologies to facilitate English language learning and teaching in Saudi Arabia. Even fewer studies capture descriptions of current use in the words of these users. The present study focused on the current use and associated pedagogy related to mobile technologies. It drew on findings from qualitative data gathered through focus group interviews of 49 university students and 30 faculty members. Thematic analysis results showed that students predominantly use their mobile devices informally outside the classroom to facilitate their English language learning. For students, social media are particularly popular and provide opportunities to practise their English language skills outside the classroom. Conversely, faculty members emphasised the use of mobile devices formally in the classroom context, expressing views on how they might improve control of student use of mobile devices. Critically, comparison of such use by students and faculty members reveals that students' informal use of mobile devices to support learning is much better aligned than faculty members' formal use of these devices in terms of what one might consider mobile device best practice.

INTRODUCTION
To learn a foreign language effectively, one should ideally learn it in a country that uses that language, which is seldom the case for many learners (Comas-Quinn, Mardomingo, & Valentine, 2009). However, mobile technologies can provide learners alternative, context-rich experiences that allow them to interact in authentic contexts to improve their language proficiency. With the rapid development of mobile technologies, the concept of mobile learning has emerged to provide opportunities to support language learning both inside and outside the classroom (Comas-Quinn et al., 2009; Fayed, Yacoub, & Hussein, 2013; Jantjies & Joy, 2013). Acknowledging the affordances mobile technology can bring to learning, Martin and Ertzberger (2013) define mobile learning as the learning process that occurs when learners have access to information anywhere and anytime to engage in authentic learning activities.

Successful integration of mobile technologies in formal education requires determining the opinions of students and faculty members on the use of mobile technologies (Sánchez-Prieto, Olmos-Migueláñez, & García-Peñalvo, 2016) and identifying the current practices of informal mobile learning (Lai & Zheng, 2017). Educators should understand how they can incorporate mobile learning formally into their classroom since they will control whether and how mobile technologies will be used (Mercer & Fischer, 1992; Mueller, Wood, De Pasquale, & Cruikshank, 2012). The present study aims to explore how mobile technologies are being used currently to support the teaching of English as a Foreign Language (EFL) at a university in Saudi Arabia.

An essential element of the successful integration of mobile technologies in formal education is knowledge of the opinions of students and faculty members towards both the use of mobile technologies (Sánchez-Prieto, Olmos-Migueláñez, & García-Peñalvo, 2016) and the current practices of informal mobile learning (Lai & Zheng, 2017). Educators should understand how they can incorporate mobile learning formally into their classroom since they will control whether and how mobile technologies will be used (Mercer & Fischer, 1992; Mueller, Wood, De Pasquale, & Cruikshank, 2012). The aim of this study was to explore how mobile technologies are currently being used to support the teaching of English as a Foreign Language at a university in Saudi Arabia.

LITERATURE REVIEW
Educators and researchers have expressed increasing interest in integrating mobile technologies as a tool in formal learning environments to decrease the gap between informal and formal learning. Informal learning can be distinguished from formal learning because 'there is no teacher, no defined curriculum topic or concept, and no external assessment' (Laurillard, 2009, p. 12). According to Mills, Knezek and Khaddage (2014), the use and availability of mobile technologies have acted to redefine formal and informal learning. This redefinition may be

because of a natural affinity between informal learning and mobile devices. For example, Clough, Jones, McAndrew and Scanlon (2008) found that mobile device owners adapt existing mobile device features to suit their informal learning needs. In using mobile devices for informal learning activities, users are able to take advantage of the affordance offered by the portability and computational capabilities of these devices (Clough et al., 2008).

In response to educators' interest in mobile technologies, studies have investigated the use of mobile technologies as a bridge between informal and formal education (Dabbagh & Kitsantas, 2012). The aim such use of educators is to provide students opportunities for autonomous learning that moves the process of teaching and learning beyond the classroom thereby enabling the concept of 'anywhere and anytime learning'. According to Cross (2006), both informal and formal learning have significant roles to play and most experiences of learning blend the two.

In the EFL context, a common theme in the literature is the importance of integrating mobile technologies as formal and informal learning tools. For example, Leis, Tohei and Cooke (2015) studied the importance of using smartphone devices in an English classroom in Japan. They found that students who were encouraged to use their smartphones during class time were inclined to study more in their free time. Further, these students tended to be autonomous by taking responsibility for their learning and considering ways to improve their English proficiency and learning habits. Lan, Sung and Chang (2007) conducted a comparative research study to explore the advantages of using tablet devices in the EFL context to enhance peer collaboration in reading class, as against the traditional classroom context. The findings showed that such use led to increased motivation to read and reduced student stress and anxiety levels. Song and Fox (2008) investigated how learners of English used mobile devices as a self-directed, informal learning tool to increase and support their English vocabulary study. They indicated that mobile devices assisted students to discuss the meanings of new words with their classmates and teachers outside the classroom, thereby developing their vocabulary learning. Similarly, Barr (2011) found that students used their mobile phones in various ways to support their English learning informally, including taking pictures of the board to save notes, recording presentations to improve listening and pronunciation and using applications, such as those of CNN and BBC, to practise reading and watching videos.

In addition, mobile devices and social media applications have increased the opportunities for student interaction and collaboration by allowing students to engage in creating content and communicating in authentic contexts (Gikas & Grant, 2013). The use of these applications on mobile devices for learning purposes supports a more learner-centred approach (Greenhow, 2011) since it enhances the learning experience, making it more authentic and personalised for students (Archambault, Wetzel, Foulger, & Williams, 2010; Bangert & Almahfud, 2014; Gikas & Grant, 2013; Shuler, 2009; Solvberg & Rismark, 2012).

Numerous researchers (e.g., Ahmed, 2015; Alhadhrami, 2016; Alshammari, Parkes, & Adlington, 2017; Kabooha & Elyas, 2015; Kutbi, 2015; Mahmoud, 2014) have examined the importance of social media applications (e.g., *Twitter*, *Facebook*, *YouTube* and *WhatsApp*) as English language learning tools. For example, Ahmed (2015) explored whether using *Twitter* influenced EFL learners' writing, that is, the content, ideas, organisation, style and voice. The study indicated that the experimental group taught using *Twitter* outperformed the control group taught using the traditional method of writing on the post-test. Kutbi (2015) explored how students perceived *Twitter* as an educational tool and found that 80% of the participants preferred its use, providing evidence that students have huge growing interest in social media to support their learning. Alshammari et al. (2017), exploring the use of *WhatsApp*, demonstrated that students and their instructors both had positive attitudes towards its use for English language learning. The authors also concluded that *WhatsApp* could be leveraged to enhance peer and autonomous learning, as well as develop learning communities (Alshammari et al., 2017). Mahmoud (2014) examined the impact of *Facebook* on English language learners' achievements in writing, finding that their writing performance improved when taught using *Facebook*. Kabooha and Elyas (2015) explored the effects of *YouTube* videos on student vocabulary achievement. They showed that students considered these useful tools for learning vocabulary and perceived the platform to be easy to use.

Despite the increasingly important role that mobile technologies play in EFL learning and teaching, few studies have explored the current student and instructor use of mobile devices in the facilitation of EFL instruction in the Saudi Arabian context. The present study sought to address this gap.

METHOD
This study explored the current use of mobile devices by students and their EFL instructors as well as the associated pedagogy related to these devices at an all-male university in the central-north of Saudi Arabia. The university study site has a student population of 34,286 and 1,632 faculty members distributed across 12

faculties. The university offers undergraduate and postgraduate degrees. All Saudi Arabian universities have a Preparatory Year programme designed to improve the knowledge and skills of secondary school graduates before they undertake their chosen majors at university. The Preparatory Year at the university aims to develop student skills across a range of subjects and prepare them for the world of the university. One of these skills is proficiency in English. The study sample comprised male faculty members of the English Centre responsible for English language teaching at the university and their students.

Data from students and faculty members were obtained through a series of 14 focus group interviews. The groups comprised eight student focus groups (SFGs) with an average of six students per focus group (SFG1–SFG8; n = 49 students) and six faculty member focus groups (FFGs) with an average of five faculty members per focus group (FFG1–FFG6; n = 30 faculty members). SFG interviews were conducted as well as initially transcribed in Arabic owing to varying levels of student English proficiency. These Arabic transcriptions were then translated into English in preparation for coding and analysis. Since all faculty members of the English Centre were proficient in the English language, their interviews were conducted and transcribed in English.

As is common for semi-structured interviews, an interview guide was used (Kajornboon, 2005). This guide comprised a series of seed questions for the focus groups. Each series of seed questions, while reflecting a number of common themes, had the wording adjusted to be of relevance to the respective student (Table 1) and faculty member focus groups (Table 2).

Table 1: Faculty focus group seed questions

Item	Question
1.	Do you use any mobile devices (e.g., cell phone, smart phone, iPod, eBook reader, PDA, tablet device) for learning English? If so, how are you using your own mobile device to support your learning of English?
2.	What are your thoughts on keeping the use of mobile devices to outside of the classroom rather than allowing them to be used inside the classroom? Do you see any issues with being allowed to use mobile devices in the classroom?
3.	What do you think might be the major enablers and/or barriers for the university in implementing the use of mobile devices in the teaching of English?
4.	How do you feel about the future of mobile technologies in supporting your learning of English?
5.	Do you have any additional comments about the use of mobile devices in the teaching and learning of English?

