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Implementation and evaluation of flipped learning approach with an educational social network

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Abstract: The purpose of this study is to investigate how to apply the flipped learning approach (FLA) at the undergraduate level using the Edmodo environment, the educational social networking site. In this study, instructional design course of second grade students of Department of Computer Education and Instructional Technology (CEIT) of a state university was processed with the FLA and the Edmodo social network environment was analysed in this model. The method of the study has been identified as a case study from qualitative research methods. The implementation process consists of four weeks. The data of the study were obtained through the discussion data of the students via Edmodo and through the interviews made after the four-week application period was completed. Results indicated that students successfully perform their learning processes with flipped learning. Besides, students had both positive and negative opinions about the learning process.

Keywords: flipped learning; Edmodo; educational social network; case study; instructional design.

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Biographical notes: Seda Özer-Şanal is a PhD researcher in the Computer Education and Instructional Technology Department at the Firat University. Formerly, she had worked for instructional design and technology in both special education and corporate settings. Her research interests centre on using instructional technology to facilitate student learning and designing learning environments supported and enhanced by emerging e-book, video, and some web-based technologies.

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1 Introduction

Importance of individualised learning has been increased with the acceptance of more effective learning performances of individuals in different ways and in different periods. However, it is not possible for every student to realise their own learning processes with their own preferred materials in traditional teacher-centred classes. Even teachers, who have adopted individualised learning, may not be able to show sufficient attention to each student with traditional teaching methods and provide an effective learning environment due to crowd of students. At this stage, the flipped learning approach (FLA) comes to the fore as an approach that allows individualised learning, where teachers can provide effective learning processes by providing the necessary support to a large number of students.

FLA provides a different teaching-learning process which is based on constructivist theory, in which the student is responsible for their own learning processes, in contrast to the teaching method preferred narration on the basis of behavioural theory (Filiz and Kurt, 2015). In a learning-teaching process organised according to this approach, students use the classroom environment by interacting with teachers and other students and performing activities while independently receiving the content they will learn through various materials outside the school (Wallace, 2013). Thus, while more learning activities are carried out in the classroom, the students will have the opportunity to apply what they have learned, while the teachers will spend more time solving the problems of the students and contribute to the learning process to be more effective (Hwang et al., 2015). However, it can be said that it is important for students to organise their own learning processes so that they can benefit from this process more effectively, as the students will realise their learning outside the classroom. In this context, the fact that students support each other in learning processes outside the classroom can lead to a more effective and

efficient process. Based on this idea, in this study, while FLA was using, an educational social network environment where students could support each other outside the classroom was also used. In conclusion, the aim of the study is to apply the FLA with the support of Edmodo within the scope of a undergraduate course and to examine the learners' views about this process.

Depending on the purpose of the research, answers to the following research questions were sought.

What are the opinions and views of students, participating in educational social network supported FL process, about

- 1 Performing and completion status the task related to the content in the classroom?
- 2 Searching for answers and how participating to discussion questions with classmates over the content shared before the lesson?
- 3 Sharing the content with the video before the lesson?
- 4 Contributions and limitations of this process?

2 Literature review

Studies show that the FLA is highly appreciated among the teachers and students who practice it; an active learning environment is created, participation is increased and the contents are understood more deeply, with this approach (Seery, 2015). Karaca and Ocak (2017) examined the effects of FLA on the academic achievement of undergraduate students. The results of their study with 220 students showed that, when applied in a well-structured way, the FLA significantly increased the academic success of undergraduate students. In another study, Akgün and Atıcı (2017) examined the effects of FLA according to primary level students' academic success and their views. The results of the research showed that academic success of the students increased significantly compared to the traditional method. The students also stated that they remembered what they learned better, more active in the lessons, could interact more with the teachers and other students during the learning process, and it was more motivating to take the subjects with different materials before coming to the lesson. Another study examining the views of students on the FLA was conducted by Turan and Göktaş (2015). In the study carried out with undergraduate students for ten weeks, students stated that they learned easier and lasting, and the learning process was more flexible and fun. In addition, students also stated some negative aspects such as insufficient technical materials related to the process and not getting instant feedback while learning the contents. According to that, this negative situation can be eliminated by using social networks to increase teacher-student and student-student interaction outside the school environment.

