IJASTE | International Journal of Academic Studies in Technology and Education

Year 2023, Vol. 1, No. 1, Pages 50-64 www.ijaste.com

OPEN ACCESS

The Challenges of Distance Education and Evidence-Based Solution Suggestions

Emel Duman

Bursa Uludağ University, Turkiye

Article Info

Article History

Received:
15 January 2023

Accepted:
27 April 2023

Keywords

Distance education,
Evidence-based solutions,
Challenges of distance education

Abstract

Today, the development of technology and the internet plays an essential role in providing equal opportunities in education. Distance education studies facilitate education and training by providing education opportunities independent of time and place. There are some difficulties experienced in maintaining distance education, which is increasing in popularity daily with the advantages it offers in the learning process with technological developments. In this study, by considering the difficulties experienced in the distance education process, suggestions are made for both system developers and teachers who are the implementers of the system. In the first part of the study, the difficulties brought by distance education, and in the second part, suggestions compiled from the results of the studies on eliminating the challenges experienced are included. For this reason, it is thought that this study will contribute significantly to education technologists, content managers, teachers who teach with the distance education system and policy providers who develop the distance education system.

To cite this article

Duman, E. (2023). The challenges of distance education and evidence-based solution suggestions. *International Journal of Academic Studies in Technology and Education (IJASTE), 1*(1), 50-64.

Introduction

Learning is a lifelong process with the experiences of individuals, the education they receive and the knowledge they acquire. With the rapid development of the internet and, accordingly, technological devices, education is no longer a process that takes place only at school but can become a phenomenon that can be realized in any environment where the internet is available. At the beginning of the conveniences provided by the internet in

Corresponding Author: Emel Duman, emelozduman@gmail.com

education, fast access to information and a flexible learning environment can come first. Access to information through distance education can be provided systematically and formally.

According to the USDLA- United States Distance Learning Association (2005), distance education has been defined as a learning structure in which no physical teacher supports lifelong learning for every individual covering all technologies. According to Özkul and Aydın (2020), distance education is the learning process in which the learners are temporally and physically separated from the instructor and each other, and remote communication systems provide the communication between them. Along with the developing technological opportunities, distance education can become an education system that can appeal to all age groups from being a system used only by adults for career purposes. Still, there are two main reasons for the widespread use of distance learning: institutional and country needs (Özkul & Aydın, 2020). Institutional reasons for expanding distance education: to increase access to education, provide flexibility to students in terms of time and space, reduce education costs, reach students in different geographies, and use new technologies in education (Cavanaugh, 2001; Oblinger, 2000). The reasons for its spread across the country can be shown as distance education provides convenience in many ways compared to traditional education, and it is necessary to meet the demand that conventional education cannot meet (Özkul & Aydın, 2020).

With the global problems experienced in recent years, especially with the emergence of the pandemic period, there has been a compulsory transition from traditional education to distance education, and a compulsory change has been made in the spatial dimension of education. This change has brought along some opposition from teachers and students for many reasons, such as not wanting to be involved in the process due to a lack of knowledge about the use. All parties must be persuaded and included for this change and transformation process to be effective (Öncü, 2020). To control many variables, we can call the difficulties of distance education. The cause of the problems should be analyzed well. After defining the issues with a holistic approach, necessary and appropriate intervention methods can be developed regarding the source of the problem. In this study, firstly, the difficulties experienced in distance education and the suggestions compiled from the results of the studies carried out to eliminate these difficulties and maintain the distance education process effectively are included. It is thought that this study will guide the instructors and content producers who will plan lessons according to the distance education system and design them accordingly. For this reason, it is predicted that this study will have an important place in the literature.

In this study, the difficulties experienced in distance education, accompanied by the literature, are divided into pedagogical problems and institutional challenges and then presented by sub-titles. The studies in the literature were compiled by examining the document analysis method and presented under two main headings: difficulties and suggestions.

Distance Learning

Distance education can be defined as the presentation of programs in formal education to students with internet-based distance education systems (Özkul & Aydın, 2020). The most distinctive feature of distance education, a structured learning environment, is the separation of students and teachers in terms of space and time (Gunawardena & McIsaac, 2013). The benefits of distance education are one of the most critical factors that cause its use to become widespread. However, it cannot be ignored that some difficulties are experienced in the distance education process. Determining the problems encountered in distance education is essential for improving the process. The challenges experienced in distance education are presented below with their subheadings.