Table 2: Faculty focus group seed questions

Item	Question
1.	Do you use any mobile devices (e.g., cell phone, smart phone, iPod, eBook reader, PDA, tablet device) for teaching English? If so, how are you using your own mobile device to support your teaching of English?
2.	How does your use of mobile device for teaching compare to your personal use of mobile device?
3.	How do you feel about the future of mobile technologies in supporting your teaching of English?
4.	What are your thoughts on keeping the use of mobile devices to outside of the classroom rather than allowing them to be used inside the classroom? Do you see any issues with allowing students to use their mobile devices in the classroom?
5.	What do you think might be the major enablers and/or barriers for the university in implementing the use of mobile devices in the teaching of English?
6.	Do you have any additional comments about the use of mobile devices in the teaching and learning of English?

To provide a point of comparison between the use of mobile devices for teaching learning in general and the use of mobile devices in EFL teaching and learning at the study site, this research drew upon the work of Wai, Ng, Chiu, Ho & Lo, 2018 who identified six main ways mobile devices can be used to support learning in general:
1. communication and interaction;
2. accessing academic materials;
3. information organisation and sharing;
4. self-learning;
5. information searching; and

6. course-based learning.

To capture these and other key ideas, thematic analysis was applied to the transcripts of the eight student and six faculty member focus groups to identify and code the emergent themes. The thematic analysis model presented by Braun and Clarke (2006) was adopted and followed. This process involved six phases:
1. data familiarization,
2. generate initial codes,
3. search for themes,
4. review of themes,
5. define and name themes, and
6. produce the report.

Through thematic analysis key themes were identified including how mobile devices were currently being used at the institution. This current use was then able to be compared with the six main ways mobile devices can be used to support learning as identified by Wai et al. (2018).

RESULTS
Thematic analysis yielded 119 codes from both student and faculty member data. These codes were organized into nine categories that emerged to reveal two broad themes: *Current use of mobile devices* and *Pedagogy*. The two themes and their constituent categories are presented supported by representative student and faculty member quotations from the various focus group transcripts.

Theme 1 - Current use of mobile devices
The first theme, *Current use of mobile devices*, is defined as how mobile devices are currently being used to support learning at the university. This theme comprised five categories (Table 3).

Table 3: Current use of mobile devices - associated categories

Theme	Categories
Current use of mobile devices	Types of mobile devices
	General use of mobile devices
	Informal use of mobile devices in EFL
	Formal use of mobile devices in EFL
	Misuse of mobile devices

Category - Types of mobile devices
This category captures the types of mobile devices used by students and faculty members and their opinions about the various types of mobile devices. When asked what type of mobile devices they use, the majority of students and some of faculty members indicated that they use smartphones. One student cited his personal use of an iPhone and then described smartphones as being the standard for most students, stating:

iPhone devices and Android systems are used nowadays; most people depend on them. (SFG5)

Another student from the same focus group supported this statement, adding:

I agree with my colleague… smartphones are in general the pioneer devices in these days. (SFG5)

However, some faculty members indicated that they use and prefer ordinary mobile phones that are not smart devices. For example, one faculty member said:

I am an old fashion teacher so I have the old style Nokia. Nokia is very simple…I do not use it inside my classroom. (FFG3)

Students indicated their preferences for mobile devices. The majority of students discussed the ease of use of mobile devices (e.g., smartphones, iPads) compared to laptop or desktop computers. One student believed that it was this ease of use that made mobile devices more compatible with student lifestyles:

[Mobile devices] are used easily, as well as carried easily. I can carry it anywhere. (SFG2)

Another student also believed that mobile technology offered students greater flexibility and portability:

> *Earlier, we were suffering from this problem, a laptop is difficult to be carried everywhere; using it forces you to sit in the one place. As for smart phones, you can transmit with it everywhere.* (SFG2)

In contrast, faculty members tended to indicate their preference for laptop computers. There was also evidence of some confusion between the distinction between laptops computers and mobile devices. For example, one faculty member said:

> *I don't know for the purposes of your research if you consider a laptop a mobile device but I use that daily.* (FFG5)

Category - General use of mobile devices
This category captures the daily and general use of the mobile devices by students and faculty members. Both students and faculty members highlighted several general uses of mobile device in their daily life. For example, students and faculty members indicated that they take notes by their mobile devices. One faculty member mentioned:

> *When I am tired I use my mobile phone to take a photo of the whiteboard to keep notes that I can use for the next class.* (FFG3)

Students also found using mobile devices for note taking saved time. For instance, as one student explained:

> *When the teacher writes on the board, it takes time, and you need time to write whatever is written on the board, but by using a mobile phone, you can take a picture of the board, and when returning home, you can write it down or note the important points.* (SFG3)

Another student added:

> *To make notes or something during the lecture using the device, for example an audio recording.* (SFG3)

Both students and faculty members mentioned using mobile devices to check the student attendance on the Banner student information system. For instance, one faculty member reported that mobile devices were:

> *Very good to check the attendance on the Banner.* (FFG6)

Significantly, another student believed the most common use of mobile devices by faculty members was:

> *To check attendance of students in Banner System directly instead of paper lists.* (SFG6)

The majority of students and faculty members reported that they used their mobile devices for searching information on the Internet and browsing social media applications such as *Twitter*, *WhatsApp* and *Facebook*. According to one student:

> *Searching on Google using the Internet browser on the mobile device shows a lot of information to you; and you can reach to encyclopedia such as Wikipedia* (SFG8).

Similarly, another faculty member stated:

> *I use my tablet a lot to find information, Google stuff read up.* (FFG3)

Accessing social media was also a popular use for mobile devices. For example, one faculty member described how he used mobile devices in general:

> *Personally, I use my device for something such as social networks.* (FFG2)

Aside from the general usage of mobile devices, some students and faculty members mentioned various applications of mobile devices in particular discipline areas. This is evidence of the utility of mobile devices. For example, one student reported:

> *I can use it in Mathematics as a calculator.* (SFG1)

One faculty member commented that:

> *Mobile technology is ideal for the chemist[try] study learner… for the visual learner.* (FFG3)

Another popular use of mobile devices mentioned by students was as a communication tool with teachers and other students. For instance, one student reported that when he needed to ask the teacher questions he could contact him via the messaging tool *WhatsApp* (SFG3).

Another student reaffirmed the usefulness of *WhatsApp*:

> *Social media network applications are easier in contact especially WhatsApp.* (SFG6)

Category - Informal use of mobile devices in EFL

This category describes student and faculty member views regarding the informal use of mobile devices to support English language learning outside of formal instruction. It is significant to note that only one faculty member reported that he encouraged students to use their mobile devices informally for their English language learning:

> *I tell my students to use their mobile devices not for class use but if I am doing an activity and in something in general knowledge.* (FFG3)

Further elaborating the faculty member said:

> *I say if you are doing this activity go to Google.* (FFG3)

Students also highlighted various informal uses of mobile devices outside of the classroom setting to support their English language learning. For example, some students stressed the importance of social media applications (e.g., *Twitter*, *Instagram*, and *YouTube*) to provide them with platforms giving them access to a range of English language learning resources, especially native English language speakers. For example, Twitter was frequently cited as a useful tool for communicating with native speakers. As one student described:

> *I think Twitter is currently the most usable communication method in all places and for all people no matter old, young, official person or any person… You can contact any person, whatever his position is important or a scientist; you can communicate easily with him on Twitter.* (SGF1)

Other students found *Twitter* useful in finding accounts specifically dedicated to learning and practicing English. One student described using:

> *A specialized account for learning English language.* (SFG4)

and went on to detail how the account:

> *Shows daily some information. For example, translation and sentences in English, hence I learn daily by following this account.* (SFG4)

In addition to *Twitter*, participants in the focus groups noted that the *YouTube* was beneficial in both learning and retaining English. For one student *YouTube* clips were especially useful for reinforcing proper pronunciation of:

> *Colloquial language on the street.* (SFG1)

Students also indicated that they used YouTube for learning English by following English lessons on YouTube channels. For example, one student reported that:

> *There is a YouTube channel for [de-identified] presenting wonderful lessons in learning English language...I follow his lessons on YouTube.* (SFG4)

The third social media platform that was consistently cited in focus groups as advantageous to learning English was *Instagram*. Students frequently described *Instagram* accounts that offered interactive or daily updated

content as frequently used tools for learning English. One student described a word-per-day *Instagram* account that:

> *Introduces a word to you, its pronunciation, [and] its common usages in sentences.* (SFG1)

The student explained that the account was helpful both in pronunciation and in context, elaborating:

> *There are also accounts on social media applications, which show you a word has one meaning only and mention an example of its usage, so you can know easily and clearly its meaning from the sentence.* (SFG1)

Another student expressed similar experiences, stating:

> *[As students] we benefit from it through contact with persons. On another hand (sic) they teach me new things. In Instagram, there is an account giving you the word vocally in writing and teach you many words in different fields.* (SFG8)

Apart from social media, some students described how they had found applications (e.g., English learning apps) to help improve their learning of vocabulary. For example:

> *There is an application on the smartphone [that] teaches you the language, First, you test yourself, then it gives you lessons and a weekly schedule to follow. You can choose the lessons of the week from the schedule and at the end of the week, the program gives you a test. If you pass you will move to the next level and so on.* (SFG1)

Another student also mentioned the utility of spelling and vocabulary-based applications:

> *There are some applications in mobile devices such as a game for teaching and training in spelling words and writing them correctly.* (SFG8)

Similarly, a student explained his experience with English learning Apps:

> *On the iPhone, I use an application gives me a paragraph every day, for example, ten lines. Thus, I read and listen. Or I can listen firstly and then read myself.* (SFG3)

In addition to using different apps designated for learning English, many students found that using even basic smartphone functions in unique ways on personal devices was helpful in further exposing them to the English language outside of the classroom. For instance, several students noted that:

> *Changing the setting language of [the mobile] device to English is useful for learning English.* (SFG2)

This gave students increased exposure to English in everyday contexts.