Instructional social networks, which form the basis of this study, can be effective tools that can be used in FLA. Social networks can enable students to interact and exchange information outside the classroom, both offering new learning opportunities and enhancing their interactions in the classroom (see Hung and Yuen, 2010). In this study, Edmodo, one of the educational social networking sites, was used. Edmodo offers

a similar feature to the Facebook social networking site, which is widely used today, by giving its users the opportunity to share information in various formats such as text, image, video and sound. This is a feature that promotes the use of Edmodo among students and teachers. In addition, Edmodo also offers instructional applications such as questionnaires, homework, exams, and is actually an integrated form of a learning management system (Durak et al., 2014). Wallace (2013) also emphasises that it was more of a pedagogical and collaborative environment by moving away from the understanding that puts technology at the centre of education, instead of defining Edmodo as a technological environment. Collaborative learning environments were also the second classes of teachers and students as environments where students develop their own learning skills, communicate with other students, share activities and seek solutions to problems together (Liu et al., 2013). The studies in which Edmodo was used as a support to the lessons show that this collaborative environment had positive effects on the lesson processes. For example, in a study that investigated Edmodo as an educational social network, 50 undergraduate students' perspectives were examined. It was seen that, their responses and attitudes were positive on using Edmodo in a learning process. But students had some difficulties on using this environment, because of the lack of their experiences (Insani et al., 2018). Also, Hamutoğlu and Kıyıcı (2017) used Edmodo in an undergraduate course to examine students' views on this practice. They found that the students stated that it was beneficial to access the content of the course at any time from anywhere, that other students' sharing or commenting on the content provided new learning and they could focus more on the lessons, thanks to Edmodo. In another study, undergraduate students stated that the use of Edmodo facilitated their participation in the lesson, their communication with teachers and other students increased and they learned more effectively (Oyelere et al., 2016). Dere et al. (2016) used the Edmodo in the courses they attended with elementary students and 182 students attended. They found that students expressed a positive opinion that their motivation towards the lessons increased, had opportunity to communicate more with the teachers and students, and could share files safely with each other. In addition, students stated that applications such as participating in questionnaires, also taking exams in Edmodo were more fun and it was more beneficial for them to get feedback instantly. In another study, the students who experienced using Edmodo in the lessons stated that the environment was a good support tool in general, that the participation of both lessons and the lessons increased and they made more effective learning thanks to the environment. Nevertheless, negative opinions had been made regarding the use of Edmodo as it was time consuming, difficult to use and not all students could use it because they did not always have internet access (Enriquez, 2014).

Although there are a few negative opinions, it can be said that Edmodo improves learning experiences, students have a more active learning process and the students organise their own learning processes thanks to the sharing. Therefore, Edmodo environment can be considered as an environment that can support the interactions of students outside the classroom within the scope of the FLA. Therefore, in the study, the Edmodo environment was preferred and its usability was examined within the scope of the FLA and the opinions of the students were tried to be revealed.

3 Methodology

3.1 Research design

The purpose of this study is to examine the flipped learning (FL) process carried out through a social network environment and to determine student views regarding this learning process. According to this purpose, it was appropriate to conduct the study as a case study. Creswell (2007) expressed case study as a research approach in which the researcher examines one or more situations that take place in a certain time period, using multiple data sources (observation, interview, document, etc.). Within the scope of this study, the FL process carried out over the Edmodo in a four-week period was examined in depth.

3.2 Participants

The participants of this research were 46 undergraduate students, 25 women and 21 men, taking instructional design course in Department of Computer Education and Instructional Technology at a state university in Turkey.

3.3 Instructional process and environment

The study was carried out for four weeks on Edmodo based on FL. Each week, it was carried out by sharing the content video with the students, conducting the discussion, performing the applications and completing the tasks of the students. The weekly implementation process is summarised in Table 1.

3.3.1 Content presentation

Researchers planned to teach articulate program, which let students to produce digital content, on the basis of FL. For this purpose, the titles of the content to be taught by the researchers were determined. Then content videos of the titles, discussion questions, sample applications and tasks to be asked from the students were decided. The contents are in .mp4 format and shared with students on a sharing platform. The screenshot taken from the videos is given in Figure 1.

