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Serkan Aslan[1]
[1]Suleyman Demirel University

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Teacher Candidates' Experiences with the Flipped Classroom Model: A Phenomenological Approach

Serkan Aslan[1*]
[1]Suleyman Demirel University

Abstract

Today, technology integration has become an important issue in the teaching-learning environment. Developed countries integrate technology into schools from pre-school education to higher education, adopting a student-centred approach in their curriculums. Turkey has embraced a constructivist approach to its curriculum since the academic year 2005, in which studies of the teaching-learning environment ushered in the integration of new technology. Despite this, few studies have been conducted on technology integration in higher education. One approach to this research explores the integration of technology in Turkey into the flipped classroom model by the higher education institution, a subject upon which there has not been a sufficient amount of qualitative research. For this reason, in this study, the opinions of elementary teacher candidates regarding their experiences with the flipped classroom model were examined. The research was designed according to phenomenological research design, one of the foremost qualitative research patterns. The participants of the research are teacher candidates studying at Süleyman Demirel University as classroom teachers. The research sample was determined according to the criterion sampling method. An opinion questionnaire about the flipped classroom was used as a data collection tool in the research. Content analysis, a qualitative analysis method, was used to analyse the data. From the research, it was concluded that teacher candidates have experience with the flipped classroom model, believe this model provides many contributions to them and have encountered various problems with the model, for which they have suggestions on how these can be fixed.

Keywords: Technology, Technology Integration, Flipped Classroom Model, Teacher Candidate, Phenomenology.

Introduction

With the advancements in technology of the twenty-first century, the characteristics expected from students have shifted. Due to the developments and changes in digital technology of our age, the concept of the digital learner has emerged. Digital learners have grown up with technology and are defined as learners that organise their daily lives with technology (Göksun-Orhan, 2019). The basic features of digital learners include that they communicate with each other via e-mail or instant messaging, use online resources and correspond through virtual channels instead of face-to-face (Andone, Dron, Boyne & Pemberton, 2006). The fact that digital learners use so much digital technology in their daily lives has also affected their education. In order to train digital learners in a qualified way, new educational methods and techniques that take digital technology into account have emerged in the teaching-learning environment (Levin & Wadmany, 2005). The flipped classroom model is one of the newest models to emerge from recent literature and has been employed effectively.

Bishop and Verleger (2013) underscore the fact that the flipped classroom model is a teaching-learning model that provides an opportunity to perform activities and find solutions to the problems of the students in the classroom activities with the support of the teacher individually or in group activities. Demiralay and Karataş (2014) defined the flipped classroom model as a 'blended learning model' realised under the guidance of the teacher, in which the information presented by the teacher in the traditional classroom environment is transferred to the online platform, and the homework expected to be done outside of school is also integrated into the classroom. In the flipped classroom model, the teacher provides students with comprehension-level information at home, in the form of videos, articles, homework and so on. The class understands that they are meant to learn by using these tools and applying the knowledge and skills they acquire at school. In this way,

* Corresponding Author: *Serkan Aslan, serkanaslan@sdu.edu.tr*

the model enhances classroom interaction while simultaneously enabling effective usage of classroom time by employing more student-centred active learning strategies (LaFee, 2013; Milman, 2012).

The flipped classroom model has many benefits: it allows all students to act according to their own learning speeds and watch video lessons at any time as often as desired; it helps teachers to decide on the difficulty or ease of the content without experience in the school process; it asks students to do their homework in the classroom, allowing teachers to identify situations in which students face problems, understand their learning styles and obtain a more comprehensive perspective on the classroom; it lets students access class content 24/7 with their smartphones, so those who miss lessons for various reasons have the opportunity to watch again from anywhere, making students active thinkers both in and outside of the classroom; in this model, active approaches, methods and techniques for learning are used, improving students' motivation, academic success, high-level thinking and digital skills (Fulton, 2012; Herreid & Schiller, 2013; Morgan, 2014; Talbert, 2012). These advantages are not unique to students and teachers. Parents and members of school management are also positively affected by this process (Erdoğan, 2018).