Some students emphasized the importance of mobile device dictionaries compared to traditional dictionaries, finding mobile device dictionaries more useful as they help them to learn the correct pronunciation of the words; provide meanings of words; and reduce the amount of time taken to look up the word. For example, one student noted:

> *The dictionaries of smart phones are better because they give many sentences to the same word, as well as pronunciation. Smart phones dictionaries are also better in terms of quality because pronunciation of some of the words are not clear in Atlas* [Note: Atlas is a small portable electronic dictionary]. (SFG1)

Finally, as a novel approach to informal English language learning, one student described how games on mobile devices might be best used in English language learning:

> *We use games in learning but not so much because they can't teach you the language grammar but you can learn vocabulary.* (SFG1)

Category - Formal use of mobile devices in EFL

Formal use of mobile devices is defined as the use of mobile devices by both students and faculty members to support formal instruction. The majority of students and faculty members indicated that the use of mobile devices increases the opportunity for English language exposure. One faculty member described how the access to authentic material and primary sources provided by mobile devices is a significant benefit in class:

> *Interesting, however, with tablets and mobile devices you have the opportunity to also expose* [students] *to authentic texts on demand.* (FFG1)

The importance of mobile devices in exposure to authentic English language content was also reflected in student focus group responses. Several students reported their experience with English teachers who encouraged them to have exposure to the English language through watching some lessons on their *YouTube* accounts. As one student reflected:

> *I was studying in an institution of English language two years ago. The teacher, who was teaching us, informed us of his account on YouTube, as he was uploading educational videos daily.* (SFG1)

In discussing the role played by mobile devices in facilitating an in-depth exposure to the English language, many faculty members emphasized that mobile devices help expose students to the correct vocabulary meanings. One faculty member described experiences that reinforced the benefit of students learning new vocabulary words in context:

> *Or just for example I have used it to like look up images, pictures, in fact last week, the word 'date-palm' was one of the vocabulary words or terms and the students were having, they know the meaning of date, but they didn't know the meaning of palm. And I could attempt to explain palm until I am blue in the face and still they never get it, but just, I was able to you know have them google palm and look at the images and they could see you know different types of palms and then, now they understand clearly what the meaning of palm is.* (FFG5)

While less traditional methods were often employed to teach and help retention of new vocabulary, faculty members also described having their students use the online dictionaries on their mobile devices in class. One faculty member noted that it was common to:

> *Ask the students to look for a word in the dictionary when they encountered new or unfamiliar vocabulary.* (FFG5)

Another faculty member explained that mobile dictionaries were the most efficient method for looking up the meanings of words:

> *I do that in my classrooms. I ask my students to use dictionaries. I mean, e-dictionaries are in their mobile phones and looking for words… it is quick way to do it.* (FFG4)

One student recalled being allowed to use online dictionaries during class with the underlying implication that this opportunity was dependent upon the teacher:

> *Some teachers permit us to translate some words by dictionaries on the mobile phone.* (SFG5)

Some faculty members also described more long-term, project-based strategies on the use of mobile devices and technology in class. One faculty member described a highly successful project implemented in class that encouraged student initiative and interaction with English language material:

> *They [students] have to write about a city, country, village and so forth. So I have put the students in groups. I have my own, you know, Wi-Fi thing, so I make sure that one of the students has a smart device and they select a city, Las Vegas, Los Angeles, whatever New York and then they have to look up, you know, the information about that city. They have to investigate themselves, so they use the mobile to do that, to collect the information and then I go around and I make sure that once they gather all of the information, that they shut it off and then they put it away and then they begin processing the information and using it to compose a paragraph.* (FFG5)

Although most of the conversation concerning the incorporation of mobile devices into teaching strategies discussed mobile devices in general terms, specific applications were also frequently mentioned. Several faculty

members discussed the use of *WhatsApp* in their classrooms particularly as a tool for students to interact with each other while remaining engaged during class. One faculty member described the impact of *WhatsApp* on student involvement and engagement:

> *I am aware of two, two teachers, two of my colleagues who have used WhatsApp with their classes and one of them in particular has told me the students in the class who never ever speak or never get involved will answer a question if you ask them a question, but that's it, they never volunteer anything. Some of these students have come into their own in WhatsApp.* (FFG5)

Students also identified *WhatsApp* as a useful tool for formal learning. One student recounted a teacher creating a *WhatsApp* group for the class. The student recalled:

> *He was sending three words every day and required us to put them in sentences, and by this method we know their meaning and spelling, and if you want to know its pronunciation, you turn on the microphone and pronounce the word and the teacher amends it to you.* (SFG3)

This student found this exercise helpful adding:

> *By this way, you learn every day.* (SFG3)

Another faculty member described using *WhatsApp* for a group-based ongoing learning activity outside the classroom:

> *I had a group of students, just last year, we had like a small reading club where I would post a different text for them to read and follow up questions and we would have a discussion within the WhatsApp group.* (FFG5*)*

Reflecting upon the benefits of using *WhatsApp* one student commented:

> *The embarrassment* [of using WhatsApp] *is less than at lecture because in the classroom when you speak, one of your colleagues may interrupt you or another colleague laugh at you because you pronounced wrongly or the conjugation of verb is wrong. On WhatsApp, you're alone, you say the word and the teacher amends it while you are alone. Consequently, there are not many comments.* (SFG3)

YouTube was also used in the classroom to give students broader exposure to the English language. In what was a novel way to give exposure to different English accents, one student recalled a teacher using *YouTube* clips by:

> *Displaying a part of video, whatever the content, in a British accent and an American accent to clarify the difference.* (SFG1)

Although the majority of students described using mobile devices in some capacity within their classrooms, several students mentioned how teachers avoided or actively discouraged mobile technology use in the classroom. As one student described:

> *In fact, regrettably, [the] teacher did not use [mobile] technologies in their teaching.* (SFG4)

Similarly, another student believed that faculty members tended to neglect teaching strategies centered on technology and new media. The student noted:

> [Faculty members] *depend more upon on traditional methods.* (SFG4)

Category - Misuse of mobile devices in EFL

This category describes the misuse of mobile devices in classroom settings. Faculty members expressed frustration with students abusing their mobile devices during class time. One faculty member described the difficulties faced when students were distracted by their mobile devices:

> *There is a problem in the students' behaviour as soon as they become silent or you see them playing with their mobile phones.* (FFG3)

He added:

> *There are two things: one is they do not understand what you teaching them and second is they are totally bored and they are not interested, you know. So as soon as they go to their mobile phone you know that they are distracted, they are bored.* (FFG3)

Another faculty member also found that mobile devices contributed to distractions in the classroom, claiming that the students used:

> *Mobile phones for watching videos and WhatsApp or something like (it) that distract the students in general.* (FFG2)

Students also admitted to succumbing to distractions when using mobile devices in class. Several students described logging on to separate games and social media accounts during the lecture portion of class. One student admitted:

> *I'm sitting at the back of classroom and not using use my* [mobile] *device for translation. Consequently, I wasted the time of lesson and did not learn anything, rather my* [mobile] *device became a source of distraction.* (SFG2)

Theme 2 - Pedagogy
The second theme *Pedagogy* represents the pedagogical aspects surrounding the implementation of mobile learning as a new style of learning. This theme comprised four categories (Table 4).

Table 4. Pedagogy - associated categories

Theme	Category
Pedagogy	Student role
	Teacher role
	Strategies
	Content & Design

Category - Student role
This category describes students' role and their responsibility for the use of mobile devices to support their English learning. When discussing the student role in pedagogy, most respondents emphasized the importance of student autonomy and self-directed learning. Beliefs were expressed that more autonomous students are better able to motivate themselves, and that their independence was central to their success. A faculty member outlined the benefits of mobile technology for improving student self-sufficiency, stating that the use of mobile technology could:

> *Begin to teach them to be autonomous… to take responsibility for themselves for research[ing], investigating and learning.* (FFG5)

Another faculty member agreed that student autonomy is beneficial for further learning, also suggesting that autonomy is necessary for mobile technology use to be effective in the classroom:

> *I think we need an alternative service, a learner who is responsible for, for what they should do… We have in Saudi Arabia, autonomy is very, very big, let's say excluded; we don't have it. [So] to let [students] use technologies… in general they must be autonomous, and they aren't... With technologies especially mobile phones we can, you know, implement autonomous learning styles, which is not included in our syllabus.* (FFG5)

Related to student autonomy, another faculty member considered the importance of peer learning through which students could correct each other, rather than the burden falling solely on the teacher, noting that these situations are:

> *Organic development for everybody and peer learning [and] peer - support.* (FFG5)

Alongside the discussion on student autonomy, a related idea that emerged was an emphasis on student responsibility in the classroom. According to both students and faculty members, student responsibility is essential in creating a productive learning environment and benefiting from in-class use of technology.

