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Nesrin Hark Söylemez[1]
[1]Dicle University, 0000-0002-6306-5595

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Distance Education from Teacher and Learner Perspective

Nesrin Hark Söylemez[1*]
[1]Dicle University

Abstract

This study aims to determine the views of individuals who have experienced the distance education process as both students and teachers. The study group consists of individuals who both enrolled in graduate education programs at a state university and taught actively at K-12 institutions. The study is conducted with a phenomenological design. The Miles Huberman model was used in the analysis of the data. The problems faced by the participants in the distance education process, in which they took part both as teachers and students, were grouped under "instructor dimension, student dimension, family dimension, infrastructure, hardware, and physical environment dimension, social interaction dimension, and process dimension". The views of the participants on the assessment and evaluation processes in distance education as students were grouped under "measured learning outcomes, assessment and evaluation tools, assessment and evaluation systems, other factors that affect evaluation, negative situations, and positive situations". The same sub-themes occurred, except for "positive situations", when the views on assessment and evaluation processes in distance education were examined from the perspective of the teachers. Views on e-teacher qualifications were grouped under "technical knowledge, knowledge of instructional design, social skills, knowledge of pedagogical content, management skills, and knowledge of assessment and evaluation".

Keywords: distance education; e-teacher competencies; graduate student; K-12 teacher; problems in distance education

Introduction

Distance education has been the most effective solution to continue learning and teaching with the COVID-19 pandemic. Institutions, educators, and students have experienced an unexpected and forced transition from face-to-face teaching to distance education. As a result, distance education has become a form of education experienced by the majority of educators and students.

Distance education is a planned learning process in which teachers and students are in different environments, communication is provided with technological tools, and special arrangements are made for teaching (Moore & Kearsley, 2011). Distance education is the separation of the environment in which the learning process takes place (Larreamendy-Joerns & Leinhardt, 2006). Distance education's main goal is to make educational opportunities accessible to students who are not close to educational institutions and instructors.

Distance education can be performed synchronously or asynchronously. Synchronous education refers to the simultaneous exchange of information, usually through real-time online lectures, webinars, or video conferences, and therefore more closely reflects traditional teaching methods (Gurung & Stone, 2020; Mladenova et al., 2020). Comparatively, asynchronous education is self-advancing and therefore takes place independently of the participation of other students and educators (Nordmann et al., 2020). Distance education offers many advantages to individuals due to its diverse feature set, which includes access to various types of information, space and time flexibility, the utilization of different methods and techniques to structure the information, and flexibility in adjusting the learning pace (Woodard, 2003).

An effective distance education activity should be a successful system that responds to the needs of students (Bates, 2019). The learning management system used in distance education consists of a virtual classroom, e-content, e-teacher, e-student, and assessment and evaluation components. These components come together with their unique features and form an integrated structure. The trainer's mastery of the distance education system will make it easier for him or her to organize and run the system. An instructor in distance education should organize

* Corresponding Author: *Nesrin Hark Söylemez, nesrin_hark@hotmail.com*

the lesson in accordance with virtual environments, identify the needs of students in virtual classrooms, use methods and techniques suitable for digital environments, make assessments and evaluations, and teach their lessons interactively and with feedback.

In the distance education literature, studies are conducted on institutional support (Marshall, 2012; Naylor & Nyanjom, 2021), technical support (Gunn, 2010), interaction (Bernard et al., 2009; Horzum, 2013), effectiveness of distance education strategies (Barton, 2020; Gurung & Stone, 2020), problems experienced in the transition to distance education in different countries (Chiemeke & Imafidor, 2020; Mailizar et al., 2020), students' perceptions of learning materials, peers, and teachers (Eom & Ashill, 2016; Hsieh Chang & Smith, 2008; Parahoo et al., 2016; Weidlich & Bastiaens, 2018), and comparison of student satisfaction in distance education and face-to-face education (He et al., 2021; Yen et al., 2018)

Education is a phenomenon that needs to be constantly evaluated and updated. Therefore, educational practices should be evaluated by policymakers and education administrators, and their shortcomings should be addressed. By doing so, similar problems will be averted in distance education processes. Otherwise, these shortcomings will lead to learning losses. The current study examines the views of individuals who have experienced the distance education process as both students and teachers. In this context, the opinions of the participants about the problems they encounter in the distance education process, the assessment and evaluation processes in distance education, and the e-teacher competencies for an effective distance education process are investigated. This will make it possible to identify problems that arise during the distance learning process and find solutions. The obtained results will contribute to the improvement of distance education activities. This study is significant for all of the aforementioned reasons.