As mentioned above, there are many advantages to the use of the flipped classroom model. In this regard, the flipped classroom model has become an important issue in higher education, and teacher training institutions have begun to organise the teaching-learning environment according to new approaches, models, methods and techniques. In the 21st century, approaches that centre student activity in the teaching-learning environment have been used. Developed countries have made changes to their curricula and initiated the effective use of technology in the teaching-learning process. As technology integration becomes increasingly imperative in education, it is becoming increasingly imperative for teacher training institutions to integrate technology. In fact, when studies in the national and international literature at the higher education level are examined, positive findings are observed in terms of the flipped classroom model's provision of time for student-centred education, student achievements, motivations, perceptions, positive participation, changing learning habits, encouragement of self-study and development of communication skills (Betihavas, Bridgman, Kornhaber & Cross, 2016; García-Sánchez & Santos-Espino, 2017; Presti, 2016; Turan, 2015; Yıldız, Kıyıcı & Altıntaş, 2016; Zuber, 2016). Therefore, it is useful to explain lessons by considering the flipped classroom model. Trainee teachers trained in this way, when graduated and assigned to work, can easily integrate technology into their lessons and train students according to the requirements of the digital age.

The effective use of the flipped classroom model in higher education contributes to the educations of students studying in these institutions. An experimental investigation into higher education research in Turkey about the flipped classroom model (Duman, 2019; Erdogan, 2018; Tanners, 2018) reveals that little qualitative research into the subject has been done. This situation was evaluated by the researcher as a deficiency. A flipped classroom model was used in an instructional technology course by the researcher. The teaching-learning process was organised by taking this model into consideration. The opinions of elementary teacher candidates regarding this model – what the model contributes to them, what problems are encountered when applying the model and what solutions they suggest to address these problems – are considered an important research subject, and it was therefore decided that conducting such a study is necessary. This research will provide feedback on the model from both teacher candidates and faculty members working in teacher training institutions. In addition, since there are no studies related to this subject in the existing literature, this study intends to fill the gap in the literature.

The aim of this research is to examine the opinions of elementary teacher candidates about their experiences with the flipped classroom model. In this context, answers to the following questions will be sought:

1. What are the opinions of preservice teachers on the flipped classroom model?
2. What are the opinions of teachers on the flipped classroom model in terms of their contribution?
3. What are the problems that preservice teachers experience in a flipped classroom model?
4. What are teachers' suggestions for solutions to the problems they face regarding the flipped classroom model?

Method

Research Design

Phenomenology, a form of qualitative research design, was used in the study. Qualitative research is defined as "a scientific study based on the discovery, understanding and interpretation of various events and phenomena within their environments as a result of a detailed examination" (Tuna, 2015: 360). According to Creswell (2007), qualitative research is the process of making sense of social questions and problems related to people using one's own methods. According to Creswell (2007), phenomenology is defined as the study of the experiences of a select few with a particular phenomenon or concept. According to Johnson and Christensen

(2012), the aim of phenomenological research is to obtain insight into the living worlds of the participants in the research and to reveal the personal meanings through which they have structured their experiences. In this study, the phenomenological research pattern was used in order to examine the opinions of the elementary teacher candidates on the flipped classroom model by delving into their experiences.

Participants

The participants of the research are 25 candidates studying at in a public university to become elementary school teachers. A criterion sampling method was used to determine the participants of the research. Criterion sampling involves the determination of a set of specific criteria, such as events, features, objects and dates, followed by the selection of the sample within the framework of these criteria (Özbaşı, 2019: 121). The criterion used to determine the scope of this research is that teacher candidates must have had experience with the flipped classroom model and taken lessons about the flipped classroom. The main reason for the determination of this criterion is that it is important to obtain healthy information about the flipped classroom from participants familiar with it for the purposes of this study. The researcher has taught an instructional technologies course for second-year students studying in the department of elementary education according to the flipped classroom model. In this respect, according to phenomenological research design, which is the method used in this research, these students are included in the research. The opinions of the participants are explored in depth through examination of their experiences with the flipped classroom model. 16 of the participants are women and 9 are men.