What Special Challenges Does Distance Education Bring?

This section examines the difficulties brought by distance education from a pedagogical and institutional perspective.

Pedagogical Challenges

Selection and Application of Appropriate Instructional Strategies

The fact that the teacher and the student are not physically in the same environment in distance education can be shown as the most crucial factor distinguishing distance education from traditional classroom education. Although this physical distance between the student and the teacher provides flexibility from space and time, it causes the benefits of face-to-face communication to be ignored. In face-to-face communication, the teacher may have information about the student's facial expression, approach to the material and the subject, and attitudes and behaviours towards the lesson. In contrast, the teacher may have minimal information about his students in distance education.

For this reason, a design cannot be made according to individual student differences in course design, and the course content is designed in a standard way. Dwyer (1991) suggests using instructional coherence and coherence paradigms when creating distance education materials to match material content with students' ability levels.

One of the reasons why individuals, especially adults, prefer distance education, is to receive education without time constraints. For this reason, the number and diversity of those who prefer distance education is increasing. In distance education systems, which allow individuals from different cultures and regions to receive education,

learning diversity and individual differences may include more diversity than in the traditional school system. For this reason, while designing the course contents, considering this diversity and considering multiple intelligence theories, planning to address differences will bring the efficiency of distance education to the highest level.

Teaching methods and techniques should be used to enable students to gain skills such as critical thinking skills, knowledge construction, reflection, and problem-solving skills brought by the constructivist approach, and a course should be planned accordingly. The number of studies in the literature on this subject is gradually increasing, and topics such as knowledge construction and mediated learning (Barrett, 1992; Glaser, 1992; Harasim, 2001; Salomon, 1993) can be seen as promising research in distance education.

The lack of interaction is the most crucial issue in the design and implementation of the course, which is lacking in distance education. Çağıltay (2001) attributes one of the reasons why students do not follow the practices of OEF, which is made without considering pedagogical elements. According to Çağıltay (2001), the design of lessons devoid of interaction and cooperation without considering the pedagogical features is among the factors that undermine the distance education system, even though the technological possibilities have improved. For this reason, since learning becomes permanent and meaningful with interaction, lessons should be taught according to learning models between student groups, and teaching methods and techniques should be included in this context.

Another missing aspect of distance education is the evaluation phase. To reduce the cost and workload in distance education institutions in Turkey, especially OEF, evaluations are made as tests, and different alternatives cannot be used (Latchem et al., 2006). However, studies (Gaytan & McEwen, 2007) show that teachers and students more accept different digital assessment methods. For example, Newhouse's (2011) feasibility study on the use of digital technologies that can be used as an alternative to traditional assessment methods in performance evaluation has concluded that both the digital portfolio and the computer-based exam are implemented without significant technical difficulties. The acceptance by students and teachers is high. Inspired by the results of the studies conducted in distance education, different digital assessment methods with proven effectiveness and efficiency can bring the assessment process to a satisfactory level for teachers and students.

Maintaining Quality as the Number of Students Increases

Quality assurance in distance education can be achieved by determining policies that guarantee quality for both students and faculty members (Gunawardena & McIsaac, 2013). Both national and international education

policies and strategies for quality assurance in e-learning environments should be mentioned. Many countries produce reports on quality assurance in education. For example, The Pew Symposium in Learning and Technology produced a report on issues surrounding policymaking and quality assurance from the perspectives of institutions and organizations (Twigg, 2001). According to this report, Institutions and organizations should determine their standards by taking support from the literature to provide quality education to students. With the report prepared for the Canadian Community Education Association, quality guidelines for online education and training in Canada were established (Barker, 2001). According to this directive, With the increase in the number of students involved in distance education day by day, to ensure efficiency and motivation, the "teaching support centres" in universities in developed countries should be expanded, and besides technical support, academicians should be supported on how they should take pedagogical approaches in the Web environment (Çağıltay, 2001).