Table 1 Weekly application process

Content presentation	Sharing instructional video of the lecturer on the relevant subject
Discussion	Sharing the content-related discussion questions with students
Lesson	Repetition, re-reinforcement and sample practice sharing with students
Task	Giving performance task related content

Figure 1 Screen shot from a sample content presentation (see online version for colours)

3.3.2 Discussion

During the discussion, the questions about the video of the week were directed to the students via Edmodo. The students answered these questions at any time until the relevant class hours. In Figure 2, a screenshot taken from the discussion questions field presented over Edmodo.

Figure 2 Sample screenshot from discussion question and student answers (see online version for colours)

3.3.3 Lesson

The implementation time of the related course was carried out every week from 8:15 AM to 10 AM on Thursday. During this period, with the pre-acceptance of the students to watch the videos and participate in the discussions, the spots that were not understood were repeated and the sample applications related to the subject were demonstrated and done.

3.3.4 Task

After the lesson phase, students were given a content related task and expected to complete their tasks until the video of the other week was delivered to them.

4 Data collection and analysis

Social network supported FL process was carried out for four weeks within the scope of the study. The students both participated in discussions in the educational social network environment and developed a material within the course for four weeks. In addition, a meeting was held with the students about the social network supported FL process that they participated in at the end of the process. The data of the study were obtained through the discussion data of the students via Edmodo and the interviews made after the four-week application period was completed. The interview questions prepared by the researchers were presented to the participants online. The interview form consists of questions that will enable students to express their views on the implementation process. For example, ‘What are your opinions about the videos presented to you, about answering the questions with your classmates?’ question can be given. Descriptive statistics were used in the analysis of the data regarding the students’ participation in the discussions and completing the tasks given in the lessons. Interview data were analysed by content analysis. It was done by sorting the gathered information to make segmentations on a spreadsheet program which helped researchers to move easily on the information. Two researchers done the issue by discussing to make sure the codes to be right, thanks to complicated sentences. In this manner an expert opinion and a participant confirmation was taken.

5 Findings

The aim of this study is to evaluate the FLA carried out through a social network environment and to determine student views regarding this learning process. Within the scope of this study, the FLA carried out over the Edmodo environment in a four week period was examined in depth. The data related to the social network supported learning experiences of the students were obtained from the students’ product files and interviews with the students. Findings are presented below.

5.1 Opinions about sharing the content with the video before the lesson

The students watched the content video prepared by teacher before the day of the related lesson came. They stated both positive and negative opinions for watching the video before the lesson. Positive opinions were gathered under the themes of providing the opportunity to make the video again, watching the video whenever they want, loading the responsibility and keeping the student active, and supporting learning more topics. Negative opinions were gathered under the themes of listening to lessons in the classroom, technical features, and intense expression. Below are examples of positive opinions.

“The contribution is very high because there is no time and space limitation and we have a chance to repeat it.” [mean in Turkish: “Zaman ve mekân sınırlaması olmadığı için ve tekrar edebilme şansımızın olmasından dolayı katkısı çok fazladır.”]

“I think the lesson being taught with videos helped us learn more. Because it would be difficult for the teacher to explain the place that is not understood in the classroom environment, to give each student additional time for this, and we would not have time to learn many of the things we have learned so far.” [mean in Turkish: “Bence dersin videolarla işlenmesi daha çok şey öğrenmemizi sağladı. Çünkü sınıf ortamında anlaşılmayan yeri tekrar tekrar anlatmak, her öğrenciye bunun için ek zaman tanımak hem öğretmen için zor olurdu hem de şu ana kadar öğrendiğimiz şeylerin bir çoğunu öğrenmek için vaktimiz olmazdı.”]

“It is more advantageous for me to support the process of the course with videos. For example, I cannot study every lesson with the same motivation. I can watch the video whenever I want in every area.” [mean in Turkish: “Dersin surecinin videolarla desteklenmesi benim için daha avantajlı oluyor. Mesela ben her dersi aynı motivasyonla işleyemiyorum. Videoyu ise her alanda canım istediği zaman izleyebilirim.”]

“The creation of these videos as extra material for the lesson provided diversity and attention. At the same time, he removed the student from laziness, even a little, and charged responsibility. The fact that these videos can be watched again and again at any time is an extra source.” [mean in Turkish: “Ders için fazladan materyal olarak bu videoların oluşturulması çeşitliliği ve dikkat çekmeyi sağlamıştır. Aynı zamanda öğrenciyi tembellikten az da olsa uzaklaştırmış ve sorumluluk yüklemiştir. Bu videoların istenildiği zaman tekrar tekrar izlenebilmesi ise ekstra kaynak niteliğindedir.”]