Despite this, some faculty members expressed concerns that students might abuse the mobile technology through being distracted or irresponsible in the classroom. For example, one faculty member worried that students might:

> *Start to use the mobile devices and playing games, chatting with friends, I think if the student would be serious and honest.* (FFG3)

One faculty member stressed that it was essential for students to:

> *Develop some form of academic decorum about themselves where they already know how to carry themselves in the classroom…they come to us with mechanisms or devices for self-guidance, internal self-guidance.* (FFG5)

This need for initiative in self-guidance and cultivating a sense of personal responsibility was also reflected in responses from students. One student maintained:

> *I think the student is supposed to be responsible for himself.* (SFG1)

Category - Teacher role

This category describes faculty members' role and their responsibility for the use of mobile devices to support their English teaching. On this subject, a common belief shared among both faculty members and students was that faculty members were distrustful of students. One faculty member observing this tendency noted:

> *The administration does not trust students.* (FFG5)

The mistrust of students was also observed from a student perspective. One student explaining this sense of mistrust used the example:

> *Some teachers don't allow [mobile devices] except in specific times, because if the teacher allowed students to use their mobile devices all the time, the teacher would not trust that a student would use it only for searching for a word meaning, for example, or for an educational purpose.* (SFG1)

While the majority of responses to questions concerning teacher's roles in pedagogy focused on the mistrust of students, teacher responsibility was also discussed. Participants generally believed that teaching responsibilities and styles varied depending upon the subject and class or study path being taught. According to one faculty member:

> *It just depends on the nature of the group that you are dealing with, adding that the Humanities path is generally going to have a group of students who… need a teacher basically to… stand in front of them and just give them what they need and no more, no less. As opposed to more motivated groups of students who might require unconventional approaches.* (FFG5)

Students similarly framed the issue of teacher expectations and responsibilities around addressing the unique needs of the students:

> *I think that the teacher's responsibility is explanation and not investigation of each student about if he used his device or not. Because the student's responsibility is understanding and learning, then he knows whenever he needs to concentrate on with the teacher and whenever he can use his device to learn. [Besides] the exam will clarify who was has been concentrating and understands the lesson.* (SFG1)

Category - Strategies

This category describes faculty member and student strategies for using mobile technologies to improve and facilitate the teaching and learning both inside and outside the classroom. In particular, faculty members emphasized the role of mobile technologies as an additional strategy to enhance their teaching and facilitate student learning in the classroom. Students, on the other hand, highlighted mobile technologies as an important strategy to improve their informal learning outside the classroom. One faculty member stressed the role of mobile technologies as supplementary strategies to increase student interest in the lessons through visual learning and maintaining their attention in the class:

> *I think it could be useful in a great supplementary way. You know, make lessons more interesting, provide vision ... you know, feedback and know the words that the students are not familiar with. You get a picture of something and get it to the context and bring them back to the lesson.* (FFG3)

In terms of the actual practical application of mobile devices, one faculty member suggested an important strategy of using video clips through smartphones to help students practice English skills, especially speaking and listening. The faculty member explained:

> *I think the use of mobile devices…. Apparently now you can watch movies on your smartphone, things like that, and that can make real conversation, you know, for speaking practice. I mean, you can start a movie and stop it, and the student will be able to speak, you know, right now. They can do the grammar, can make a sentence. They know how to do grammar, but they do not know how to integrate that into listening and speaking, so those things could be really enhanced with using mobile technology.* (FFG3)

Another faculty member described using mobile devices to allow students to gain a deeper understanding of English words. As this faculty member explained:

> *I use this technology during my classes. I ask all students to buy or get an application, for example e-dictionary, and I ask the students to prepare themselves. For example, every day word ... they look for a word. I ask students to prepare themselves to look up a word and write it on the board, okay? And they pronounce it okay, and I ask other students to participate in getting sentences or examples to put that word in a complete sentence. And that technology or that application ... let's say it helps students to learn more and more about words. Okay, how old is the word, let's say, and what is the source of that word ... the use of the word?* (FFG4)

One faculty member described mobile technology as being useful in changing the nature of traditional classroom settings and providing focus for group activities to better engage students:

> *We have large number of students in the classrooms [and] it is better to put them in groups to be interactive with mobile device[s].* (FFG2)

Students also reported their experiences with the use of mobile technologies as an important strategy to facilitate their learning outside the classroom. For example, one student found social media applications to be a useful strategy to allow him to interact and communicate with people from around the world to practice and improve his English. The student stated,:

> *The mobile devices also contain applications for social networks such as social media enabling you to contact European people and talk to English native speakers. Thus, you can practice the language with them and chat with them either verbally or by typing in other times…. Hence, I think such applications help advance the language learning because I am learning from an English-speaking person. Social media can help me improve my language, and at the same time, I enjoy connecting with the others.* (SFG1)

In addition, one student described his experience in following social media accounts as a strategy to improve his learning:

> *Yes, there are accounts for learning the language. For instance, there is an account called (A word per day) on Instagram; it introduces a word to you, its pronunciation, its common usages in sentences.* (SFG1)

Likewise, another student added:

> *There are programs such as Skype and Facebook, especially Facebook, which are used mostly in European countries, and then a lot of people were learning through contacting with foreigners via video calls. Thus, they were practicing the language.* (SFG1)

Another student described using mobile technologies to communicate with his friend in order to improve his practice of English:

My colleague was outside Saudi…. Once he arrived there, he was calling via Tango App and was speaking with me in English. I was telling him, 'Don't talk with me in Arabic.' I tried and tried. An Arabic word and an English word and mixed the languages, but we tried to enhance the skill. (SFG3)

Category - Content and Design
This category describes an issue whereby mobile device applications integrate poorly with English language courses. Students and faculty members both commented that English courses must be better designed to be supported by mobile devices that facilitate and enhance student English language learning. Specifically, mobile device applications:

Should be connected to the students' textbooks because these applications are for learning English in general. (FFG6)

Likewise, some students mentioned that the content of English language learning apps is not appropriate for their levels of English. For example, one student said,

Programs or applications don't give you advanced lessons…. They provide simple lessons. (SFG3)

Further, another student suggested:

To be an official application and certified, for example, by the university (for example, from Oxford University) or from governmental authorities such as the Education Ministry, in order to be a good application, all its content should be correct without mistakes and for all levels of English. (SFG8)

Similarly, one faculty member highlighted that students would be able to access the content more if it were designed not only for computers but also mobile devices:

The university booklet has a CD. The CD is excellent, but students need a laptop for it. If this application was online, then it would be easily accessible to students. If it was, they could use their mobile phones to access this software that has quizzes and revision worksheets. It would be beneficial for students. (FFG6)

Another faculty member suggested the importance of having specialist designers at the university who could design student learning materials that support access by mobile technologies:

Mobile devices can be supported by a good designer for the website. Then, you would be able to use the application through the mobile phone, so if you have a programmer at the university, for example, you could give him the material and he could set it up on the website, so students could access it through their mobile phone. (FFG6)

DISCUSSION
Thematic analysis of the 14 focus group transcripts identified nine categories situated across two main themes. These categories and themes capture how both students and faculty members in English language learning at the university study site are currently using mobile devices.

First theme - The current use of mobile technologies to support learning and teaching of English
Types of mobile devices
Analysis of the focus group transcripts indicated that smartphones were the most commonly owned devices among the students and faculty members; although some faculty members possessed older, less sophisticated mobile phones. Students expressed a preference for mobile devices speaking of their portability and flexibility. Faculty members however, expressed a preference for laptop computers. In contrast, students saw the lack of mobility of laptops as too limiting. Students, in particular acknowledged the ease of use and usefulness of mobile devices. Domitrek and Raby (2008) make the point that students view mobile devices as essential elements of social life, while many instructors see them as being peripheral to learning. There was evidence of these two mindsets in operation at the study site.

General use of mobile devices:
What was in evidence at the study site was that both students and faculty members used their mobile devices for more than making phone calls. In terms of general use, both students and faculty members mentioned similar general uses of their mobile devices including, data capture, information retrieval and accessing social media.

For data capture, students and faculty members spoke of using the cameras in their mobile devices to capture lecture notes on whiteboards. Students also spoke of using the audio recording capabilities of their mobile devices to record lectures. Elaish, Shuib, Ghani, Yadegaridehkordi and Alaa (2017), also reported on the ability of mobile devices to capture lecture materials through both visual and audio means. Both students and faculty members used their mobile devices for information retrieval. *Google* was a popular starting point for students and faculty members searching for information. The prevalence of using mobile devices to locate and access information is consistent with what has been previously reported in the literature (e.g., Wai, Ng, Chiu, Ho & Lo, 2018). Students and faculty members also made use of their mobile devices to interact with others on social networks such as *Twitter*, *WhatsApp* and *Facebook*.

Informal use of mobile devices:

Students reported a range of uses of their mobile devices to support their informal EFL learning. Social media such as *Twitter*, *WhatsApp, YouTube* and *Instagram* were popular uses of mobile devices for informal learning and provided students with opportunities to practise their English language communication skills outside of the classroom. This further confirms the ability of mobile devices to create informal learning settings for language exposure (Almekhlafy & Alzubi, 2016). Students also reported that exposure to the English language through mobile devices assisted them in improving their English language vocabulary and pronunciation skills. Importantly, students often accessed these resources under their own initiative; providing further evidence that mobile devices can encourage students to invest their own time by taking charge of their own learning (Leis, Tohei & Cooke, 2015). Significantly, only one faculty member spoke of encouraging his students to use their mobile devices to support their English language learning outside of the classroom. Research suggests that students and their instructors view mobile devices differently; students see mobile devices as essential while instructors often treat them as peripheral to learning (Domitrek & Raby, 2008). This attitude was in evidence at the study site when comparing the responses of students and faculty members.

Formal use of mobile devices:

Although mobile learning has not been formally adopted at the university study site, both students and faculty members reported using mobile devices to support formal EFL teaching and learning. Faculty members spoke of the usefulness of mobile devices to expose their students to both authentic English language content and contexts. Similar to informal usage, mobile devices were used to help improve student vocabulary and pronunciation. Faculty members also indicated that mobile devices were often more efficient teaching tools than traditional methods. For example, instead of trying to explain the meaning of an English word students can be provided with a visual representation of the word on their mobile devices. Online dictionaries were also popular amongst both students and faculty members.