Data Collection Tool

Within the scope of the research, a questionnaire form was prepared to capture opinions of the elementary teacher candidates about the flipped classroom model. Surveys are available in formats consisting of open-ended or closed-ended questions (Tymms, 2017). In this study, the questions in the questionnaire form consisted of four open-ended questions. While developing open-ended questions, the literature was examined and opinions were received from two faculty members who conducted research on the flipped classroom model. After preparing the questions in the questionnaire form, the pilot was implemented. The form was administered to five preservice teacher candidates and its consistency was checked. Consequently, the form was reconfigured according to feedback from both teacher candidates and faculty members. The final form was administered to teacher candidates as part of the original practice.

Data Collection

The data of the research were collected between 02-06 / 03/2020. While collecting the data, the purpose of the research was explained to the participants. The questionnaire was filled in by teacher candidates in approximately 30 minutes and collected at intervals that would not hinder the teacher candidates' lessons. Before applying the questionnaire form, the ethical committee decision was made and the necessary permission was obtained. The participants gave their consent to participate in the research.

Data Analysis

Content analysis, another qualitative data analysis method, was used to analyse the results of the research. Content analysis is used to “identify the existence of words, concepts, themes, idioms, characters or phrases in one or more texts and to enumerate them” (Kızıltepe, 2015: 253). Berg (2001) defined content analysis as "careful, detailed and systematic examination and interpretation of a particular material in order to identify patterns, themes, prejudices and meanings". Content analysis can be conducted in two ways: deductively and inductively. Inductive content analysis was used in this research. In inductive content analysis, the researcher reads the data repeatedly, determining the dimensions that are important for the purpose of the research, decoding the data into categories and grouping similar categories under broad titles to summarise them (Kızıltepe, 2015). In this study, the questionnaire forms were read one-by-one, and the answers to each question were carefully read and coded. Later, these codes were brought together to create themes (Bogdan & Biklen, 2003; Saladana, 2019). Within the scope of the research, the data were analysed using NVivo 11 and the results obtained are presented in figures.

Validity and Reliability in Research

Various strategies were used in the research to ensure validity and reliability. These include the following.

1. Within the scope of the research, all processes – including data collection, analysis and interpretation by the researcher – were questioned with a critical eye and verified to ensure whether the results obtained reflect reality (Yıldırım & Şimşek, 2016).
2. As a result of the research, the participants were confirmed (Güçlü, 2019).
3. Research findings were presented to field experts and their opinions were received (Sığrı, 2018).

4. The compatibility of the themes and codes was examined by two different experts. In cases where agreement could not be reached, the experts talked to each other and reached a compromise (Güler, Halıcıoğlu & Taşğın, 2014).
5. The opinions of the participants were directly quoted in order to increase the reliability of the study (Güler, Halıcıoğlu & Taşğın, 2014).

Ethical Measures Taken in the Research

Ethical issues were respected during the research process. Attention was paid to ensuring that the participation of participants in the research was voluntary. Before administering the survey form, information was provided and permissions were obtained. Participants were informed that they would not be harmed in any way and that they should not write their names on the questionnaire. Within the scope of the research, the anonymity principle was heeded in direct quotations of teacher candidates, and codes such as TC: 1, W (Teacher Candidates: 1, Women) were used instead. Participants were also informed that the research data would not be used outside the scope of the research and that the data would remain confidential (Johnson & Christensen, 2012; Hammersley & Traianou, 2012; Karagöz, 2017). Within the scope of the research, the consent of the participants was obtained by distributing a participant consent form. In addition, the decision of the ethics committee (SDÜ: 874329561 / 050.991) was taken within the scope of the study.

Findings

Findings are presented in terms of the sub-problems of the research. According to the first sub-problem of the research, the opinions of teacher candidates on the flipped classroom model were examined, the findings of which are presented in Figure 1.

