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Perspectives of University Students on the Efficiency of Synchronous and Asynchronous Learning

Abstract

With the development of the technological equipments, distance education technologies are developing rapidly. This development has made distance education a powerful alternative to the traditional education. While Asynchronous Model provides students with complete freedom of time and place, Synchronous Model is offering online learning platform where instructors and participants come together in the same or different places in a virtual environment. In this study, the efficiency of Asynchronous and Synchronous Learning Models in Geography Course were explored. The sample of the study consists of 56 students taking the course asynchronously and 52 students synchronously. Qualitative Research Model was used in the study. Four open-ended questions were asked to the participants as in two groups which include Asynchronous group and Synchronous group. It was concluded that the most of the students were not in favor of Asynchronous and Synchronous Learning Models as they are not efficient for geography courses. Particularly, in geography courses, several educational models and techniques such as cooperative learning, brain-based iearning, laboratory studies, drama method, material usage, concept analysis, gestalt theory, programmed teaching, creative writing, geographical inquiry skill, concept map and concept network were found to be more effective then others.

Keywords: Asynchronous Learning, Synchronous Learning, Educational Technologies, Distance Education

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Introduction

With the development of technology, new concepts have emerged in education as in many other fields. E-learning is a concept that emerged with the development of the internet, which is a part of technology, and is a form of distance education through electronic media such as internet and intranet Aküner & Boynak, 2002; Kayalar&Ağaoğlu, 2020). According to the general definition, e-learning is defined as the common name given to the audio, visual and interactive, synchronous or asynchronous education and training activities on the internet (Baki, Karal, Çebi, Şılbır & Pekşen 2009)

Today, e-learning can be synchronous or asynchronous according to the need in distance education systems. It is thought that synchronous and asynchronous applications with the possibilities offered by different technologies are important for effective participation. When the studies in the relevant literature are examined, it is seen that the quality of education is gradually increasing thanks to the different technological opportunities that many universities offer in distance education. (Bekele&Menchaca, 2008; Kayalar&Kayalar, 2019). It is argued that virtual universities are a very important alternative, considering that many factors such as the preparation and management of the traditional university environment and the quality of education require high costs and time. In developed societies that are aware of this, e-universities have quickly become institutionalized, and they started to give diplomas in undergraduate degree, bachelor's, master's and doctoral degrees (Bayram, İbili, Hakkari, Kantar & Doğan, 2009).

Synchronous and Asynchronous Learning

There are synchronous and asynchronous platform options for users in web-based training environments. Asynchronous training platforms are prepared in such a way that learners can start and finish training whenever they want, regardless of the training provider. This feature brings a fundamental change to the teacher's role in education; the function is no longer teaching, but directing. In asynchronous education, training can be provided with minimum infrastructure or internet connection in a normal band range. This approach is based on a student-centered education system rather than a teacher. Necessary course contents are prepared as student-centered and presented accordingly. In asynchronous education, a success of up to 80% can be achieved in learning the subject in cases where the training materials are sufficient and people have a high learning motivation because there are self-directed learning activities (Kayalar, 2017; Işık, Karacı, Özkaraca & Biroğul, 2010). Synchronous education is a virtual classroom system in which the education and training parties come together through

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various methods. When it comes to synchronous interaction, the educational process, which is usually time-dependent, takes place face to face and in the same place, comes to mind. Now, thanks to the developing technology, we can include web-based training applications in this communication process class, which is mostly used in traditional applications. Because the images and sounds of the trainers and the providers can be transported via the internet or the intranet and a simultaneous education environment can be created with the communication provided. In this case, the student can be given the feeling of being in a virtual classroom. The most important advantage of such environments is that they can transfer the indispensable discussion atmosphere of traditional classroom education to the educational environment because they are suitable for the use of tools that can provide interaction between student-student" or teacher-student (Işık et al, 2010).