Wai et al. (2018) reported the popularity of using online dictionaries on mobile devices. Having their mobile devices at hand, students could quickly and conveniently look up the meanings of English words. The social media app *WhatsApp* was also popular amongst student and faculty members. A number of faculty members reported how the use of *WhatsApp* impacted positively on student motivation and engagement. In particular, encouraging reluctant students to engage in the classroom activities. In general, faculty members expressed positive feelings to the use of mobile devices in their EFL teaching. Further, several faculty members were already using mobile devices to support their formal EFL instruction. This is important when considering future intentions to formally adopt mobile devices at the study site because evidence suggests that the more instructors know about how to use mobile devices in their classrooms, the more likely they are to encourage their use in their classrooms (Forkosh-Baruch & Meishar-Tal, 2016). Despite this, students did report that some instructors did not incorporate mobile devices into their EFL teaching preferring more traditional teacher centered styles of EFL instruction.

Misuse of mobile devices in EFL

Both students and faculty members identified instances when mobile devices were being misused. A number of faculty members saw mobile devices as sources of distraction; particularly for students who were bored. According to Hazaea and Alzubi (2018) the way EFL is taught in Saudi classrooms may be de-motivating for students. Whether this is the case at the study site cannot be determined with the data at hand. Evidence does suggest however, that the use of mobile devices in EFL teaching and learning can have a positive impact on student motivation and engagement (Hazaea & Alzubi, 2018). According to Garcia (2007) students believe classrooms without mobile devices are disjointed and artificial. Taking this into consideration, then perhaps the best strategy to avoid potential distractions mobile devices may cause is to formally embrace their use in the EFL classroom. This could lead to greater engagement, motivation and a connectedness amongst students and increase the likelihood that mobile devices could be used to support rather than distract students.

Second theme - Pedagogy
Student role
Faculty members spoke of the need for their students to take greater ownership of their learning. In particular, students requiring higher levels of autonomy and motivation in their English language learning. It was acknowledged by faculty members that mobile devices had the potential to encourage more self-directed learning but associated with mobile device use was the need for students to be responsible users of mobile devices in the classroom. The focus group transcripts revealed a tension between faculty members wishing to make use of mobile devices with their students and concern that students would misuse these devices. Existence of this tension was also evident in some of the student responses with students seeing one reason why faculty members might be hesitant to encourage the use of mobile devices in their EFL classrooms as a lack of trust in students. Research suggests that increasing learner autonomy can motivate learners (Hazaea & Alzubi, 2018). In English language learning contexts, Ramamuruthy and Rao (2015) argued that the use of mobiles can encourage autonomous learning. So there is certainly scope for the use of mobile devices to increase learner autonomy at the study site. Evident in the focus group responses, particularly from the faculty member perspective, the difficulty appears to be that until students show greater levels of autonomy and responsibility, some faculty members remain reluctant to use mobile devices in their classrooms. This is problematic because, as discussed, mobile devices have the potential to encourage greater levels of autonomy and responsibility amongst students (Ramamuruthy & Rao, 2015). Consequently, until mobile device use is encouraged the desired levels of autonomy and responsibility amongst students may not occur.

Teacher role
A teacher-centric approach was in evidence in the focus group responses. Students often framed Faculty members as authority figures responsible for their learning. This behaviorist, teacher-centered, transmission model of instruction typifies much of English language instruction (Burston, 2014). However, current pedagogical approaches are not necessarily appropriate for the effective use of mobile devices in teaching and learning (UNESCO, 2012). In particular, the teacher directed, spoon-fed approaches which Hazaea and Alzubi (2018) claim often take place in traditional EFL classes. At least one faculty member spoke of the need to move away from traditional ways of EFL instruction although this was dependent upon the student cohort and their existing levels of motivation. Students also saw a changing role for the teacher. One particular student believed that it should be up to the students to determine how they might best learn – deciding when to make use of the teacher or their mobile devices. This casts instructors in a more facilitative role and like mobile devices, a resource to be used when required. This aligns with the view of Khaddage et al. (2015) who argue that "[n]o longer is the teacher the only content expert in the classroom. With mobile devices, students literally have the world at their fingertips" (p. 628). Such a view however, is likely to challenge Saudi Arabian cultural norms and expectations of the respective roles of teachers and students.

Strategies
Both students and faculty members identified a range of strategies for using mobile technologies to improve and facilitate the teaching and learning both inside and outside the classroom. For some faculty members, mobile devices were seen as a useful tool for supplementing traditional EFL lessons. For example, practicing speaking skills, correcting pronunciation and improving grammar. However, apparent in a number of the student responses were strategies that were encouraging a shifting away from teacher centred and directed activities towards more student-centred approaches that have been advocated as necessary for effective learning (Burston, 2014). Further, when comparing student and faculty strategies for using mobile devices for improving English language learning, it is evident that students' informal use of mobile devices to support their learning is better aligned with what one might consider to be mobile devices best practice than faculty members' formal uses of these devices.

Content and design
Both faculty members and students identified deficiencies in mobile device applications (apps) due to their poor integration with English language courses. Wai et. al (2018) previously noted the lack of quality mobile applications, in particular, to support larger scale collaboration. To address this the authors encouraged development of mobile apps to better support students and faculty members (Wai et al., 2018). There was also the call at the study site for course materials to be made available online socially for mobile access. This would afford students greater opportunities to access course materials outside of regular class hours.

CONCLUSION
The present study aimed to identify the current use of mobile devices by students and their instructors in English language learning. To review, Wai et al. (2018) identified six main ways mobile devices can be used to support learning in general:

1. communication and interaction;
2. accessing academic materials;
3. information organisation and sharing;
4. self-learning;
5. information searching; and
6. course-based learning.

Although the use of mobile devices has not been formally adopted at the university study site, five of these six uses could be identified at the study site. The exception was *accessing academic materials.* This is largely due to the university not having courses mediated through a Learning Management System. The results show that students and faculty members are using mobile devices to support both the informal and formal learning of the English language. Students predominantly used their mobile devices informally outside the classroom to facilitate their English language learning. Social media, such as *Twitter*, *WhatsApp*, *YouTube* and *Instagram*, were particularly popular and provided students opportunities to practise their English language communication skills outside the classroom. In contrast, faculty members emphasised the formal use of mobile devices in the classroom context and expressed views on how to control student use of mobile devices.

This study has two important implications for the study site in particular and similar institutions in general. First, when comparing student and faculty member use of mobile devices for improving English language learning, it is evident that students' informal use of mobile devices to support their learning is better aligned than faculty members' formal uses of these devices in terms of what one might consider mobile device best practice. This can be challenging in a learning institution context where students have a better understanding of contemporary learning technologies and how they might be best used than their teachers. Professional development of faculty and a shift towards more student-centered learning by allowing students to exercise greater leadership of their own learning could be the most effective means to address this imbalance. Second, given that both the formal and informal use of mobiles devices in EFL instruction appear to be already reasonably well established at the study site, and given the well-documented benefits that mobile devices can offer in enhancing English language learning, the opportunity exists for mobile devices to be successfully embraced in this discipline area. Having established such a foothold in English language learning, mobile devices could be then introduced across the various faculties of the university. Institutions in a similar position are encouraged to explore this possibility as well.

This study has a number of limitations. First, although the study site was considered similar in characteristics to other universities in Saudi Arabia, nevertheless, the data represent the use of mobile devices by students and their instructors at one university. It is recommended that research be conducted at other universities to better determine the generalizability of the results. Second, the study only collected student and faculty member descriptions of how they currently use their mobile devices - no observations of actual mobile device use were made. To understand further how mobile devices are actually being used in English language learning, in-class observations would be beneficial. Such observations would allow for both the documentation of actual mobile device use and commentary on the effectiveness of these devices as tools of instruction in an EFL context.

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Woodworking Revisited – Employing State-of-the-Art Video Technologies in Educational Contexts

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ABSTRACT
This paper presents the outcome of the research project WOODWORKING REVISITED. Within the framework of the two-year project, the two university teams collaborated with the Austrian Open-Air Museum Stübing and the Waldorf Vienna West School to document selected woodworking techniques on video. Formats and dissemination strategies were developed in a collaborative process including pupils and experts at all project stages. The formats were based on established content such as the "Nifty" style found on Buzzfeed (ref.) and further developed for the new immersive possibilities of 360° video. In order to compare the formats and test their efficiency, content produced in both formats was evaluated together with pupils of a technical school for woodworking. The team conducted a study that showed the suitability of both formats for the purpose.

INTRODUCTION
Wood remains one of the most important raw materials today. However, the processing of wood has changed considerably – away from agricultural or manual processing to ultra-modern industrial production (Wegener, 2007). As early as in 1917, folklorist Josef Blau (1917) described the loss of woodcrafts: "The old economy and way of working, the skills, knowledge, experience and conditions long inherited and with them much of the necessary language and cultural heritage are moving ever higher up the forests and mountains". Since then, the use of different wood species has been limited to between ten and 20 indigenous species in Austria. The unfavorable properties of some wood species are being reduced or compensated for by treatments (e.g. steaming, thermal treatment, etc.).

Wood is a material that can be used sustainably. Therefore, it will presumably play an even greater role in times of increasing resource scarcity and discussions about CO_2 emissions than it does now. The application of historical knowledge regarding species selection, processing and appropriate utilization may, under certain circumstances, help to increase the sustainable use of our forests.