According to Latchem et al. (2006), a standardized quality for the distance education system should be determined to achieve quality in distance education. In addition, suitable competitive environments should be provided to increase the demand for distance education. Again, with the increasing number of students, to create quality standards, resources can be used economically, and content sharing can become easy by designing courses that cannot be divided into course environments and that consist of well-designed learning objects instead of extensive classes (Karaman, 2020). Therefore, teachers can benefit from learning things while designing their lessons. Learning objects can be used over and over again after they are prepared (Millar, 2002), which reduces the course load of the instructor and allows them to gain time to use other resources to make the lesson more effective, as well as helping to standardize on quality.

New Teacher Roles

With the increase in distance education orientation, there will inevitably be differences in the roles of faculty members. In addition to presenting content, providing feedback and management, the teacher should be designed differently from the traditional classroom environment to create social learning environments that will increase interaction in e-learning environments (Gülbahar, 2020). According to Kember and Murphy (1990), faculties have essential responsibilities in adapting to faculty members accustomed to classical teaching methods, new skills and changing teaching roles. Rather than presenting information directly, faculties have to make arrangements to monitor and facilitate the work of geographically distant students (Bates, 1991).

The teacher should adopt a facilitating role between the learning resource and the student and act as a bridge between the content and the student (Beaudoin, 1990). The primary responsibility is on the teacher to eliminate the lack of communication caused by physical distances. As a result of the physical distance that exists in

distance education in student-teacher dialogues, learning, a social phenomenon, cannot be fully realized. In such cases, the perspective of individuals on distance education changes and distance education, which is seen as an alternative to face-to-face teaching, ends before it reaches its goal. To prevent such situations, the teacher should provide the necessary counselling service to the students who have difficulties using the system and learning difficulties. Saba and Shearer (1994) concluded in their study that the distance between the processes decreased with increased student control and dialogue by the teacher in distance education.

To keep his motivation alive in distance education, the teacher may have to make more effort than he spends in face-to-face teaching. A teacher, who can be cautious about student manipulations in face-to-face lessons, may be exposed to different manipulations with student groups of different genders, races and characteristics if they do not maintain quality communication to get to know their students in distance education. For this reason, the teacher should have information about the student profile by using high-level communication skills and should make their approach accordingly.

In addition, it is important in bilateral dialogues that the teacher indicates that he is aware of the student's social presence to increase their interest in the lesson. Studies show that student satisfaction is strongly associated with the student's perception of social presence (Gunawardena & Zittle, 1997). Social presence is defined as the degree to which an individual is felt as a "real person" in mediated communication (Short, Williams & Christie, 1976). In distance education, the teacher should be able to communicate effectively with students to make them feel that they care about their social existence.

Another way to make students feel their social presence in distance education is the on-site and timely feedback provided by the teacher to their students. According to Gaytan and McEwen, online assessment strategies include regularly having a variety of clearly-explained assignments and providing students with meaningful and timely feedback on the quality of their work. According to Çağıltay et al. (2001), feedback is divided into two as "approval feedback" and "information feedback". Confirmation feedback provides students with feedback on their progress in their work, while knowledge feedback includes an informational assessment. Howard (1987) defines student feedback as the most important course design and teaching component. Teachers can minimize communication problems between them and students by communicating their response policies and timelines for the e-mail they use for feedback to their students (Çağıltay et al., 2001).

New Student Roles

The responsibility of learning in distance education is entirely on the student. The student continues his education by saving time and asking for help from the teacher to provide the necessary support when he does

not understand. When the teacher cannot fully communicate with the student due to physical distance or technical problems, they cannot have sufficient information about the student's learning experience. Therefore, students are primarily responsible for their learning. Moore (1990) classifies student autonomy into three areas. These areas are; include the planning, implementation and evaluation of instruction. The highest degree of autonomy for the student is found in programs that allow the student to participate in all three aspects of teaching. It is seen that the students who are most successful in distance education situations tend to be independent, autonomous students who prefer to control their learning situations (Gunawardena & Zittle, 1997).

Institutional / Organizational Challenges

Peter (1971, 1983) argues that in the 20th century, distance education had a structure that was developed with organizational strategies focused on the shortening of geographical distances. This period was when distance education could be called the industrial period. This model aims to regulate educational processes to improve the economy. Garrison (2000) mentions that in the 21st century, more emphasis is placed on policies that will increase the functionality of the learning and teaching process rather than strategies that will remove structural constraints.