Synchronous distance education brought virtual education to a new dimension by bringing together students and teachers in different places in the same time period (Kantar, İbili, Bayram, Hakkari & Doğan 2008).). In order to turn some of the disadvantages of asynchronous education into an advantage, albeit partially, it is predicted by researchers that at least a certain part of the education will be done with synchronous education or activated asynchronous education through enriched communication tools (Duran, Önal, & Kurtuluş, 2006). According to Gezer and Koçer (2008), synchronous broadcasting is similar to today's television broadcast and takes place when the viewer catches the current broadcast on the computer. If there is a video or live broadcast on the selected channel, this broadcast can be watched on the viewer's computer. Today, different compression and storage techniques are used to watch these broadcasts sent synchronously by viewer computers. In this way, efforts are made to create a more fluent and uninterrupted connection opportunity on the internet.

Toker Gökçe (2008) argued in his study that in a synchronous environment, students and teachers are interactively in the application through a live connection as internet and satellite. In this application, students can ask questions, discuss with each other or take tests.

Learning Management Systems (LMSs), which ensure the planned execution of e-learning activities, create a connection point between asynchronous education and synchronous education, and provide the integration of synchronous education into the system with these connection points.

The fact that the concept of web-based distance education gains importance day by day has made it necessary to establish virtual campuses in universities and to offer synchronous and asynchronous education opportunities to be used in these campuses. Universities should have unique teaching management systems that reflect their own characteristics and meet their needs, adapt rapidly to technological innovations that will arise in the medium and long term, and synchronous education opportunities integrated into this system in distance education practices (Baki et al, 2009). In the study, synchronous and asynchronous learning and its efficiency on university students' learning at the department of Geography.

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Geography Education

In line with the goal of raising individuals who are self-developed, conscious, who contribute to society and have the ability to solve the problems they encounter in our country, through education, students develop knowledge, skills, attitudes, abilities and interests specific to different disciplines. One of these disciplines is geography. Geography examines the earth and the events on it (Günel, 1994). Every citizen should have a good geographical knowledge in order to solve natural and social phenomena in a timely manner (Girgin, 2002). He conducts both applied and theoretical studies on various subjects related to geography, nature and humanity. Understanding today's world, following developments and solving problems are only possible with the science of geography (Efe, 1996). Therefore, it is important to provide a qualified geography education in schools in order to raise individuals who are conscious, understand the world they live in and can produce solutions to the problems they encounter (Tosuntaş, İnci & Çubukçu (2020).

Geography Education is very important to raise Geographical literate individuals. It enables the individuals to understand the basic physical systems such as planetary relationships, water cycles, wind and ocean currents that affect daily life. They can understand the geographical features of the past and how geography played an important role in the change of people's thoughts, habitats and environments, and explain how human and physical systems shape and sometimes change the earth. By understanding the "where" and "how" places and events develop, they can develop the mind map of the society, city, country and the world in which they live. They can see the order in the distribution of people and places by understanding the spatial structuring of society. Through Geography education, individuals can recognize spatial distributions at all scales - local and worldwide - to understand the complex relationships of people and places. They can make appropriate systematic decisions on issues involving the relationship between the physical environment and society. By evaluating the Earth as the habitat of all living things, they can put forward rational views for management decisions about how the planet's resources should be used. They can offer solutions by understanding the development of global crises such as climate change, migration and epidemics. From these perspectives, Geography Education is of great importance for every individual from child education to lifelong education at every aspects of life.

Use of Information Communication Technologies in Geography Education

It is important to think about information-communication technologies (ICTs) and how they should be integrated into geography education. What we mean by integration is the effective use of technology in our evaluations of time, space, reality and 'information' and in problem solving and decision-making processes.

Increasing rates of mobile technologies and applications developed for them enable digital information to be used very quickly by people all over the world. According to Öztürk

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(2015), this situation will soon change our understanding of education in general and that of geography education in particular, and there will be no limitations in the content and format of the courses. This means that students will not need some outdated written material and textbooks, which are often not very interesting. Students will be able to obtain up-to-date data whenever they want, from anywhere and in the format they want such as virtual reality labs, remote sensing data, 3D simulations that can be accessed over the internet. Thus, thanks to technology, the barriers between schools and the outside world will be eliminated in the near future, thus students will be able to deal with 'real' problems and make 'real' decisions. Maps and geolocation systems can be used very easily with mobile devices, which is a sign of important changes in terms of geography education. Enriched books have already entered our education life. Thanks to programs such as Google Earth, the whole world will start to be included in our mobile devices numerically very soon. Thanks to virtual environmental laboratories and wearable devices, the desired fieldwork and observation will be able to be done without leaving the school. Thanks to Electronic Cultural Atlases, it will be very easy to reach all the information we want from anywhere in the world. Digital map and image libraries, which are increasing in number today, will become platforms that everyone can access for educational purposes over the Internet.