The knowledge of wood selection, storage and processing, etc. was traditionally passed on from generation to generation. Written records exist only in exceptional cases. Whenever wood was used in earlier times – be it for farmhouses, castles, palaces or churches, furniture, tools, weapons, kitchen utensils, fences, etc. – it was usually done by various people (like famers), in many cases by "not specially trained" craftsmen. It was not until the 14th century that specialized crafts developed (Radkau, 2007), and even then the oral transmission of knowledge prevailed. As a result, existing publications often do not describe the details necessary to understand the work steps or to understand why a special type of wood was used for a certain purpose (Grabner et al., 2013). It therefore became apparent that in addition to the study of old literature, the analysis of historical objects is also necessary in order to comprehend the processes used in former times – and therefore the knowledge of craft techniques.

Certain handicraft techniques have been preserved or rediscovered in Austrian museums, especially in the Austrian Open-Air Museum Stübing. With the support of several projects (FWF TRP 21-B16, Sparkling Science SPA 04/188, Volkskultur Niederösterreich), it was possible to sample and analyze the collections of several museums in Austria in the past. In these projects, a lot of "material knowledge" was gained or rediscovered. Klein (2015 and 2016) gives a good overview of the wood species previously used in Austria. Why were ash and cornel cherry wood used for tool handles? This is mainly due to their strength, toughness and the ability to dampen vibrations. However, there are also tool handles made of wood species that are not particularly well suited, e.g. alder. There are oral traditions describing alder as a material for tool handles: "it is comfortable in the hand" and "you don't get blisters from it". Such important parameters can hardly be measured or verified with modern methods. We must therefore rely on traditional knowledge that may be thousands of years old and try to understand and reconstruct the reasons for specific techniques and utilizations.

In the analysis of inventory (furniture, appliances, tools, vats, barrels, etc.), it was possible to make statements about the processing technique with the help of dendrochronology. It was found that both in furniture and in vats, the outermost layer of wood (with the best wood quality) was processed as little as possible. In the example of a box, only seven years lie between the dating based on the outermost annual ring and the dating on the basis of the painting. The difference of seven years is due to drying (two to three years) and the loss of tree rings due to planing (i.e. a few millimeters) (Klein et al., 2014). This is one of the few examples where it was possible to rediscover immaterial knowledge, that is, the craft knowledge of wood drying and woodworking, on the basis of material analysis.

Museums are important sites for the preservation of ancient knowledge – at least in the form of material goods. This is also supported and accompanied by the International Council of Museums (ICOM). The great importance of preserving cultural assets is recognized – and this applies not only to so-called "high culture" but also to everyday culture as it is presented, for example, in the Austrian Open-Air Museum in Stübing. Without the existing objects and corresponding descriptions (also in the sense of oral history), it would be almost impossible to comprehend the historical use of wood and to rediscover its beginnings. Thus, it is not enough to preserve material cultural history; knowledge, skills and experience must be safeguarded and passed on as cultural assets as well (Anonymous, 2009).

The paper at hand presents an approach to preserving and passing on immaterial knowledge, skills and experiences in the form of detailed documentary films about specific woodcraft techniques. A corresponding project was set up in 2017 and is still ongoing. The main focus in these films is on the technical process and necessary background information required to produce wooden goods out of the raw material. As an additional requirement, the documentaries adopt a modern approach using state-of-the-art techniques of film and media creation to increase their attractiveness for young people. The films are designed to awaken interest in the craft and to serve as guidance and assistance for those interested in reproducing specific wooden goods. School pupils (Freie Waldorf Schule Wien West) were involved in the conception and production of the documentaries and contributed their personal experiences and ideas together with the scientific team consisting of wood scientists (University of Natural Resources and Life Sciences, Vienna), film and media creation researchers (St. Pölten University of Applied Sciences), museum and ethnology experts and craftspeople (Austrian Open-Air Museum Stübing). The interdisciplinary team developed a form of presentation which, in addition to the contemporary presentation to inspire people for the craft, is appealing to young people and can also be used for mobile purposes. The documentaries will be accessible to the general public via online video platforms such as

YouTube. Furthermore, both the presentation on monitors and the interactive applications are ways of showing the documentaries in the Austrian Open-Air Museum Stübing.

HISTORICAL WOOD UTILIZATION AND REQUIREMENTS FOR VIDEO PRODUCTION

The possibilities of acquiring knowledge about handicraft techniques of the past have become rare. Since the Austrian Open Air-Museum Stübing still uses several old techniques to preserve and maintain its exhibition, it is a precious source of knowledge. Certain handicraft techniques were preserved or rediscovered in the museum. One example is the technique used to produce or at least professionally restore a waterwheel matching the historical original in the museum exhibition. In addition to the experienced museum staff, the museum has established a network of craftspeople who are still active today. Only a few years from now, practitioners of certain craft techniques will no longer exist and their knowledge will be lost.

Apart from the approved craft trades such as carpentry and joinery, however, plenty of objects were made by farmers and the rural population for themselves, or as an additional source of income. These activities were hardly documented in the past. As a sideline, farmers or woodcutters would make important home, farm and work equipment. In the so-called "Machelkammer", they carried out various repairs and proved their skills as carpenters, wainwrights, wood turners or instrument makers. They made ladders, rakes, shovels, forks, baskets, vessels, clips, spoons and bowls, troughs and much more. When their own need was covered, these craftpersons produced goods for exchange or sale which were sold by peddlers or on markets. The domestic industry developed from this as a sideline to agriculture. Gradually the goods, which were no longer produced for immediate use, were handed over to traders and merchants. The result was an entrepreneurial culture which intensified the dependence of domestic industrialists (farmers). The increasing industrialization replaced the peasants' domestic industry and with it the accompanying immaterial cultural heritage (Liesenfeld, 2013).

Previous works found historical literature dealing with craftsmanship (see for example Amman and Lemmer, 1568, Monceau, 1767, Stübling, 1896, Krauth and Meyer, 1899, Graef,1905, Jankuhn, 1983, Haid, 1991, Palla, 2010, Hasitschka, 2010). It turned out, however, that it is hardly possible to rebuild work pieces, let alone reproduce the work steps in detail, solely with the help of written sources. Subsequently, an overview of available video sources was created. During this review process, the requirements for the newly produced videos were kept in mind. In addition to the precise depiction of every work step including the tools used, their handling and the use of consumables, the condition of the raw materials and corresponding background information such as the desired wood quality, the harvesting season and the drying time have to be taken into account.

In short, the main focus was on creating end-to-end technical documentaries which are produced with the aid of up-to-date media technologies in a modern format. Only in this way will potential viewers be attracted and able to completely understand and reproduce all criteria necessary to successfully process the raw material into the desired item.

EXISTING DOCUMENTARIES ON WOODCRAFT TECHNIQUES

As previously mentioned, research was carried out on films which represent traditional (wood) handicraft techniques in order to generate an overview of the existing material. In total, more than 240 relevant films were identified. The availability and the storage medium used proved to be problematic, and it was not possible to view every film as some of the videos are stored as 16 mm film rolls in archives and are therefore technically difficult to access. A systematic digitalization of this material would be of great importance but exceeds the resources of this project by far. Also, some of these films were shot with a different focus – e.g. with a folkloristic background. The Waldbauernmusuem in Gutenstein (Lower Austria) began filming the trades of "forest farmers" very early on (Pawelak-Ast, 2013). Some crafts were documented in good quality – e.g. the rake maker. However, a folkloristic approach is often in the foreground – focusing on the craftsmen and not the technical production process. Another example is films from the series "Der Letzte seines Standes?" ("The last of their trade?") produced by the public-service radio and television broadcaster Bavarian Broadcasting (BR) which shows several crafts, e.g. the wainwright's workshop. Made for television, these films also lack an exact documentation of every work step necessary for a reproduction of the techniques. In other words, these works do not correspond to the requirements of the project at hand. Furthermore, the field of folkloristic film collections was searched and analyzed in order to determine which crafts are to be found and what the quality is like (e.g. Maissen and Maissen, 2004).

It was found that existing films, depending on the target audience and medium (ethnological background, TV audience, do-it-yourself community, etc.), did not meet or only inadequately met the project objectives in various respects. In particular, the frequent focus on the craftspeople and their lives pushes the technical process of manufacturing a work piece into the background or, for dramaturgical reasons (TV series), demonstrates this

process only insufficiently. The project goal of making a technique completely comprehensible for the viewer cannot be realized in these films. An additional problem is the fluctuating quality of content conveyed on online platforms regarding the fundamentals of wood science and the associated validity of the background knowledge and sources presented in those videos.

The decision for a visual and acoustic form of representation for the production of the new videos was based on the literature and film research phase. Pupils were motivated to collect documentaries from television or the Internet and to analyze them with regard to criteria such as target group, technical implementation and content conveyed. On the basis of these results, the students, with advice from the scientists, evaluated which documentation techniques are best suited for the presentation of the individual work steps in wood processing.

SELECTION OF TOPICS FOR DOCUMENTATION

The handicraft techniques existing in the Austrian Open Air-Museum Stübing or practised by craftsmen associated with the network of the museum were recorded. A list of priorities was drawn up from these techniques. The craft films to be realized in the project were selected according to the threat of extinction (e.g. existence of still active craftspeople, or copious documentation), the availability of qualified craftspeople, the production duration and thus the feasibility within the timeframe of the project.