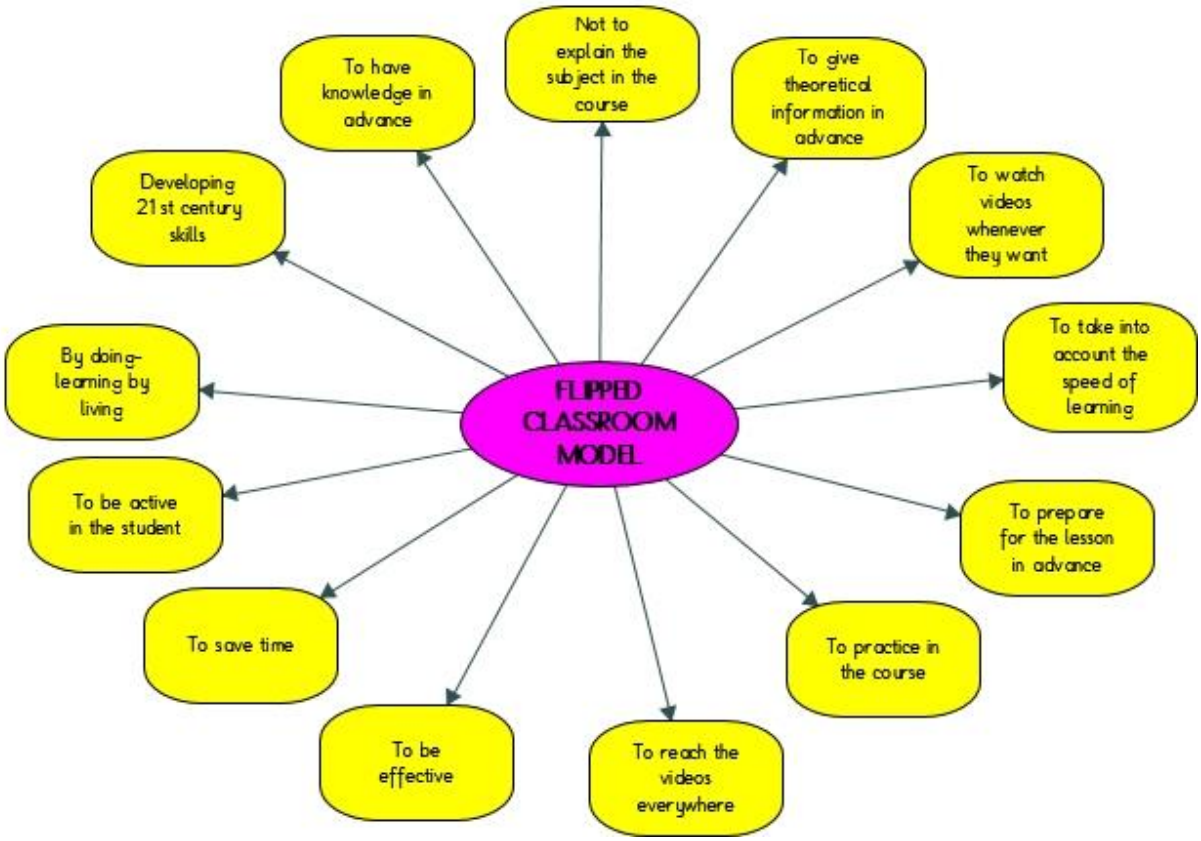

Figure 1. Teacher candidates' opinions about the flipped classroom model

Figure 1 demonstrates that teacher candidates have sufficient information about the flipped classroom model. Teacher candidates, regarding the flipped classroom, had the following to say: it provided them with prior knowledge about the subject to be taught in the lesson, they did not explain the subject of the lesson, they were given theoretical knowledge in advance, they were able to watch the videos whenever they wanted, the model took into account their learning speeds, they had the opportunity to prepare for the lesson in advance, and they had the opportunity to reach the videos anywhere. They stated that the lessons were effective, saved time, resulted in active students, allowed for learning by doing and living and helped them to develop 21st-century skills. The views of some teacher candidates are given below.

"*In the flipped classroom model, before coming to the lesson, we get information about the subject to be covered in the lesson thanks to the videos and articles related to the lesson. In this lesson, the time allocated for the lesson is lessened and allows us to practice to reinforce the subject.*" (TC: 1, M)

"*While doing the definition and memorization part at home on our own, we practice these topics in the classroom. This is a very important situation for us. It provides efficient time in the school. In this model, giving theoretical knowledge in advance makes it easier for us to come prepared for the lesson.*" (TC: 5, M)

Based on the second sub-problem of the research, the opinions of preservice teachers about the contributions of the flipped classroom model to their studies were examined, the findings of which are presented in Figure 2.