According to Gunawardena and Zittle (1997), many countries support new technologies by developing new media and information processing technologies, various group learning and information-gathering methods, and growing government telecommunications policies. However, there is an inequality of opportunity in countries with low economic welfare. Due to the difficulties experienced in accessing technology, deficiencies can be seen in accessing information. Gunawardena and Zittle (1997) group the institutional or organizational difficulties experienced in distance education under six headings. These; Access difficulties involving students' access to technologies to participate in the learning process, control difficulties including how much control the student has over the environment, interaction difficulty according to the degree of allowing student-teacher content, difficulties experienced with the interface that enables the learner to interact with students-content-teacher, traditional The difficulties of social presence in a social climate different from the classroom environment are the difficulties related to the symbolic form of the course content that is intended to be conveyed to the students.

The International Council for Distance Education (ICDE) has stated the difficulties that countries experience with distance education as follows (2010):

- Insufficient political will,
- Financial distress,

- Deficiencies in cooperation,
- Institutional reasons,
- Professional inadequacies,
- Problems with students,
- It is the lack of development of the technological infrastructure.

According to ICDE, one of the most important reasons why distance education is not at the desired level in countries is the deficiencies in policy development and the lack of political will to address these issues (Özkul & Aydın, 2020). Such a deficiency is also reflected in financial issues, and when the political will does not provide the expected financial support, the technological infrastructure cannot develop, and the access costs of students increase due to monetary issues. Thus, the insufficient support of the political will can be shown among the main reasons that blunt the existing potential towards distance education.

Suggestions for Overcoming the Difficulties in Distance Education

Under this title, solutions are offered to teachers, designers and policymakers to overcome the difficulties experienced in distance education.

Suggestions for Teachers

Many suggestions are presented below, accompanied by the efforts made for teachers and educators to have an efficient distance education process.

1. Teachers should develop technologically and get help from courses when necessary. Classroom teachers should improve themselves in using EBA effectively, increase communication with students and parents (Murray, 2009) and motivate students to be active in the distance education process (Kızıltaş & Özdemir, 2021).
2. According to Gunawardena & McIsaac (2013), teachers teaching with distance education should have the necessary competence in both the presentation of the content and the operation of technology.
3. Students who cannot interact effectively with the content and the teacher have difficulties in the distance education process. In parallel with this, the interactional distance between the students increases (Aktürk, 2020).
4. Teachers should have information about the student profile by using their high-level communication skills and should make their approach accordingly. In this way, he can be prepared for the manipulations he may encounter in the lesson, preventing unnecessary waste of time.

5. In bilateral dialogues, the teacher must show that he knows the student's social presence to increase their interest in the lesson. In distance education, the teacher should communicate effectively with the students to make them feel they care about their social existence. Experts should be helped in this regard (Attri, 2012).
6. Teachers should inform which communication platforms they use to communicate with their students. Hours, also called office hours, should not be clearly stated at which students can return.
7. As a measurement-evaluation method, teachers should adopt assessment methods that cover the whole period rather than instant assessment methods (Karatepe et al., 2020).
8. It may be important for teachers to follow the bulletin boards regularly and provide "information feedback" to students to detect deficiencies in learning. This can be likened to homework control in a traditional classroom setting. In this way, the teacher can quickly identify students with little interest in the lesson.
9. Teachers should increase students' social presence by using "confirmation feedback" to communicate with students in the lesson.
10. To create discussion environments in e-assessment environments, forum and chat activities, homework and wiki activities, and group workshops can be used for in-group interaction (Gülbahar, 2020).
11. A portfolio (product file), one of the evaluation approaches that support group work and creating a community of inquiry can also be used (Gülbahar, 2009).

Suggestions for Instructional Designers

To overcome the difficulties arising from the design of distance education, some suggestions are presented below.

1. Students access online course materials through the user interface, so the usefulness of the interface is important for an effective and efficient course. The interface should be usable and easily accessible in a way that allows students to send messages to educational content and academics and to be answered quickly by them (Keskin & Özer Kaya, 2020).
2. There should be consistency in the design of the web page used, and the information should be presented to the student. Website navigation can facilitate access to information (Çağıltay et al., 2001).
3. Considering the cognitive load institution, the visual images should be placed, and students should be prevented from experiencing unnecessary distractions during the lesson.
4. By diversifying the educational content, exciting and entertaining content should be created to prevent students from getting bored and distracted (Basaran et al., 2020).