The introduction of numerical data in education will provide us with two important opportunities for students' education. The first of these is the opportunity to present information to the student in any format desired, so that students can receive education in line with their individual needs and intelligence. Secondly, a constructivist learning approach will be provided in a situation where students can easily process and manipulate numerical data and see the results immediately, and thus direct and control their own learning (Öztürk, 2015).

Methods Used in Geography Education

One of the oldest didactic methods used since the beginning of teaching is memorization method. It is the presentation of what they have learned to the other person without any interpretation and letter change (Baytekin, 2004). Memorizing method simply means copying and keeping in mind. In order for the method to be efficient, it should be used with pictorial tools, overhead projectors, audio tools, equipment and materials, along with other methods and techniques (Benek and Doğan, (2016).

Among the teaching methods and techniques used in geography, the most used method after memorization is the method of narration. As the name suggests, the method of narration is the direct transmission of information by the teacher or the presenter. It is one of the simplest and oldest teaching methods to use (Şeremet, 2008). It is stated that the narrative method preserves its place in teaching and continues its function positively with its explanatory, more interpretive, indicative and enlightening features (Oğuzkan, 1985). As can be understood in this definition, the method of expression is more a product of the traditional approach. It is a teacher-centered teaching approach. The student is in a passive state because he is more in a listening position. In the study by Bilen (1989) among the reasons for the preference of the method of

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expression over other methods, it was stated that students will be found in presenting activities, motivating students, summarizing units and topics, making the important points that are difficult to realise understandable.

The performance method technique is the one used to show how to do a job in front of the audience group or to explain the general principles (Demirel, 2008). Therefore, the method in which visual and auditory education is applied together is called the demonstration method (Güngördü, 2002). As the name suggests, the demonstration method is a method used to increase the concretization of teaching to be more permanent. More importantly, with the demonstration method, not only one sense organ is activated, but other sense organs are also used. Accordingly, the more sensory organs the learning is addressed, the easier it is and the greater the permanence of the information (Benek and Doğan, 2016).

The academic success of the students in the courses increases with the methods in which students participate in the lessons most actively. The question-answer method is also a method that makes the student active in the course (Tokcan & Sezer, 2003). Like the narration method, it is one of the easy-to-use and frequently used methods. It is a simple method to ask a question or to be directed to the question, to obtain information and to receive feedback. This method contributes to increasing student participation, reviewing previous learning, initiating a discussion on a topic, teaching students creative thinking, recognizing student abilities, assessing whether the student is ready to learn, determining the degree of achievement of goals, attracting attention and increasing student contributions.

In Geography Education, travel and observation are one of the most important methods that facilitate learning by doing and experiencing. It is very important in terms of directly seeing the learning process, being aware and increasing the permanence. During the trip and observation, students engage in multiple activities. Students who observe and examine events and objects by traveling, learn more easily (Tunç, 2006). Trips are planned visits to complete the educational work done in the school and the classroom and to establish a connection with life (Demirel, 2008). Excursion are activities that provide the opportunity to connect with real life by following certain procedures in a planned place outside the classroom, designed for the purposes of the lesson (Gözütok, 2006). Excursion method emerges as the first source of information. Observation, which is intertwined and complementary with the excursion method, is a purposeful and planned activity. While preparing the observation plan, students' requests and opinions should be asked and their participation in planning activities should be ensured (Karakuş, 2007). It is a technique that allows an object, event or a fact to be taken and followed in a planned and careful way in order to know its qualities. Excursion and observation methods are more difficult to use than other methods due to reasons such as lack of time, classroom crowd, financial insufficiency, and procedural difficulties.