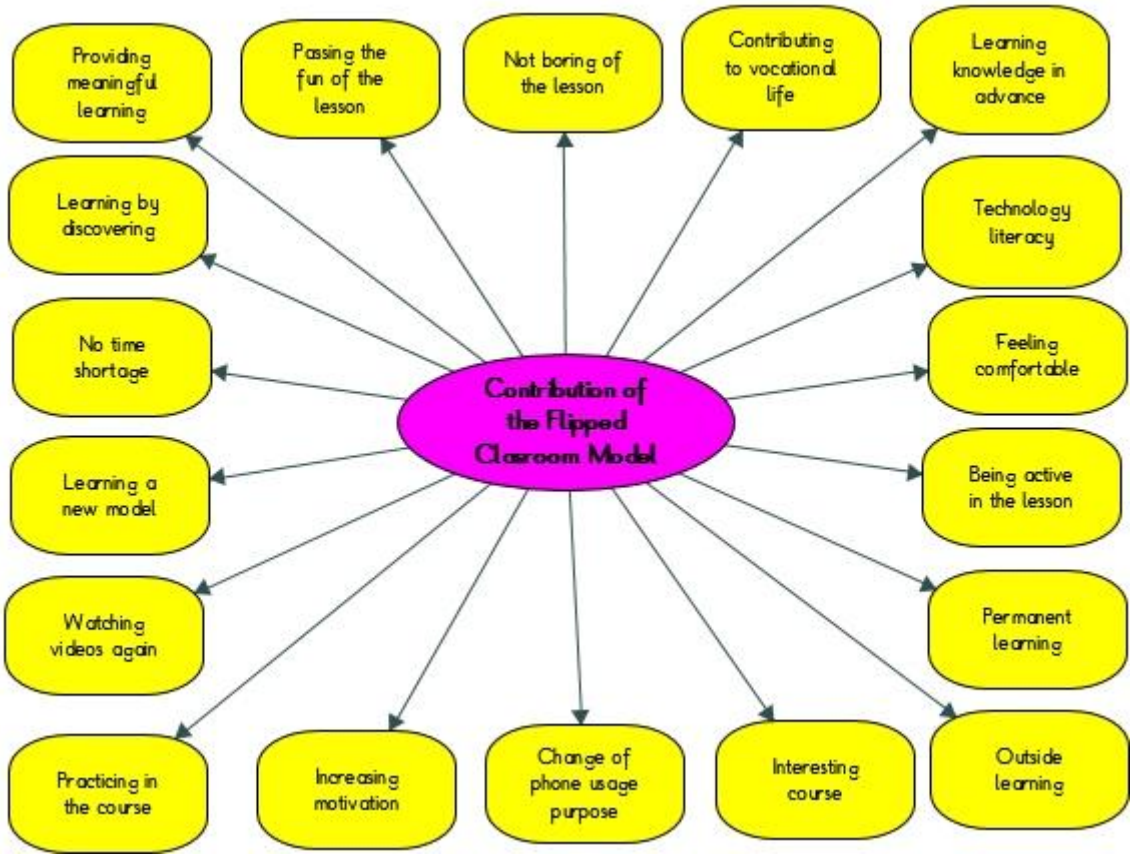

Figure 2. Teacher candidates' opinions about the flipped classroom's contribution

According to Figure 2, teacher candidates stated that the flipped classroom model provides many contributions to them. The teacher candidates stated that the flipped classroom model: interests them to learn by discovering, provides meaningful learning experiences, facilitates the fun of learning, is not boring, contributes to their professional lives, allows them to learn information in advance, helps them develop technology literacy, makes them feel comfortable, encourages active learning, ensures permanent learning and allows for learning outside of the classroom environment. They stated that it was attractive, changed the purpose of using their phones and increased their motivation. Additionally, the applications in the lesson contributed to watching videos, learning a new model and prevented time problems. The views of some teacher candidates are given below.

"*In the flipped classroom model, we learned theoretical knowledge at home and practiced it at school. Thanks to this, I learned the information better and it became permanent. In addition, it was a great advantage for us to give videos, assignments and articles about the subject beforehand. Meaningful learning was also taking place.*" (TC: 6, W)

"*The contribution of this class practice to me was that I did not get bored with 45 minutes of theoretical knowledge in the lesson. It made the lesson more enjoyable and fast. I was constantly actively attending the lesson and my learning was made permanent by reading the homework, videos and articles. It was very advantageous for me to have prior knowledge of the subject of the day. I could answer the questions asked by the teacher.*" (TC: 7, M)

Based on the third sub-problem of the research, the opinions of teacher candidates about the problems they encountered in the flipped classroom model were examined. These findings are presented in Figure 3.