As can be seen from the quotations from student views above, the sharing of the pre-course content video with the students was positively interpreted by the students. Students could watch the videos whenever they want and repeat them as much as they want. This allowed students to progress at their own pace. Below are examples of negative views.

“The sound quality in the videos was very low so I couldn’t understand much, I was getting help from my friends.” [mean in Turkish: “Videolardaki ses kalitesi çok düşüktü bu yüzden pek fazla anlayamıyordum arkadaşlarımdan yardım alıyordum”]

“Video supports were good, but it would be better to be told and taught in class” [mean in Turkish: “Video destekleri iyiydi fakat derste de anlatılıp kavransa daha da güzel olurdu”]

“Sometimes it was boring because it was a very concentrated tempo and it was always the same material.” [mean in Turkish: “Bazen çok yoğunlaştırılmış bi tempo olduğu için ve sürekli aynı materyal olması da sıkıcı yaptı.”]

As can be seen from the quotations of the students’ opinions above, some students expressed technical problems, while others expressed the habit of listening to the lessons in the classroom and described this application process as negative.

5.2 Opinions about performing the task related to the content in the classroom

Students watched the course content video before coming to class. Then, when they came to class, after the question and answer part, they were asked to complete the task assigned to them. They expressed positive opinions about the task being carried out in the classroom. Opinions are gathered under the themes of saving time, the possibility of consolidation and the possibility of over-application. Below are examples of opinions:

“I think we are saving time. Thanks to the videos being processed outside the classroom, I see that we mean more in the course of the lesson.” [mean in Turkish: “Zamandan tasarruf sağladığımızı düşünüyorum. Videoların ders dışında işlenmesi sayesinde, ders sürecinde daha çok yol kastettiğimizi görüyorum.”]

“It is a positive aspect of the process that we have gained more time for implementation in the lesson and helped us to express our views on unclear issues.” [mean in Turkish: “Derste uygulamaya yönelik daha fazla zaman kazanmış olmamız ve anlaşılmayan konularda ki görüşlerimizi beyan etmemiz akabinde yardımcı olunması sürecin olumlu yönlerindedir.”]

“Thanks to the videos, we spent the lesson more actively, but it was tiring to watch over and over again when we had difficulties. It was easier for our teacher to explain and practice right after us, but we were having a short time, so the videos were useful for us.” [mean in Turkish: “Videolar sayesinde ders süresini daha aktif geçirdik fakat zorlandığımız konularda tekrar tekrar izlemek yorucu oldu. Hocamızın anlatıp bizim hemen ardından uygulama yapmamız daha kolaydı fakat zaman sıkıntısı yaşıyorduk o yüzden videolar bizim için faydalı oldu.”]

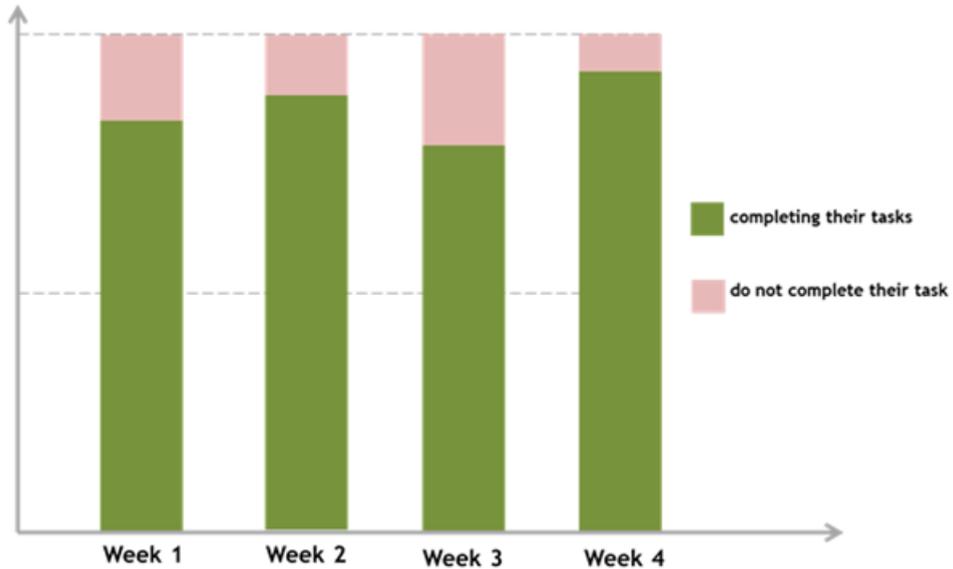
“It is easy to watch the course videos at the desired place and time in the external environment regardless of the classroom environment. As a result of the videos watched, the application related to the subject has been made in the classroom and it has been provided to evaluate whether the student gained this skill.” [mean in Turkish: “Ders videolarının sınıf ortamından bağımsız olarak dış ortamda istenilen yer ve zamanda izlenebilmesi kolaylık sağlarken izlenen videolar sonucunda konuyla ilgili uygulama sınıfta yaptırılarak öğrencinin bu beceriyi kazanıp kazanmadığı noktasında değerlendirme imkânı sunmuştur.”]