The methods, techniques or approaches used within the context of contemporary teaching approach in the researches on geography teaching in the literature include 4MAT, 5E model, active learning, drama, cooperative learning, problem-based teaching, project-based

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teaching, active teaching, brain-based teaching, simulation technique, computer-aided instruction, constructivist approach activities, trip and observation activities, multiple intelligence theory, group work method, use of computer-aided animation, teaching by discovery, laboratory studies, drama method, creative thinking techniques, academic conflict technique, use of tools and equipment, teaching based on reflective thinking, conceptual change approach, geography teaching in nature, material usage, concept analysis , gestalt theory, programmed teaching, creative writing. Geographical inquiry skill, concept map, concept network, computer games and geographic information systems applications are largely needed in geography education. Many advantages of these methods, approaches and techniques, which are considered as contemporary, compared to traditional ones, are expressed in the literature. These contemporary approaches based on constructivism; It can be mentioned many advantages such as supporting learner participation, taking into account teaching principles such as from the unknown to the unknown, from concrete to abstract, using materials, associating with daily life, developing positive attitudes, learning by doing and living (Ural & Bümen, 2016).

In the study, we aimed to find out the preferences of the students for the teaching style of Geography Course conducted as distance education, and the efficiency of Asynchronous and Synchronous Learning Model applied in two different universities. In accordance with the purpose of this study, the following sub-problems were formed.

Sub-Problems:

1. To what extent do you think you learned the subjects in geography lessons during the pandemic process? Do you find your learning sufficient?
2. If the lesson was conducted live with distance education, would you have done the same education? Why?
3. If you compare the live lessons you have taken with distance education and the face-to-face trainings you have previously received, what are the advantages and disadvantages of the distance education and live lessons compared to face-to-face education?
4. If you have a choice after the pandemic period, would you like to continue your education with distance education? Why is that?

Method

Research Model

In the study, Descriptive Method was used with the scope of Qualitative Research Method. Descriptive studies are carried out with qualitative method because they do not start the research with hypothesis, do not seek causality relationship between phenomena, do not aim for explanation and prediction, and do not control environmental conditions. Qualitative research includes studies that define routine and problematic moments and meanings in individuals' lives, and a variety of empirical material-case studies, personal experience, introspection, life history, interview observational, historical and visual texts. Techniques that are widely used in qualitative research are participatory observation and interview (Kuş,

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2003). In qualitative research, the involvement of the researcher in the field and direct interviews with the individuals participating in the study can affect the natural flow of events. In this case, the fact that the obtained data is not objective is contrary to the traditional research perspective. It is stated that the data obtained in this case is not sufficiently objective. However, in order to study the context, the researcher must participate in the setting in which the event under investigation takes place or make face-to-face interviews with the people in the environment. In this case, it becomes important for the researcher to be able to define the phenomenon or event he / she examines as realistically and clearly as possible (Karasar, 2000; Şimşek, & Yıldırım, 2003).

Population-Sample

The population of the research consists of University students at the departments of geography in two different universities during 2019-2020 academic year. Asynchronous and synchronous groups belong to different universities. Its sampling consists of 56 students taking course asynchronously and 52 synchronously. Of the former group, 26 students are male and 30 students are female. In synchronous group, 24 students are male and 28 students are female.

Data Collection Tool

In the study, having obtained Ethic Report, the researcher asked four open ended questions to the participants in two groups. The questions are "To what extent do you think you learned the subjects in geography lessons during the pandemic process? Do you find your learning sufficient? ; "If the lesson was conducted live with distance education, would you have done the same education? Why?"; "If you compare the live lessons you have taken with distance education and the face-to-face trainings you have previously received, what are the advantages and disadvantages of the distance education and live lessons compared to face-to-face education?"; "If you have a choice after the pandemic period, would you like to continue your education with distance education? Why is that?". The participants gave replies through email

Analysis of Data

In the research, the data were collected through e-mail from each student in two universities. The statements of the students were checked, simplified and abstracted as four groups for each question. To determine the efficiency of asynchronous and synchronous learning in Geography Education, each statement was analysed and tried to find out which learning model in distance education is beneficial and useful for the students to be successful during recent pandemic period.