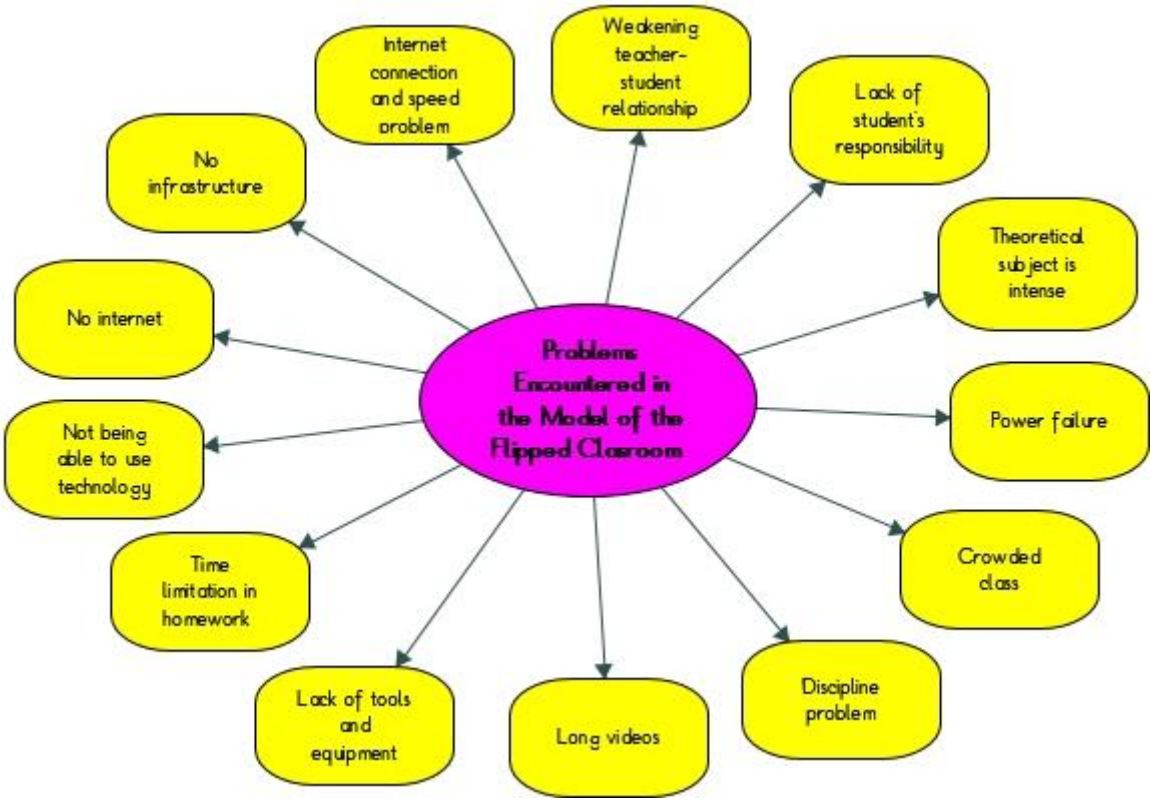

Figure 3. Opinions of teacher candidates about the problems they face in the flipped classroom model

Figure 3 reveals problems encountered by teacher candidates during the implementation of the flipped classroom model: lack of internet, lack of infrastructure, internet connection and speed problems, weakening teacher-student relationships, failure to fulfil students' responsibility, intense theoretical subjects, power failures, crowded classes, disciplinary problems, long videos, lack of tools and equipment and time allowed for assignments. They stated that they had problems such as restriction and not being able to use the technology. The views of some teacher candidates are given below.

"*I think the problem is that there is no connection between the teacher and the student in an emotional sense. The teacher gives the theoretical information, the student watches or reads and comes. There may be questions he wants to ask. I think it weakens the teacher-student relationship.*" (TC: 18, W)

"*I had a problem using technology in the flipped class model. The virtual class implemented in Edmodo was difficult for me. I could not use this program very well. I also had problems on the internet and sometimes I could not connect.*" (TC: 19, M)

Based on the fourth sub-problem of the research, the suggestions of teacher candidates regarding the effective and efficient use of the flipped classroom model were also examined, the findings of which are presented in Figure 4.