As can be seen from the quotations from the student views above, the students described the process positively by expressing that they use the lesson time more actively when they perform the task in the classroom, save time, learn more content and make easy evaluation.

5.3 Completion of the task related to the content

During the four-week application process, students' levels of completing the tasks requested from them in the classroom are explained below by graphic.

Figure 3 Percentage of students completing four tasks (see online version for colours)

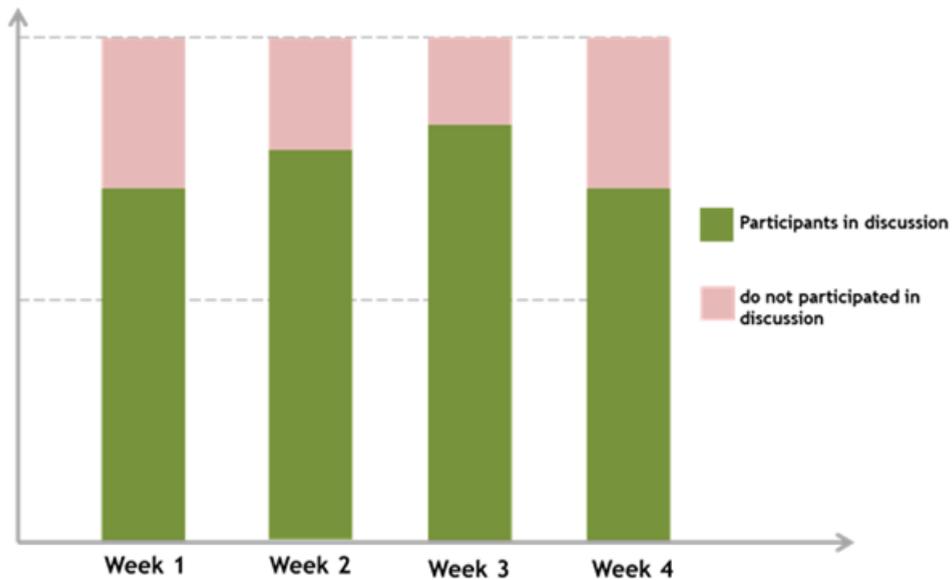


As can be seen in the graphs above, the students showed a high level of participation in task completion performance for four weeks. 89% ($n = 41$) of the first week, 91% ($n = 42$) of the second week, 87% ($n = 40$) of the third week, and 93% ($n = 43$) of the fourth week completed the task. . Those who did not attend are those who did not attend the lessons that week, those who did the job missing/wrong or those who did not.

5.4 Participating in discussions with classmates over the content shared before the lesson

The level of participation of the students to the discussion questions in the social environment during the four-week implementation process is explained in the following graphs.

As can be seen in the graphs above, the students had a very high level of participation in the discussion for four weeks. 80% of students ($n = 37$) in the first week, 85% ($n = 39$) in the second week, 87% ($n = 40$) in the third week and 80% ($n = 37$) in the fourth week were active in the discussions. They participated as. Those who did not attend consist of those who did not attend the classes that week, did not participate in the discussions, and those who participated in the discussions in sentences that were not understood.