Several additional interesting topics were identified but it was not possible to find any craftspeople capable of carrying out the works during research. One criterion which lead to the elimination of a theme was the duration of the production process. Due to the limited number of shooting days in the project, particularly long-term processes could not be realized within this framework. Processes such as charcoal burning or the construction of a water wheel, which take several weeks to complete, were therefore no feasible craft techniques in the study at hand. During the selection of techniques to be filmed, additional consideration had to be given to external conditions: If the production of a wooden object is dependent on e.g. a timely correct harvest of the raw material (dormancy of vegetation, etc.), this had to be considered in the entire project planning. On the basis of the above-mentioned requirements, of the literature research and research in film archives, the handicraft activities were selected in consultation with the Austrian Open-Air Museum Stübing and the associated craftspeople. Since an important goal of the project is to document the selected handicraft techniques as completely as possible, these techniques and the according work steps were carefully defined. Among other things, the hand posture, angle of the tools, working direction and tool speed are part of a catalogue created which lists the critical points of the manual work. The decision for a visual and acoustic form of representation is also based on the research phase.

The following production processes were realized as documentary films: "the production of a wooden nail", "the manufacture of a fence ring", "the hewing of logs with a broad axe" and the "production of a birch besom", furthermore the process of "building a hazel basket" and "carving of a house blessing".

WOODEN NAILS

Made of larch wood, the carpenter's nail was used in various applications such as roof construction. The wooden nails came in various sizes and shapes and were also used for fences, furniture or as pegs in log construction. The tiniest nails were used by cobblers. The processing, however, is always similar: Work pieces are split out of trunk segments and then carved further into their final shape with a knife or draw knife on a shaving horse.

HEWING OF LOGS

The transformation of round wood into a squared profile was an elementary step in Austrian timber construction. This was done manually by hewing all four sides of a log with an axe. In a first step, markings are provided with a chalk line as a guide for the worker. Segments are hewn off the log with a mortising axe before the final surface is produced with a broad axe.

FENCE RING

A fence ring is made of a spruce twig which is twisted to a ring by heating over an open flame. These rings provide stability to pole fences and act as a connection between the vertical pillars and horizontal poles.

BIRCH BESOM

Made of birch twigs, these besoms were a common sight in Austrian farmhouses. They come in different shapes (plane or round forms) with either a hazel handle connected to the broom or, more simple, only with the bundled birch twigs as the handle piece.

HAZEL BASKET
Used for carrying fire wood, straw or livestock feed, these baskets of different sizes can either be carried in one's hand or as a carrying frame on one's back. The wickerwork is made of split hazel rods and partly of ash. As an eco-friendly carriage device, baskets were an omnipresent sight in the Austrian cultural landscape some decades ago.

HOUSE BLESSING
In some regions of Styria, religious ornaments known as house blessings were placed in farmhouse parlors as protection for the house and its inhabitants. They are made of various small carved decorative elements combined to form a three-dimensional cross. Made of poplar and mainly carved and split with different knives, there are only few people still actively producing these pieces of folk art.

DEVELOPING THE VISUAL FORMATS
Preserving the woodworking techniques also required a suitable environment for the finished videos. It was clear from the outset that all videos would be used in the Open-Air Muesum Stübing and on the project's website. Yet the challenge of reaching a broader audience asked for a broader evaluation of the available video platforms and formats. Several workshops were held to introduce the Waldorf school pupils to the basics of the woodworking craft and media production. During the first workshop, the pupils were encouraged to reproduce a wooden nail solely on a textual basis. Based on that experience, they were then asked to research videos that appropriately convey craft skills. A collective process of screening and evaluating came up with a state-of-the-art list of more than 240 documentary productions, most of which were created in the 20th century for a very different media environment. The evaluation of the pupils provided ideas about the media forms which a contemporary young audience interested in woodcraft skills would find suitable.

In a second workshop, the team focused on format development and discussed the examples. In small groups, first steps towards a format for four of the chosen topics – hewing of logs, wooden nails, birch besom and fence ring – were taken. (figure 1)

Figure 1: Pupils at the workshop

Due to the rise of VR formats in educational contexts, 360° degree video was also considered a possible approach. While a rich tradition and vast knowledge on educational video exists, 360° video has only recently entered educational contexts, so no extensive literature on its employment is available. Some case studies indicated general directions and benefits of using the 360° video technology (Kavanagh et al 2016) or provided some important insights into the possibilities of editing the footage (Kjaer et al 2017). The workshop led to two formats. The Buzzfeed format Nifty was deemed suitable for the more delicate steps needed to produce the wood nail and the birch besom. For the hewing of logs and the fence ring, the less precise, yet more immersive approach of 360° video was chosen. The 360° films were designed for watching either using in VR headsets or a desktop based player. The emphasis was on the VR headset as it provides an immersive environment.

CHOOSING A PLATFORM AND FORMAT DEVELOPMENT
In addition to the technical aspects of being able to store the intended formats for presumably a long time and in good technical quality, aspects of community impact were also considered, and making the video accessible and present beyond the initial scope of the project was also an important aspect. A video platform such as YouTube is a complex system which does not entail several cultural practises and techniques that reach well beyond its immediate material context (Weber 2011). The way knowledge is transferred from and into communities and the

corresponding formats had to be analysed in the collective process. An evaluation of communities conveying crafts in a broad sense indicated that YouTube is the dominant platform for those activities. An extensive elaboration on corresponding types of contemporary micro video content can be found in team member Corinna Stiefelbauer's bachelor thesis (Stiefelbauer 2018). Besides YouTube's ability to deal with the formats including 360° footage, the broader scope of YouTube as a collective archive was also taken into account. 70% of all visits to YouTube occur due to interest in instructional content (Stiefelbauer 2018). It also seemed suitable for a broad variety of viewing devices, which becomes increasingly important due to the massive shift of content consumption to mobile devices (Sahoo 2017).

THE FORMAT

Buzzfeed's Nifty format provided the foundation for developing the basic format framework and a graphical layout for a multicam format. Although the videos feature people preserving nearly forgotten handcrafting skills, the ethnographical aspect was not relevant for the project. The video was to solely focus on the artisanship and the key elements of producing the pieces. All details such as the choice of material, the exact time of harvest and the quality standards of the wood had to be explained. The schematic narrative structure entailed the following main elements:

Figure 2: Format development workshop

EMOTONAL PULL / AGREEMENT: To draw attention; an off-text with a trigger and the presentation of the finished piece
PRIMING / CONTEXT: Background information; description of required tools and materials
CONTENT / STORY: Content guiding through the work steps
REFLECTION / DESCRIPTION: Presentation of the work and possible variants; emphasis on key tasks and elements
EMOTONAL PULL / CONCLUSON – Emotional moment; off-text indicating next steps and graphical call-to-action

These additional Nifty elements were also adopted:
- The protagonist mainly uses her/his hands to indicate key elements of the process, thus supporting the off-text.
- The narrative is dominant, while the protagonist rarely speaks.
- The required materials and tools are presented.
- The movement of materials and tools needs to be carefully planned to allow for a fluid narrative and the use of graphical elements.
- In post-production, text and graphical elements are applied in order to support the narrative, but also as a stylistic element.
- sop motion and time lapse are used.
- The video employs a point-of-view narrative.
- There is a large number of close-ups.
- The environment consists largely of a white room without any unnecessary ornaments.
- The protagonist is in the frame only when necessary, yet the process is the main element of the narrative.
- The protagonist is in the frame only when necessary, yet the process is the main element of the narrative.

Graphical Elements:
The use of colors, fonts and a logo was defined in a style guide. The only font used was Lato in bold and bold italics. The highlight colors yellow and turquoise provide visual emphasis of graphical and textual elements. (figure 3.)

Figure 3: Style Guide
Stiefelbauer,p 41.

A corner logo consisting of the textual element of the main logo was created and provides coherence and a visual brand for all videos of the series. It serves as a common element in the upper left corner of the frame. To structure the sequences, a separating element was developed based on the logo and using a text in italics. (figure 4)

Figure 4

Text inserts were used to emphasize spoken information (figure. 5.), tools were labeled (figure 6.), -measures and dimensions (figure 7) and specific areas of interest indicated (figure 8.).

Figure 5

Figure 6

Figure 7

Figure 8

360° video
For the 360° video production that covered the fence ring and the hewing of logs, the format had to be adapted. To focus the viewer's attention on the proceedings, a different approach was developed, with two educational videos providing ideas for the 360° format. The 6-minute BBC1 documentary Ambulance VR 360 demonstrated how the use of masks and animation could help with transitions, especially as far as spatial and temporal shifts are concerned. (figure 9.). Animated stripes announce the transitions early on (figure 10.).
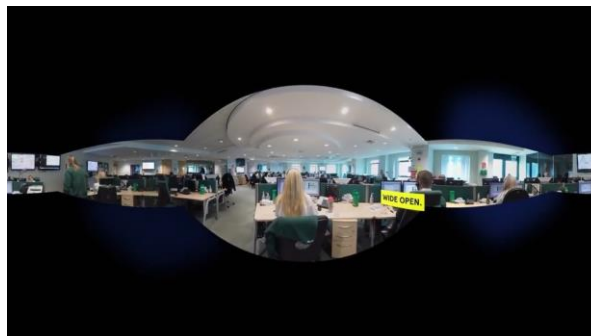

Figure 9

Figure 10

The extensive transition time allows the audience to adjust to the new scene. Sound and acting direct the viewer's attention, and occasionally parts of the 360° sphere are unused to further focus the attention. A similar concept of viewing windows was used to focus the attention in both videos. A grey fog effect was employed to exclude areas that are not necessary. (figures 11. & 12.)
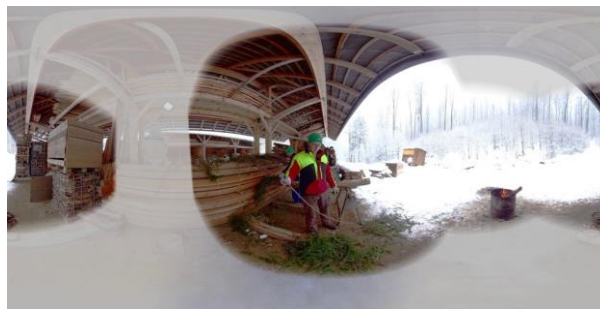

Figure 11

Figure 12

A number of graphical elements were also employed in the 360° video. Yet the majority of elements was much harder to use as there was no established workflow in the software used at the time (Adobe Creative Suite 2018), although important functions for the editing of 360° video were available in the 2018 version of Adobe CC. A comprehensive description of the workflow that was developed for the project can be found in team member Clemens Baumann's bachelor thesis (Baumann 2018). Essentially, a rough cut was carried out in Adobe Premiere and then imported in Adobe After Effects were the edit was turned into a VR comp. A VR comp allows the insertion of 2D graphics into a 3D scene (figures 13 and 14). A transition was animated similar to the transitions in the Ambulance VR video. To do this, a mask was used that resembles stripes, so that the image of the next scene of the video is seen through these stripes and viewers get a glimpse of the next scene. The end products are six craft films in two formats: conventional filming from several camera angles, the "multicam" format, and the concept using 360° camera technology have been finished. One topic, the production of a fence ring, has been realized in both formats – multicam and 360° video – to be able to get a profound comparison of both formats.