In the current study, the opinions of individuals who both teach in K-12 institutions and receive postgraduate education during the distance education process were consulted. It is expected that the obtained results will create awareness about the problems experienced by academicians and teachers. The participants' simultaneous experience of the distance education process as both students and teachers will enable them to evaluate the education process critically and from different perspectives. Another important aspect of the current study is that it will enable people, who are actively involved in the process as both students and teachers to evaluate themselves. Thus, individuals will be able to make self-evaluations by analyzing their behaviors and thoughts on the relevant subject (Bruhn et al., 2015). Self-assessment is a process in which teachers evaluate their knowledge, performance, beliefs, and competences (White, 2019). Self-assessment contributes to the professional development of teachers (Ross & Bruce, 2007). Self-assessments enable identifying good and bad practices in distance education.

Distance education instructors should gain awareness of the planning, design, and execution of the education process. The current study is important for educators to gain awareness of trainer competencies in an evolving digital world. The findings related to teacher competencies in distance education can be described as a need assessment study for teacher education programs. Within the scope of the current study, the following questions were asked of participants:

1. Can you explain the problems you encountered as a teacher during the distance education process?
2. Can you explain the problems you encountered as a student during the distance education process?
3. As a student, can you share your views on evaluation processes in distance education?
4. As a teacher, can you share your views on evaluation processes in distance education?
5. Can you share your views on the competencies that an instructor should have in an effective distance education process?

Method

Research Design

The phenomenology pattern, which is part of the qualitative research method, was used in the current study. Phenomenology is a pattern that allows people to express their thoughts, perceptions, perspectives, and feelings about a certain concept or phenomenon and is used to express how they experience this phenomenon (Rose et al., 1995; van Manen, 2016). The phenomenology design was considered appropriate because this study aims to examine the experiences of the participants as teachers and students.

Participants

The participants were chosen using criterion sampling, one of the purposive sampling methods. Criteria-based sampling is the inclusion of situations that meet the determined criteria to reach the best data sources suitable for the research (Patton, 2014). The participants were chosen based on the criterion that they simultaneously participated in the distance education process as both students and teachers. The study group consists of individuals enrolled in a graduate education program at a state university in the spring semester of the 2020-2021 academic year and actively teaching at K-12 institutions in the same period. The participants were coded starting from P1 to P14. Information about the study group is presented in Table 1.

Table 1. Information on the study group

Gender	Age	Seniority	Branch
Female	28	5	Maths
Female	37	15	Technology and Design
Male	42	5	Social Sciences
Male	28	4	Maths
Female	29	5	Turkish language
Male	28	3	Science
Female	26	4	English language
Female	27	4	English language
Female	26	4	English language
Male	25	1	Elementary school
Female	30	5	Social Sciences
Male	28	5	Maths
Female	39	15	Elementary school
Male	40	4	Religious education

Table 1 shows that 6 of the participants are male and 8 are female, with ages ranging from 25 to 42. Of the participants who teach in K-12 institutions, 3 are math teachers, 3 are English language teachers, 2 are social sciences teacher, 1 is a technology and design teacher, 1 is a Turkish language teacher, 1 is a religious education teacher, and 1 is a science teacher.

Data Collection Tool and Data Collection

A semi-structured interview form is used in the current study. Initially, a draft form was created in line with the data obtained from the literature. According to the recommendations of two experts in the fields of distance education and language, the form was reviewed for clarity, adequacy, and suitability of the questions, and any necessary changes were made. A pilot study was performed with two participants, who fit the criteria but were not part of the study to determine the clarity of the questions. After the pilot application, the questions were revised, and the final form of the interview form was established. Interviews were conducted with 14 voluntary participants. The participants were informed about the purpose of the research before the interview. It was explained to the participants that they could discontinue the study without any responsibility, that their identity information would be kept confidential in the research results, and that the results would only be used for scientific purposes. Interviews started in October 2021 and were completed in December 2021. Interviews lasting 30-40 minutes were conducted with the participants on the days and hours they chose, and their perspectives on the topic were attempted to be examined in depth.

Analysis of Data

The Miles-Huberman qualitative analysis model was used in the analysis of the data (Miles & Huberman, 1994). Miles - Huberman model can be defined as three parallel flows of activities, namely, data reduction, data display, and conclusion drawing or verification. The stages of the Miles Huberman model are given in Figure 1.