Findings

In this section, the statements obtained from the participants are presented as groups for each question. For the questions "To what extent do you think you learned the subjects in geography lessons during the pandemic process? Do you find your learning sufficient? ; "If the lesson was conducted live with distance education, would you have done the same education? Why?"; "If

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you compare the live lessons you have taken with distance education and the face-to-face trainings you have previously received, what are the advantages and disadvantages of the distance education and live lessons compared to face-to-face education?"; "If you have a choice after the pandemic period, would you like to continue your education with distance education? Why is that?", the replies of the students in asynchronous group as follows:

AS means the students in asynchronous group.

AS1.. *We do not see any benefit of distance education on learning. Our learning is insufficient*

AS3.. *I do not think I have learned enough. Because distance education is not as effective as face-to-face education.*

AS5.. *I explain in this way, I cannot master the subjects very much, because we have to train, I am in trouble to finish as soon as possible.*

AS6.. *No, I do not think it is sufficient, I think that our learning to be done under the supervision of an instructor will be healthier*

AS8.. *No, I do not find it sufficient in any way and I really hope this process will end as soon as possible*

AS11.. *We have switched to distance education due to the situation we live in. Our professors constantly upload pdfs to the system and we work on these pdfs regularly. This is also the case for our geography lessons. But I do not find this system as useful and effective as the face-to-face training, this is the case for the geography subjects we have covered, although I have studied all the subjects given so far, I have not fully learned. I do not have enough information about the subject.*

AS12.. *I think I have achieved a 60% education. I don't find enough.*

AS13.. *No, it is definitely not an active learning, we do not learn by memorizing or doing homework. Yes, we get some information for a class, but these are not permanent even with a hand gesture that the teacher does. I'm against it, I can't get efficiency for me. I don't have an active learning. It felt like I didn't have the second deonem of this lesson. This period put me down. (B)*

AS14.. *Although I do not think it to be efficient, I think that inefficiency is not caused by teachers but by the distance education process.*

AS15.. *It is obvious that we do not learn as much as we do in school, but we try to learn something by studying the notes. I think it's not enough, but there is nothing that can be done.*

AS16.. *It is not as efficient as face-to-face training. This process is difficult for both teachers and students. Our teachers are doing their best. However, I do not think that the subjects for geography lesson are as efficient as face-to-face education, the education remains at a minimum level compared to face-to-face education.*

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AS17.. *Yes, it is sufficient but not efficient.*

AS18.. *I did not understand the subjects of the geography lesson during the pandemic process. I just memorized it. I don't think this is enough for learning either.*

AS20.. *I know a little about the subject, but I do not find it sufficient. I don't think I've learned enough.*

AS21.. *I do not think I learned the subjects in the geography lesson during the pandemic process. I could not ask anyone about places I did not know and understand. I do not find it sufficient for me to learn.*

AS22.. *I learned a little. Not enough.*

AS23.. *We do not see any benefit of distance education on learning. Our learning is insufficient.*

AS24.. *We read only superficially. We cannot say that it is very efficient, since the course consists of only slides.*

AS25.. *I do not think I have learned enough from political geography. Too many homework and exams. Because it is over and over I only have time to study for the exam, which is not very effective.*

AS26.. *I find it partially sufficient. It has to be this way since we are in an extraordinary process.*

AS29.. *I think it makes no sense to do distance education during the pandemic period. Because I and many students are sure that we get more efficiency from face-to-face training. Geography is a detailed lesson; it requires knowledge as well as memorization. Instead of pdf, I prefer to listen to the lesson from our teacher and discuss it instead of skip it. I never find the level of learning adequate.*

AS30.. *I don't think it contributed much because only the slides were sent for the geography lesson and the exam was held during this period. On the contrary, I think that homework activities will contribute more by giving only homework without the pressure of the exam.*

As seen in the statements of the students taking the geography course asynchronously, they are not happy and content with the practice of asynchronous model of teaching. Of the students in this group, fourty-one think that this kind of teaching do not contribute to their learning efficiently and they found it useless and inefficient for Geography Course. Most of the participants admit that they have not learned well and it is not possible and good way to get only pdf documents and powerpoint presentations uploaded to the system.