Figure 4 Percentage of students participating in the discussions (see online version for colours)

5.5 Opinions about the calls to answer discussion questions with classmates over the content shared before the lesson

Students watched the course content video before coming to class. They then participated in the discussion questions directed to them about the content. The students expressed positive opinions about this discussion activity. Opinions were gathered under the themes of active participation, video surveillance, gaining different perspectives. Below are examples of opinions:

“I mean a more effective lesson and more active students. So these discussions make the lesson more efficient.” [mean in Turkish: “Daha etkili bir ders ve daha aktif öğrenciler demek istiyorum . Yani bu tartışmalar dersin daha verimli geçmesini sağlıyor.”]

“Our obligation to watch videos to find answers to discussion questions was the most useful part of the lesson :)” [mean in Turkish: “Tartışma sorularına yanıt aramak için videoları izleme zorunluluğumuz dersin en yararlı kısmıydı :)”]

“Following the videos watched, thanks to the participation in the discussion questions asked within the scope of the related video subject, it was also measured that the students think cognitively in the educational sense, and accordingly, the ability to comment on the subject of the video was gained.” [mean in Turkish: “İzlenen videoların ardından ilgili video konusu kapsamında sorulan tartışma sorularına katılım sayesinde öğrencilerin hem bilişsel olarak eğitsel anlamda düşünme buna bağlı olarak ta yorum yapma becerisini arttırmış, ayrıca video konusu ile ilgili hedef davranışların kazanımlar noktasında kazanılıp kazanmadığı ölçülmüş oldu.”]

“I gained different perspectives by reading the answers of my friends. I was able to express myself more comfortably by writing and these questions were important for me to watch videos more carefully.” [mean in Turkish: “Arkadaşlarımın yanıtlarını okuyarak farklı bakış açıları kazandım. Kendimi

yazarak daha rahat ifade edebildim ve bu sorular videoları daha dikkatli izlemem için önemliydi.”]

As can be seen from the quotations from the student views above, the students described the discussion activity as positive in terms of being more effective in the course, supporting active student participation, and allowing them to see different perspectives.

5.6 Views on the contributions of this process

Students stated opinions about the contributions of the social network supported FL process such as learning more topics, taking individual responsibility, coming to class prepared, evaluating the process, saving time.

“I think we have progressed more in terms of the content of the course. I believe that our comments, observations have improved.” [mean in Turkish: “Dersin içeriği bakımından konu olarak daha çok ilerlediğimizi düşünüyorum. Yorum yapma, gözlem yapma durumlarımızın geliştiğine inanıyorum.”]

“To gain individual responsibilities by working as a group and to create problems and find solutions using imagination.” [mean in Turkish: “Grupça çalışarak bireysel sorumluluklar kazanmak ve hayal gücünü kullanarak sorun üretip çözüm aramak.”]

“Better reinforcement and teacher being able to deal with the problems.” [mean in Turkish: “Daha iyi pekiştirme ve öğretmenin sorunlarla birebir ilgilenebilmesi”]

“As a result of this education, we learn the videos and come to class. We create the homework given in the lesson in a certain period of time. This teaching process offers those who learn, the opportunity to evaluate and analyze a topic.” [mean in Turkish: “Bu öğretim sonucunda biz öğrenenler videoları izleyip derse hazırlıklı geliyoruz. Derste verilen ödevleri belli bir zaman diliminde oluşturunuz. Bu öğretim süreci öğrenenlere sorumluluk, bir konu hakkında dergelendirme ve analiz yapma imkanı sunuyor.”]

“Extensive projects, lectures, reports, etc. Functions were dealt with most of the time, although what was done was understood correctly and a useful teaching process was undertaken.” [mean in Turkish: “Çok kapsamlı projeler, konu anlatımları, raporlar vb. İşlevlerle uğraşıldı çoğu zaman ne yapıldığı karışsada doğru anlaşılır ve faydalı bir öğretim süreci geçirilmiştir.”]

“Our ability to do research has increased from time to time, and we have been able to tackle problems directly” [mean in Turkish: “Araştırma yapma yeteneğimiz arttı zamandan tasarruf sağladı ve sorunlarla birebir mücadele etmemiz sağlandı”]

5.7 Views on the limitations of this process

The students stated the characteristics such as loading too much responsibility for the limitations of the social network supported FL process, dislike watching videos and not getting instant feedback.