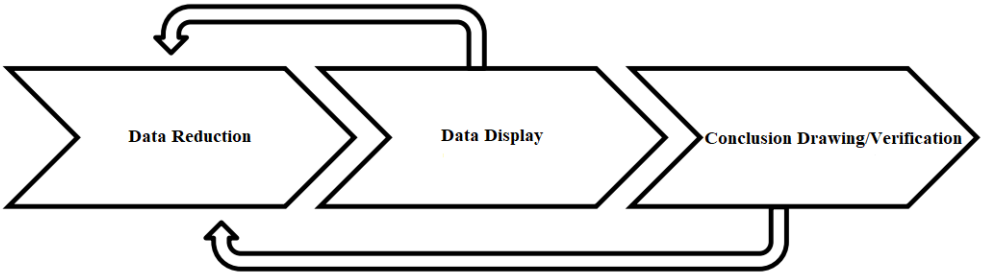

Figure 1. Miles-Huberman's components of data analysis

To ensure validity and reliability in qualitative research, it is necessary to explain the data collection and analysis process in detail, to extract the coding key, to create the themes based on the coding key, and to calculate the consistency between the coders. In this context, the steps followed in the process of collecting and analyzing data should be explained in detail (Rourke & Anderson, 2004).

Coding can be reviewed by the same coder 10-14 days later, after the analysis of qualitative data, to guarantee the consistency of the results. (Flick, 2014). The analyses were repeated 10 days later to ensure coding reliability. Miles & Huberman's (1994) reliability formula (consensus / (consensus + disagreement)) was used to calculate the reliability coefficient between the two encodings. The coding consistency was calculated as 92%. In addition, credibility is maintained by making direct quotations from the obtained interview texts (Creswell & Creswell, 2017; Johnson & Christensen, 2019). Direct quotes from participants are kept anonymous, and individuals are coded as "P+Number" within the context of study ethics. To ensure external validity, the research design, study group, data collection tool, data collection, data analysis, and organization of the findings were described in detail. Additionally, the participants of the study were selected from suitable individuals who would contribute to the purpose of the study.

Findings

The problems encountered as a teacher during the distance education process

The participants were asked about the problems they encountered as teachers during the distance education process, and the findings are presented in Table 2.

Table 2. The problems encountered as a teacher during the distance education process.

Theme	Sub Theme	Code	f
Problems encountered in distance education as a teacher	Instructor dimension	Inability to adapt methods and techniques to online environments	7
		Inexperience in preparing lesson plans, content, and materials	6
		Difficulties in identifying student learning needs	5
		Difficulties in ensuring active participation of the students in class	5
		Inexperience in assessment and evaluation in distance education	5
		Difficulties in providing student motivation in virtual classrooms	4
		Lack of motivation caused by impossibilities	4
		Lack of knowledge about infrastructure and hardware usage	4
		Other responsibilities at home (like taking care of children and cooking)	3
	Student dimension	Students' lack of active participation in the class	8
		Absenteeism problems in education	8
		Quick distraction in front of the screen	5
		Lack of motivation in students	5
		Decrease in time allotted to education due to responsibilities at home	4
		The emergence of inequalities of opportunity among students	4
		Pessimism caused by inequality of opportunity in students	4
		Lack of knowledge about infrastructure and hardware usage	4
	Family	Families assigning children different responsibilities at home	3

dimension	Lack of interest by families in their children's education process	3
	Family pressure put on children	3
	Intervention of families in educational planning	2
Infrastructure, hardware and physical environment dimension	Internet connection problems	9
	Lack of hardware and hardware malfunction	9
	Lack of a physical environment suitable for live lessons at home	6
	Systemic errors	5
	Browser problems	5
	Network problem for mobile devices	3
Social interaction dimension	Insufficient interaction	7
	Uncertainty of the boundaries of private life	4
	The discomfort of being constantly called by students and parents	3
	Inability to establish healthy dialogues	3
	Social skill development is not supported	2
Process dimension	Stressful conduction	4
	Tiresome conduction	4

According to Table 2, the problems that the participants face in distance education as teachers are grouped under the sub-themes of instructor dimension (9 codes), student dimension (8 codes), family dimension (4 codes), infrastructure, hardware, and physical environment dimension (6 codes), social interaction dimension (5 codes), and process dimension (2 codes). The statements of some of the participants are as follows:

P1: Since distance education is a situation that I have encountered for the first time, I had difficulties in preparing the lesson plan, content, and material…

P2: The biggest problem I faced as a teacher was the low participation of our students…

P4: It was not possible to establish a healthy dialogue with the students…

P6: In distance education, every student had our number, and every parent was able to call us at any time. It never occurred to any parent that we also have a family and that they cannot call us whenever they want…

P9: I did not have the necessary device and internet infrastructure to teach the math lesson. (I think a tablet and a PC pen are needed.) Typing with a mouse on the PC was causing a waste of time and a disorganized screen display….