5. Designs and software allowing instructors to prepare open-source materials should be used, and necessary support should be provided. Johnstone (2005) states that working with open-source materials increases instructor communication. Again, by designing and presenting the courses in an open-source way, the knowledge of experienced academics can be benefited from. Since the classes are open to everyone, academicians pay more attention to their courses (Kurşun et al., 2014).
6. Mobile devices have an excellent potential for performing both in-class and out-of-class activities with their features such as being accessible, portable and enabling instant communication (Saran, 2020). He knows that content can be developed to support students' mobile learning so that it can be facilitated for students to continue their education wherever there is an internet connection. Studies reveal that education with mobile devices positively affects learning (Thornton & Houser, 2005). To ensure efficiency in education with mobile devices, it is necessary to develop applications that allow content presentation and encourage student cooperation (Saran, 2020).
7. Distance education models can be designed as mixed to minimize the negativities experienced by students who do not have technical access and opportunities (Picciano, 2017).

Suggestions Policymakers Advice

In distance education, the duties and responsibilities of all stakeholders can be determined, and the disruptions experienced in the process can be minimized. This can be achieved by developing an effective policy and strategy. Policy developers have essential duties and responsibilities to prevent many problems in distance education. Policymakers should primarily lead the systemic change in education. The systemic change aims to create an education system that is more effective than the existing education system (Öncü, 2020). An education reform aiming at systemic change should be organized and hierarchical to include the entire education group within the system (Banathy, 1991). Recommendations are presented below to help policymakers make a systemic change in the distance education system.

1. Comprehensive and compulsory training on distance education should be given to teachers and students throughout the country. To increase interaction with students, the number of students in the classrooms should be reduced, equal use opportunities should be provided, and necessary technological support of similar quality for everyone should be provided to the students (Çardak & Güler, 2022).
2. One of the difficulties experienced in distance education is the insufficient knowledge of the personnel. The staff should provide full-time support to develop their online and multimedia teaching competencies (Aydın, 2003; Erfidan, 2019).
3. Professional development training should be made accessible to teachers at all times, regardless of time.

4. Professional development training should encourage teachers' team-based work with a collaborative approach (Tascı, 2006; Erfidan, 2019).
5. Platforms should be created to share teachers' strategies and methods in online learning, and teachers' participation should be supported (Çağıltay et al., 2001).
6. Teachers should be provided with necessary and sufficient information about the programs and interfaces used in distance education. For this purpose, qualified personnel who will provide technical support to teachers when required should be trained (Attri, 2012).
7. Strategic plans should be made, and policymakers should ensure implementation to disseminate distance education.
8. Each institution providing distance education should have a unique e-learning quality and education vision, and the steps to achieve this vision should be clearly stated and shared with all stakeholders involved in continuing education.
9. The development policy of the Open and Distance Education Research and Development Office (ARGE), which was established to achieve national and international recognition within the OEF, should be adopted by all distance education institutions, and they should include research and development activities to improve distance education within their structure.
10. E-certificate programs should support continuing professional development, including distance, time, qualifications and cost (Latchem et al., 2006).

Suggestions for Students

Although all conditions in distance education are improved, it is clear that individuals with self-regulation skills will not be able to gain efficiency from the learning process. Kokoç's (2019) study concluded that the variable with the highest effect on student engagement in online learning environments is self-regulation (attention control dimension). Therefore, the most important responsibility falls on the students. For the distance education process to be efficient and effective, students should be responsible for their learning and do their homework systematically, follow their lessons regularly and interact with teachers (Kızıltaş & Özdemir, 2021).

References

Aktürk, C. (2020). Uzaktan eğitim iş sürecinin eğitim 4.0 perspektifiyle yeniden yapılandırılması: Kilis 7 Aralık Üniversitesi örneği. *Akademik Araştırmalar ve Çalışmalar Dergisi (AKAD), 12*(23), 322-339.