“It is a difficult situation for friends who have difficulties learning by watching videos” [mean in Turkish: “Video izleyerek öğrenmede zorluk çeken arkadaşlar için zor bir durum”]

“Not being able to spend much time on exams because too many homework is given” [mean in Turkish: “Çok fazla ödev verildiğinden sınavlara fazla vakit ayıramamak”]

“We can’t ask questions instantly and get answers.” [mean in Turkish: “Sormak istediğimiz soruları anında sorup cevap alamamız.”]

6 Conclusions, discussion, recommendations

In this study, the FLA was applied at the undergraduate level using the Edmodo environment, and both the applicability of the process and the students’ views on this process were examined. In this context, the learners watched the tutorial video about the lesson subject and participated in the discussions about the subject in the Edmodo environment before coming to the class and had the opportunity to apply what they learned in the class. At the end of the study, the performances of completing the given tasks of the learners who participated in the lessons were examined, and it was seen that almost all of them could successfully complete the tasks. Therefore, it can be said that learners successfully perform their learning processes with FL.

At the end of the study, the learners had both positive and negative opinions about the process. The students had positive opinions about getting the content of the course through videos before coming to the class, like having an opportunity to repeat as much as they wanted, watching the videos whenever they wanted, taking their own learning responsibilities, being more active in the lessons and learning more topics. In addition, as a positive feature they stated that they could reinforce what they learned by practicing in the face-to-face lessons. In this context, the findings of the study are consistent with the study by Long et al. (2016). In the study, the researchers examined the views of the learners about the FLA in which videos about content are presented before the lesson. At the end of the study, it was stated that the learners expressed positive opinions and that it was seen as an advantage especially that the situation of watching video was under their control. Similarly, there are other studies that use the FLA and receive positive opinions from students and the students stated that it is more fun and motivating to get pre-lesson content, that they can be more active in face-to-face lessons and that they can perform more effective and permanent learning (Akgün and Atıcı, 2017; Turan and Göktaş, 2015; Kim, 2018; Roach, 2014). However, some of the students in this study stated negative opinions like that they did not like to watch videos due to their habits to listen to the lessons in the classroom, they may have technical problems and they were given too much responsibility. Hao (2016), examining the FL process at the undergraduate level, stated that students have a perception that they are not ready to take responsibility for their own learning. Therefore, in order to eliminate or reduce such negative perceptions, a more motivating preparation process can be carried out for learners to take their own learning responsibilities before starting the FL process. By providing effective and immediate support in case of any problem, it can be provided that learners to feel not alone in this process.

In the study, by using Edmodo application, which is an educational social network environment, it is provided that the learners, who watched the course content videos, to participate the content-related discussions in the social network environment before face-to-face lessons. In this way, it is aimed that the learners to exchange information about the content among themselves, the learner-learner interaction is increased and the learners

to come ready to practice in classroom. At the end of the study, it has been observed that the learners are increasingly actively participating in this discussion environment. The students stated positive opinions about this discussion activity like that they interact more, they feel obliged to watch videos to have a discussion and they gain different perspectives from other learners. These findings consistent with the other study findings in the literature. Enriquez (2014) used the Edmodo environment in the lessons and stated that the learners saw it as a good support tool, that increased the learners' participation in the lessons and thus they learn more effective. Similarly, Oyelere et al. (2016) also benefited from the Edmodo environment in their studies and at the end of the study, it was stated that the learners' participation in the lessons and their interactions increased and they learned more effectively. Other studies with similar findings regarding the use of Edmodo were also found in the literature (Hamutoğlu and Kızılcı, 2017; Dere et al., 2016; Zain et al., 2019; Erdemir and Ekşi-Yangın, 2019). Therefore, it can be said that learners have positive opinions about using Edmodo environment, which is an educational social network, and that the effectiveness of learning is increased.

As a result, it can be said that the FL method can be applied successfully in undergraduate courses, and the learners are generally satisfied with this process and have positive opinions. However, it has been observed that the learners have some negative views and concerns, so it can be stated that the design process should be given importance in the FL method by considering these aspects. When the limitations of the study were examined, the study was primarily reported over 46 undergraduated student data. The study was carried out in a four-week period and this can be stated as the limitation of the research. In addition, the study results are limited to the interviews with the study participants and the students' data on the system. In this context, it can be thought that the negative opinions expressed by the learners arised from the short process of getting used to the method. Therefore, it may be suggested that future studies to be in a longer period to evaluate the views of learners regarding this process.

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