Unlike those who find the Asynchronous learning inefficient for Geography Course, some students are happy with the application of this model.

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AS2.. *When I consider it on the basis of political geography, I think I have learned enough and I find my learning sufficient*

AS4.. *I think that I get efficiency, even if it is not as efficient as face-to-face education. I continue my education with the support of our teachers and my own effort. Our teachers do everything they can for us.*

AS7.. *I think the learning went well. I think we reinforce the notes, which are uploaded regularly every week, thanks to the exams.*

AS9.. *In order not to fall behind with distance education, I am happy with this work, I see that it is useful and I think that I have learned. It is possible to return with efficiency.*

AS10.. *Although we could not get the efficiency we got in school from here, the geography lesson and grades were more beautiful and understandable than the other lessons. While what we have learned is enough to do the homework, unfortunately it is not enough during the exam process.*

AS19.. *I think learning may be insufficient in some subjects, but I find it sufficient in general.*

AS27.. *I study and learn by reading the slides on which the subjects are posted. I think it is learned better in face-to-face education, but I find it sufficient for us to learn this way because of the situation we live in.*

AS28..*Obviously, this system, which seemed "distant" to every student when they first heard of it, did not appeal to me. However, I downloaded the weekly lecture notes as much as I could. I read often and took notes of the places I deemed important in my own way, and tried to grasp them by repeating them a lot. Since I took the Political Geography course for the second time, the subjects were not unfamiliar to me. I focused on the subjects and concepts that I could not learn by separating the subjects I grasped from last year. Because the education was remote, it gave us more responsibility because the more we wanted to learn the grades, the more we worked on them. My general opinion is that I find my learning sufficient.*

As seen in the statements of eleven participants, they get benefits from Asynchronous learning model applied in Geography Course. They argue that the documents uploaded to the system regularly, and powerpoint presentations are enough for them to follow the lessons efficiently. For some students, grasping the subject through computer or electronic screen used particularly in geography lessons are very easy and this kind of teaching enables them to learn easily and efficiently.

For the synchronous group studying in another university, the statements obtained from the participants are presented as groups for each question. For the questions “To what extent do you think you learned the subjects in geography lessons during the pandemic process? Do you find your learning sufficient? ; “If the lesson was conducted live with distance education, would you have done the same education? Why?”; “If you compare the live lessons you have taken

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with distance education and the face-to-face trainings you have previously received, what are the advantages and disadvantages of the distance education and live lessons compared to face-to-face education?"; "If you have a choice after the pandemic period, would you like to continue your education with distance education? Why is that?". the replies of the students in synchronous group as follows:

SS means the students in synchronous group.

SS1. *The geography lessons we had during the pandemic process were tried to be provided with a sufficient level of education that can be given in the name of distance education. I think that enough education is partially received in this difficult process. I do not find my learning sufficient. I think I understand the subjects better when I study face to face.*

SS3. *The disappearance of face-to-face interaction environments and opportunities, which are seen as important in learning environments, becomes a disadvantage for learning, and learning may be insufficient.*

SS4. *During the pandemic process, I could not fully learn the topics in geography lessons, and there are any issues that I am missing, it is definitely not enough.*

SS5. *It would not be wrong if I say geography is the only lesson I can understand among the live lessons. I don't find it enough, but it's better than nothing.*

SS7. *I think distance education, which started with the pandemic process, is insufficient not only for the geography lesson but for all other lessons, especially the very limited time and interruption of the internet connection are the main reasons that reduce efficiency.*

SS9. *I do not find learning sufficient, because normally the geography lesson takes 2 hours, whereas distance education does not give the desired efficiency for 30 minutes. Because the geography lesson is comprehensive, more time must be given.*

SS12. *I do not think that geography lessons are as efficient as in school during the pandemic process. I do not understand the topics as much as face-to-face training, even if live lessons have some benefit.*