Evaluation of the finished documentary films
Possible future users (young people) evaluated the concepts in their final state with usability tests. This will allow to further improve the target group-specific, content-related presentation of historical woodcraft techniques in possible follow-up projects. For the evaluation of the finished documentaries, a group of students from a technical school (HTL Mödling, Holztechnik), who were not involved in the project until then, tested the videos. With a basic education in carpentry, they have some knowledge of woodworking and tool handling. They had, however, not used old craft techniques until that point. On the one hand, the pupils watched selected videos (wooden nail and fence ring) from the project at hand and, at the same time, tried to recreate the depicted workpiece in a workshop. On the other hand, they compared both concepts of presentation for the fence ring: the multicam- and the 360° video format. The students thereby determined whether the production method of the video clips and the presentation via the web platform and its mobile application were appealing and informative. In total, 21 students between 17 and 19 years of age conducted the survey. Six of them watched the multicam documentary of the fence ring, while eight students rated the 360° version. Another seven pupils watched both versions and rated them afterwards. All 21 students watched the multicam documentary of the wooden nail and tried to reproduce the process with the according tools.

Figure 13

Figure 14

Before watching the videos and trying to reproduce the wooden nail, some questions were asked regarding the personal background of the students, their opinion on crafts and their Internet usage habits. 19 out of 21 persons agreed with both of the following general statements: that craftsmanship is highly appreciated nowadays, and that handcrafted products are of higher quality than industrial products. However, the students answered the question regarding product quality more clearly: 12 of them said that they strongly agreed on the higher quality of handcrafted products, while only seven strongly agreed on a high appreciation of craftsmanship in today's society. Interestingly, none of the students completely disagreed with these statements. In both cases, however, there were two persons who said that they rather disagreed. When it comes to Internet usage, most of the pupils (n=16) in the present survey stated that they sometimes (n=7) or even frequently (n=9) used YouTube as a tool for solving practical problems of their everyday lives. Only three said they rarely or never (n=2) used YouTube as a source of tutorials. In contrast, only two students had actively posted and contributed their support on Internet forums, while three had produced a video tutorial themselves and uploaded it to YouTube or a similar platform. The vast majority had not been actively involved in sharing their knowledge online. When rating their personal craft skills, most of the students saw themselves as "skillful" (n=8) or at least "rather skillful" (n=6), in contrast to six persons considering themselves to be "rather not skillful" or even "not skillful at all" (n=1). Accordingly, 14 students are considering arts and crafts as one of their hobbies, while six said they would rather not or not at all (n=1) see crafts as a leisure activity.

For the review of the videos in the study at hand, the students were given enough time (several hours) to carefully watch the tutorials and try to recreate the wooden nail and to compare both versions (multicam and 360°) of the fence ring documentary. Although some students (n=7) considered themselves as "not skillful", 17 stated they would now be able or at least rather able (n=4) to produce wooden nails after having watched the film and processed nails. None of the students considered themselves unable to do this. Therefore, 19 pupils also agreed that the video helped or rather helped (n=2) them to process a wooden nail. Nonetheless, when asked about the content shown, only eleven students thought that the information was sufficient, while ten rated the tutorial as rather sufficient. Nobody thought that the information shown was insufficient or rather insufficient. In order to obtain more information regarding the work steps which were hard to understand, the pupils tried to identify these. Most of them stated that "carving the nail head" (n=5) or "tapering and slanting" (n=4) were hard to understand, while another two found "carving on the shave horse" and "splitting into workpieces" (n=1) difficult to understand. Accordingly, most students wished for more information on "carving the nail head" (n=10) and "tapering and slanting" (n=6), but "splitting into workpieces" and "carving on the shave horse" (both n=3) were mentioned as well. When asked about the attempts needed to successfully recreate the wooden nail, ten students said it took them "2-5 attempts" to reproduce the nail, while five needed as few as "1-2 attempts", four people needed "5-10", and only two needed more than ten attempts. This leads to an overall agreement that the design of the video was "well-made" (20 students), while only one student found it to be "rather well-made". Furthermore, 16 students said they would recommend the video to a friend interested in crafts, and four stated that they would rather recommend it (one did not answer the question). Yet only ten of the students said they would subscribe to a YouTube channel providing similar content, five would rather subscribe, four rather not, and two people would not subscribe to such a channel.

When it comes to the fence ring video, three groups of students can be defined: those who watched the multicam version (n=6), those who watched the 360° video version (n=8), and those who watched both (n=7) before answering the questionnaire on the content. All in all, every respondent but one said they considered themselves to be able to reproduce the fence ring shown after watching either the multicam or 360° video, while the one student who saw himself as rather not able to reproduce watched both versions but preferred the multicam tutorial. The picture is similar for the question about the sufficiency of the information shown: 13 rated it as sufficient or rather sufficient (n=6), whereas two students rated it as rather not sufficient, one of them being the above-mentioned student (who watched both versions) and one out of the 360° group. When asked about the design of the videos, 16 pupils rated them as well-made or at least rather well-made (n=3), while two respondents said they were "rather not well-made" – one of them being the above-mentioned student once again, and one of the multicam group. Accordingly, when asked which version they liked better, the person from the 360° group who rated the information shown as being rather insufficient and the person from the multicam group who found the design rather not well-made both said they would prefer the respective other version (multicam/360°). After all students watched both versions, twelve said they preferred the multicam version, while six students preferred the 360° video (one did not answer the question as she watched only the 360° version). As the 360° video was presented with the aid of a virtual reality headset (Oculus go), the pupils were asked whether they found it easier to follow the action shown through that device. All in all, twelve people found the headset to be beneficiary (n=8) or rather beneficiary (n=4) for following the production of the fence ring, while eight found it to be rather not beneficiary (n=5) or not beneficiary (n=3), and one student did not answer the question. When asked which version they would watch if they had to reproduce a fence ring at home, 15 students chose the multicam version and four chose the 360° video, while two did not answer the question. Interestingly, all four students who owned a virtual reality headset said they would choose the multicam version at home. To further investigate the difference between both versions, one possibility could be to look at questions concerning the students' comprehension of the individual work steps of processing the fence ring. Three steps seem to be difficult to understand (several mentions were possible): "heating the branch over an open fire" (n=9), "twisting the branch to a ring" (n=9) and "assembling the fence" (n=6). There was no major difference between the three groups (multicam, 360°, both), as all of them mentioned the same steps: in each group, "heating" and "assembling" were mentioned three times and two times, respectively. A small difference occurred with regard to the "twisting" step, as group multicam and those who had seen both videos mentioned it two times each. In the 360° group, on the other hand, "twisting" was mentioned five times as the probably most difficult work step. However, the overall sample size is rather small and the groups differ slightly in size, so care has to be taken to not overinterpret the difference of the three mentions. Still, it could be a hint for the project team to look further into specific steps and to revise those sequences. The difficulty in identifying the crucial steps is emphasized when cross-checking the mentioned example with the specific question on that work step: "Twisting and weaving the fence ring is well depicted". The multicam group was in agreement (n=3) or rather in agreement (n=3), while the group who watched both versions was in agreement (n=6) or rather in disagreement (n=1), but surprisingly, the 360° group was in full agreement (n=8) – although they referred to this step as

difficult most often (n=5). Therefore, these mentions do not necessarily have to correlate with the chosen method of depiction.

All in all, the evaluation with school students produced valuable information for the project team to assess and further improve the design concept for the produced videos. In general, the videos were rated as predominantly well-made. For the wooden nail tutorial, all pupils were approving (n=20) or rather approving (n=1) of the concept. Furthermore, 18 found the camera angles used suitable and another three found them rather suitable. When looking at the fence ring video, a total of 16 people agreed or rather agreed (n=3) that it was well-made, while two students rather disagreed (one from the multicam group, one from the group which watched both versions). Here twelve students found the camera angles suitable or rather suitable (n=8), while one found them rather not suitable (also from the group who watched both versions). In general, the respondents preferred the multicam version over the 360° version (n=12 to n=6; three did not answer). To further refine the concepts, it could be helpful to consider the students' comments on the videos. For example, suggestions such as "how to exactly direct the tools" or "how to precisely use the tools", "show important steps slower", "show the exact measurements of the product when it is finished", "show other people trying to reproduce the product and comment on typical mistakes" could be taken into account.

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