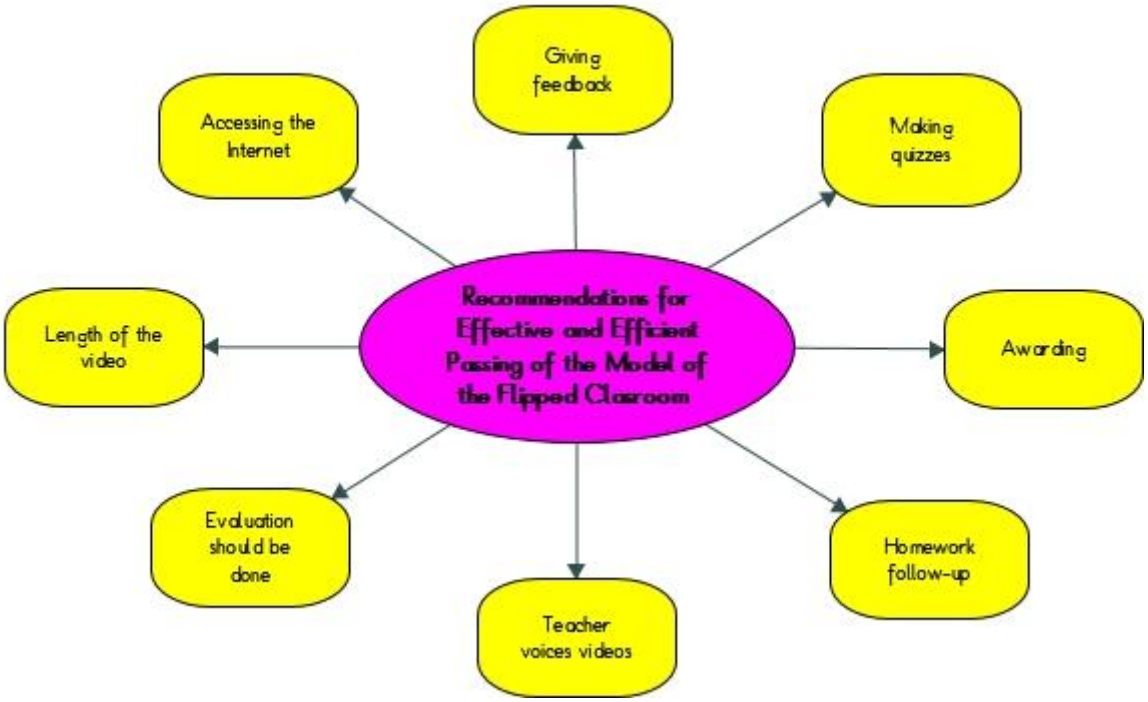

Figure 4. Suggestions of preservice teachers about the effective and efficient use of the flipped classroom model

In Figure 4, participants suggest adjusting the length of the video for effective and efficient implementation of the flipped learning model, providing equal access to the Internet for all students, supplying students with feedback, giving students quizzes, rewarding successful students and groups, following up with homework, videos and suggestions via teacher vocalisation and developing evaluation methods. The views of some teacher candidates are given below.

"*Videos sent to students in the flipped classroom model should definitely not be kept too long. I did not want to watch it when it is long. Short and concise videos should be used instead. In addition, evaluation should be made about the subjects. In this way, it can be determined who has learned the subject.*" (TC: 20, W)

"*The teacher should monitor whether the homework or videos he / she sent are watched. Otherwise, the students come without watching the videos, and this prevents the lesson from being effective. Also, the students must be given feedback by the teacher. Sometimes there is a place he cannot understand.*" (TC: 21, W)