SS13. *No because when there was no school, they sent it to work instead of studying at home.*

SS15. *The limited time in this process not only decreases the efficiency of the lesson but also decreases its quality. We handle geography issues with the notes uploaded to the system and the narration of our teacher. The efficiency, permanence and quality of the course were increasing with the different techniques and methods used by our professor during the face-to-face training process. Since we do not have any resources, I do not think that learning is enough.*

SS18. *I learned less than face-to-face education. I do not find my learning sufficient.*

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SS22. *Our level of learning is of course not the same as in the classroom. Problems may arise in providing instant feedback. However, I think running online courses adds something.*

SS23. *In this process, I think the lessons are not very efficient. Since it is not in an efficient process, our learning is quite insufficient.*

SS25. *First of all, I do not find the time given to the lessons sufficient for any lesson, as this situation makes the lesson more limited, we cannot see the subjects we need to learn in more detail because of the time, this situation negatively affects our learning of the lesson and I do not find it sufficient.*

SS26. *I would like to say that I could not learn the subjects sufficiently with the education I received during the pandemic process. Since the resources that are supported for learning the subject in the face-to-face education are shown in live education to a very limited extent, learning some subjects remains unfinished. Therefore, I ensure that this deficiency is filled with the lecture notes uploaded to the system and the resources suggested by the lecturer in the course.*

SS27. *For the geography lesson, I think that during the pandemic process, the subjects are explained and taught in the best way that can be explained under these conditions. Faced with such a system and process for the first time, we students, and for myself, learned the most from geography lessons in this process. Of course, the best online course that can be given with the efforts of the lecturer was given under these conditions, although the learning could not be as much as face-to-face training.*

SS28. *During this sudden pandemic, we continue our geography lessons online. In this process, we are trying to process our lessons in the best and most effective way, but face-to-face training makes us call every time. Geography lesson, which is difficult to understand and teach, was taught more effectively with the help of maps in face-to-face education. I have difficulties in learning due to the limited opportunities in distance education. I do not find enough what I have learned in this process. I think I would have understood my subjects better if there had been a face-to-face training.*

From the views of the participants, we can have the conclusion that neither Synchronous nor Asynchronous learning have full efficiency for students to learn well. Geography Education requires many applications and activities such as 4MAT, 5E model, active learning, drama, cooperative learning, problem-based teaching, project-based teaching, active teaching, brain-based teaching, simulation technique, computer-aided instruction, constructivist approach activities, trip and observation activities, multiple intelligence theory, group work method, use of computer-aided animation, teaching by discovery, laboratory studies, drama method, creative thinking techniques, academic conflict technique, use of tools and equipment, teaching based on reflective thinking, conceptual change approach, geography teaching in nature, material usage, concept analysis, gestalt theory, programmed teaching, creative writing, geographical inquiry skill, concept map, concept network, computer games and geographic

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information systems applications. Distance education and its sub-systems and models such as Synchronous and Asynchronous learning models appear to be inefficient in geography Education.

Some students admit that Synchronous application is useful for them to learn geography lesson well.

SS2. *I try to learn the subjects taught live in geography lessons by taking notes. And teachers contribute to our learning by throwing the topics they cover over pdf. Although the lessons are not very efficient in this process, I find it sufficient to learn.*

SS6. *Even though the place and importance of learning in the face-to-face education process is different, it is not difficult for me to learn the information given by the teachers within the scope of the distance education request.*

SS8.*I think I have learned the subjects*

SS10. *I can say that I learned the Geography subjects during the pandemic sufficiently or even better. Because the biggest contribution of education in this process is the opportunity to listen to a missed topic again. For this reason, I find this training offered to us during the pandemic process sufficient.*

SS11. *Despite the negativities brought about by the pandemic period, I think that we have learned the subjects well with distance education and that we have learned at a sufficient level due to our strong infrastructure in geography lessons.*

SS14. *In this process, our teachers and we are trying to do our best. But the lack of time prevents us from adapting to the issues sufficiently. I can say that I learned the subjects partially.*

SS16. *Geography course is a wide-ranging course and it inevitably affects the efficiency of the course negatively due to many reasons such as the lack of time here, but I still think that I have learned the subjects even if it is not complete.*