Attri, AK (2012). Uzaktan eğitim: sorunlar ve çözümler. *Uluslararası davranışsal sosyal ve hareket bilimleri dergisi, 1 (4),* 42-58.

Aydin, C. H. (2003) Design, implementation and evaluation of an online faculty development program, paper presented at the *Association of Educational Communications and Technology (AECT) International Conference,* Anaheim, California, 22–26 October.

Banathy, B. H. (1991). *Educational systems design: A journey to create the future.* Englewood Cliffs, NJ: Educational Technology Publications.

Barker, K. (2001). *Creating quality guidelines for online education and training*. Vancouver, BC, Canadian Association for Community Education.

Barrett, E. (Ed.). (1992). *Sociomedia: Multimedia, hypermedia and the social construction of knowledge*. Cambridge, MA: The MIT Press.

Başaran, M., Doğan, E., Karaoğlu, E., & Şahin, E. (2020). Koronavirüs (Covıd-19) pandemi sürecinin getirisi olan uzaktan eğitimin etkililiği üzerine bir çalışma. *Academia Eğitim Araştırmaları Dergisi,* 5(2), 368-397.

Beaudoin, M. (1990). The instructor's changing role in distance education. *The American Journal of Distance Education, 4*(2), 21–29.

Cavanaugh, C. S. (2001). The effectiveness of interactive distance education technologies in K-12 learning: A meta-analysis. *International Journal of Educational Telecommunications, 7*(1), 73-88.

Çağıltay, K.(2001). Uzaktan eğitim: Başarıya giden yol teknolojide mi yoksa pedagojide mi? . *TMMOB Elektrik Mühendisleri Odası Dergisi, (409*).

Çağıltay, K., Graham, C. R., Lım, B. R., Craner, J., & Duffy, T. M. (2001). The seven principles of good practice: a practical approach to evaluating online courses. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 20*(20).

Çardak, U., & Güler, Ç. (2022). Uzaktan eğitim ve uzaktan öğretmen yetiştirme bağlamında akademisyen uygulama, görüş ve önerileri. *Van Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 19*(Özel Sayı), 323-353.

Dwyer, F. (1991). *A paradigm for generating curriculum design oriented research questions in distance education*. In Second American Symposium on Research in Distance Education, University Park, PA: Pennsylvania State University.

Erfidan, A. (2019). *Derslerin uzaktan eğitim yoluyla verilmesiyle ilgili öğretim elemanı ve öğrenci görüşleri Balıkesir Üniversitesi örneğ*i [Master's thesis, Balıkesir Üniversitesi Fen Bilimleri Enstitüsü].

Gaytan, J. & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *The American journal of distance education, 21*(3), 117-132.

Gunawardena, C. N., & Zittle, F. (1997). Social presence as a predictor of satisfaction within a compupter-mediated conferencing environment. *The American Journal of Distance Education, 11*(3), 8–25

Gunawardena, C. N., & McIsaac, M. S. (2013). *Distance education. In Handbook of research on educational communications and technology* (pp. 361-401). Routledge.

Gülbahar, Y. (2009). *Usage of electronic portfolios for assessment. In Handbook of Research on New Media Literacy at the K-12 Level: Issues and Challenges* (pp. 702-719). IGI Global.

Gülbahar, Y. (2020). E-değerlendirme. Çağıltay, K.&Götaş Y.(Eds.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar ve eğilimler (3. Baskı, s. 655-667)*. Pegem Akademi.

Harasim, L. (2001). Shift happens: Online education as a new paradigm in learning. *The Internet and Higher Education (3)*1. Accessed online at: http://virtual-u.cs.sfu.ca/vuweb.new/papers.html July 10, 2022.

International Council for Distance Education [IECD] (2010). ICDE Policy Forum Raporu. Access: https://www.icde.org/knowledge-centre Date: 10.04.2022.

Johnstone, S. M. (2005). Open educational resources serve the world. *Educause Quarterly, 28*(3), 15.

Karaman, S. (2020). Öğrenme nesneleri. Çağıltay, K.&Götaş Y.(Eds.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar ve eğilimler (3. Baskı, s. 723-743)*. Pegem Akademi.