Discussion, Result and Recommendations

In this study, the experiences of the elementary teacher candidates with the flipped classroom model were investigated in depth. As a result of the research, it was observed that teacher candidates are sufficiently informed about the flipped classroom and that their attitudes towards this model are positive. One of the biggest obstacles to technology integration in the teaching-learning process is the negative attitudes and prejudices of students towards technology (Gününç, 2017). In this regard, teacher candidates' knowledge of the flipped classroom model and positive attitudes will ensure that the problems encountered in technology integration will be minimised. This result suggests that teacher candidates will be able to implement the flipped classroom model in their classes when they start working and that they will integrate technology effectively and efficiently. It is not an exaggeration to say that individuals with 21st-century skills will be raised in this way. The fact that teacher candidates say that the flipped classroom helps to develop critical and creative thinking skills and sharpen 21st-century skills supports this interpretation. Studies conducted by Clark (2015), Evseeva and Solozhenko (2015), Muir and Geiger (2016), D'addato and Miller (2016), Özdemir (2019), Szparagowski (2014) and Turan and Göktaş (2015) have concluded that the flipped classroom model improves students' attitudes.

In the study, the opinions of the preservice teachers about the contributions of the flipped classroom model to their own studies were also examined. Research revealed that the flipped learning model helps them to make discoveries, provides meaningful learning, makes lessons fun, contributes to their professional life, allows them to acquire knowledge in advance, improves technological literacy, makes them feel comfortable, facilitates activity in the lesson and makes learning permanent. They noted that it creates out-of-school learning

environments and more interesting lessons, the purpose of using their phones has changed, their motivation has increased, the application of the lesson contributed to watching the videos again, they were able to learn new models and they did not struggle with time problems. These results show that the application of the flipped classroom model in higher education provides many contributions to many students. With this in mind, it will be very useful to apply the flipped classroom model in higher education institutions. In the research carried out by Özdemir (2019), the fact that students felt the flipped classroom model contributed to their studies the opportunity to watch videos, prepare for the lesson, pause the videos, provide permanent learning and supply audiovisual information supports the results of this research. In the results of studies conducted by Chilingaryan and Zvereva (2017), Torun and Darkut (2015) and Lo, Hew and Chen, (2017), the results that overlap with the present research results obtained.

Within the scope of the research, the problems teacher candidates face as a result of applying the flipped classroom model were also examined. During the implementation of the flipped classroom model, teachers encountered a lack of internet, lack of infrastructure, internet connection and speed problems, weakened teacher-student relationships, student failure to fulfil their responsibilities, intense theoretical subjects, power failures, crowded classes, disciplinary problems, long videos, lack of tools and equipment and time in assignments. They stated that they had problems such as restrictions and inability to use the technology required. The national and international literature states that in the application of the flipped classroom model, it is difficult to control whether students watch the videos or not (Arnold-Garza, 2014; Ayçiçek, 2019; Tucker, 2012). In this regard, the problems faced by teacher candidates in the application of the flipped classroom model overlap with those observed in the literature. In studies by Bergmann and Sams (2012), Kara (2016a), Kara (2016b) and Özdemir (2019), similar problems were encountered and identified.

Finally, the suggestions of teacher candidates for administering the flipped classroom model were examined. Findings indicate that for the effective and efficient implementation of the flipped classroom model, video lengths should be properly adjusted, access to the internet should be provided, students should be given feedback, quizzes should be supplied intermittently, successful students and groups should be awarded, teachers should follow up on students' learning with homework, and vocalisation and evaluation should be developed. In the study carried out by Debbağ (2018), teacher candidates developed suggestions such as preventing classroom overcrowding and providing tools and equipment for the flipped classroom to be effective. These suggestions coincide with the suggestions developed as a result of this research.

Based on the research results, the following suggestions have been developed:

1. The flipped classroom model should be used in courses in teacher training institutions, and faculty members should be supported in its implementation. In this way, teacher candidates with high digital self-efficacy and advanced technological literacy can be trained.
2. Measures should be taken by the relevant institutions to eliminate problems such as lack of access to the internet and lack of tools and equipment required by the teachers. In this way, the flipped classroom model can be applied more effectively and efficiently in higher education institutions.
3. The research was carried out on students studying in the department of elementary school teaching. Studies should be conducted to investigate the opinions and experiences of teacher candidates studying in other teacher training programs regarding flipped classroom practices.
4. Conducting research using case models, action research, experimental work, mixed research methods such as case study and the implementation of the flipped classroom model in teacher training programs will contribute further to the literature.

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