SS17. *I think I did not learn the subjects in geography lessons as much as face-to-face education during the pandemic process. Our learning is not enough, but because of the process we are in, I think the best situation is distance education.*

SS20. *I think I have learned the subjects in geography lessons sufficiently during the pandemic process.*

SS21. *Our teacher, as always, teaches the lesson in the most efficient way in this process, as the time is insufficient, and although he does not go too deeply in the subjects as in normal education, he helps us to understand in the best way with abundant examples.*

SS24. *I believe that the geography lesson we took during the pandemic period was efficient even though it was limited in time. I find the education received in such a process sufficient.*

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SS29. *Even though lesson hours are shorter than normal in distance education, I can say that our professors try to pass the lessons as efficiently as they can. In this way, the learning is given as well as possible within this period.*

SS30. *During the Pendemic process, the subjects of the geography lesson, the academic exams and the geography lesson were not sufficient for my personal development, our university professors could not learn the subjects at a sufficient level because we could not catch the friendly environment both in time and face to face. But I can say that, thanks to the efforts and sensitivity of our teacher, this distance education process against us has turned into our favour.*

As all the educational activities applications have been carried out through distance education all over the World during recent pandemic, the students have no option to get and learn education except for distance education. The sub-systems and sub-models of distance education such as Synchronous and Asynchronous learning models have been used to compansate the deficiency of face to face model. Blended Learning Model, and its submodels Flexible model, Station Model, Lab Model, A la Carte Model and Flipped Classroom Model have been used in many educational environment to acquire maximum level of learning for the students. Each student has different learning pace and skill. As seen in our study, some of the students find either Synchronous or Asynchronous learning efficient for them.

Discussion, Conclusion and Suggestions

In the study, from the statements of the participants in two different universities in terms of the efficiency of Synchronous and Asynchronous learning models, it was determined that most of the students are not in favour of distance education model and its sub-models such as Synchronous and Asynchronous learning models. Some students admit that they have had desirable level of learning through Synchronous Learning Model with the use of computer and supportive programs for Geography Courses. At the other extreme, the other students in our study admit that many applications and activities such as 4MAT, 5E model, active learning, drama, cooperative learning, problem-based teaching, project-based teaching, active teaching, brain-based teaching, simulation technique, computer-aided instruction, constructivist approach activities, trip and observation activities, multiple intelligence theory, group work method, use of computer-aided animation, teaching by discovery, laboratory studies, drama method, creative thinking techniques, academic conflict technique, use of tools and equipment, teaching based on reflective thinking, conceptual change approach, geography teaching in nature, material usage, concept analysis, gestalt theory, programmed teaching, creative writing, geographical inquiry skill, concept map, concept network, computer games and geographic information systems applications are required for them to achieve the best academic success in Geography Courses. According to Kaya, Karatepe and Özder (2014), the application of new teaching methods with the help of technology in geography lessons is only possible through teachers who like to use technology and follow the developments in this direction and carry

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them to their classes. In order to achieve the desired level of success in geography teaching, it will be beneficial to use new methods and techniques, alternative and innovative approaches in the geography teaching process, as well as the inclusion of technology that encompasses our lives all around.

Considering the individual differences between students, different strategies should be used in problem solving and being successful in lessons in Synchronous and Asynchronous Learning. The students' out-class learning situations are different, for this reason, it may be more beneficial to teach their lessons with appropriate methods, techniques and activities. Teachers should be educators with empathy skills and good communication skills. High level of motivation of students towards the lesson and their interest in the subjects are very important factors in appropriate lecture. They should be supported with Blended Learning activities.

By linking the subjects of geography lesson with the students' daily life, students should be provided with meaningful learning and interest in the subject. Technology should be adapted and geography classrooms should be prepared with modern equipment such as computer, video, projection device, slide, TV, overhead projector in addition to classical equipment, by providing all the possibilities of educational technologies. A good lesson plan should be made in order to ensure the active participation of the whole class in the lesson, to coordinate the implementation of the activities and to use a limited period of time.

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