Karatepe, F., Küçükgençay, N., & Peker, B. (2020). Öğretmen adayları senkron uzaktan eğitime nasıl bakıyor? Bir anket çalışması. *Journal of social and humanities sciences research, 7*(53), 1262-1274.

Kember, D., & Murphy, D. (1990). A synthesis of open, distance and student contered learning. *Open Learning, 5*(2), 3–8.

Keskin, M., & Özer Kaya , D. (2020). COVID-19 sürecinde öğrencilerin web tabanlı uzaktan eğitime yönelik geri bildirimlerinin değerlendirilmesi. *İzmir Katip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi,* 5(2), 59-67.

Kızıltaş, Y., & Özdemir, E. Ç. (2021). Sınıf öğretmenlerinin uzaktan eğitim sürecine yönelik görüşleri. *Elektronik Sosyal Bilimler Dergisi, 20*(80), 1896-1914.

Kokoç, M. (2019*). Uzaktan eğitim öğrencilerinin bağlılık düzeylerinin akıllı telefon bağımlılıkları, öz-düzenleme ve öz-yeterlik becerileri ile ilişkisinin modellenmesi.* [Yayımlanmamış Doktora Tezi].

Kursun, E., Cagiltay, K., & Can, G. (2014). An investigation of faculty perspectives on barriers, incentives, and benefits of the OER movement in Turkey. *The International Review of Research in Open and Distributed Learning, 15*(6).

Latchem, C., Özkul, A. E., Aydin, C. H., & Mutlu, M. E. (2006). The open education system, Anadolu University, Turkey: e-transformation in a mega-university. *Open Learning: The Journal of Open, Distance and e-Learning, 21*(3), 221-235.

Millar, G. (2002). *Learning objects 101: A primer for neophytes. Learning Resources Unit*. British Columbia Institute of Technology.

Moore, M. G. (1990). Recent contributions to the theory of distance education. *Open Learning, 5*(3), 10–15.

Murray, C. (2009). Parent and teacher relationships as predictors of school engagement and functioning among low-income urban youth. *The Journal of Early Adolescence, 29*(3), 376-44.

Newhouse, C. P. (2011). Using IT to assess IT: Towards greater authenticity in summative performance assessment. *Computers & Education, 56*(2), 388-402.

Oblinger, D. G. (2000). The nature and purpose of distance education. *The Technology Source*, 349.

Öncü, S. (2020). Eğitimde sistemik değişim. Çağıltay, K.&Götaş Y.(Eds.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar ve eğilimler (3. Baskı, s. 669-723).* Pegem Akademi.

Özkul, A. E., & Aydın, C. H. (2013). Açık ve uzaktan öğrenmenin temelleri ve araştırmaları. Çağıltay, K.&Götaş Y.(Eds.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar ve eğilimler (3. Baskı, s. 633-655).* Pegem Akademi.

Picciano, A. G. (2017). Theories and frameworks for online education: Seeking an integrated model. *Online Learning, 21*(3), 166-190.

Saba, F., & Shearer, R. (1994). Verifying key theoretical concepts in a dynamic model of distance education. *American Journal of Distance Education, 8*(1), 36–59.

Salomon, G. (Ed.). (1993). *Distributed cognitions: Psychological and educational considerations*. Cambridge: Cambridge University Press.

Saran, M. (2020). Mobil öğrenme: Fırsatlar ve zorluklar. Çağıltay, K.&Götaş Y.(Eds.), *Öğretim teknolojilerinin temelleri teoriler, araştırmalar ve eğilimler (3. Baskı, s. 683-699).* Pegem Akademi.

Tasci, D. (2006) Online learning programs as learning organizations: a case study of information management programs at Anadolu University, Turkey. *Turkish Online Journal of Distance Education (TOJDE),* 7(3).

Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of computer assisted learning, 21*(3), 217-228.

Twigg, C. A. (2001). *Quality assurance for whom. Providers and consumers in today's distributed learning environment*. New York: Centre for Academic Transformation. Rensselaer Polytechnic Institute.

United States Distance Learning Association. (2005). *Retrieved April 20, 2022, from www.usdla.org.*

Author Information

Emel Duman
https://orcid.org/0000-0001-5939-3476
Bursa Uludağ University
Turkiye, Bursa
Contact e-mail: *emelozduman@gmail.com*