P10: In my opinion, the lack of a social dimension to learning in online learning environments and students' motivation problems were among the biggest problems…

P14: Of course, we had problems due to our lack of knowledge of distance education. During the graduate process, I saw that many of our professors who have been in the academy for many years also experienced the problems we experienced, and this situation negatively affected the efficiency of the lesson in every sense...

The problems encountered as a student during the distance education process

The participants were asked about the problems they encountered as students during the distance education process, and the findings are presented in Table 3.

Table 3. The problems encountered as a student during the distance education process

Theme	Sub Theme	Code	f
Problems encountered in distance	Instructor dimension	Inexperience in assessment and evaluation in distance education	6
		Inadequate planning of the education process	6
		Lack of motivation in virtual classrooms	4

education as a student		Failure of the instructor to use different methods and techniques in the class	4
		Instructor not starting the course on time	4
		The instructor's failure to prepare the physical environment and equipment before the class	4
		The instructor's inability to use digital technologies properly	3
		Lack of knowledge about infrastructure and hardware usage	3
	Student dimension	Quick distraction in front of the screen	5
		Lack of knowledge about infrastructure and hardware usage	4
		Physical discomforts caused by constantly sitting in front of the screen	4
		Having to learn most things by his or her own effort	4
	Infrastructure, hardware, and physical environment dimension	Internet connection problem	6
		Browser problems	4
		Lack of hardware and hardware malfunction	4
		Systemic errors or deficiencies	4
		Network problem for mobile devices	3
		The unsuitability of the home environment for listening to lectures	3
	Social interaction dimension	Insufficient interaction	8
		Instructor's unwillingness to communicate with students outside of the class	5
	Process dimension	Stressful conduction	5
		Tiresome conduction	3

According to Table 3, the problems that the participants face in distance education as students are grouped under the sub-themes of instructor dimension (8 codes), student dimension (4 codes), infrastructure, hardware, and physical environment dimension (6 codes), social interaction dimension (2 codes), and process dimension (2 codes). The statements of some participants were as follows:

P2: The most important problem I faced as a student was communicating with our teachers. We, who are in the status of teachers, had to apply to second or, in some cases, third parties in order to communicate with our instructors as students…

P3: Quick distraction while listening to lectures and the unsuitability of my home environment for listening to lectures were pushing me hard…

P5: As a student, I had a hard time as some of the lecturers did not attend the class on time, did not lecture fluently, and microphones or materials were not ready. In addition, the process would be much easier if notifications such as "your exams are now uploaded to the system" and "homework has been given" were sent to the students as a message...

P7: The eye and back pain caused by looking at the screen for long hours had a negative effect on me. Systemic problems made communication difficult during the course…

P10: The fact that the majority of our instructors were quite unfamiliar with distance education was an important problem in terms of the efficiency of the lessons…

Views on assessment and evaluation processes in distance education as a student

Participants were asked for their opinions on the assessment and evaluation processes in distance education as students, and the findings are presented in Table 4.

Table 4. Views on assessment and evaluation processes in distance education from a student perspective

Theme	Sub Theme	Code	f
Assessment and evaluation	Measured learning outcomes	Cognitive gains at the knowledge level	7
		High-level cognitive gains	2

in distance education from a student perspective	Assessment and evaluation tools	Homework report	11
		Online discussions	5
		Presentation	4
		Project	2
		Exam	2
	Assessment and evaluation system	Result oriented	9
		Process oriented	3
	Other factors that affect the evaluation	Student attendance	4
		Instructor's prior knowledge of the student	2
	Negative situations	Invalid and unreliable assessment and evaluation	6
		Unclear boundaries and wide scopes of the homework	6
		Unclear and incomprehensible homework or exam instructions	4
		Failure to identify learning deficiencies	4
		Homework upload/download problems due to systemic deficiencies	4
		Formation of learning deficiencies due to a lack of feedback	4
		Inadequate planning or uncertainties in the process	4
		Technical problems in online exams	2
	Positive situations	Contribution of homework that requires high-level skills to learning	4
		Being efficient in terms of learning to learn	2

According to Table 4, the views on assessment and evaluation processes in distance education as a student are grouped under the sub-themes of measured learning outcomes (2 codes), assessment and evaluation tools (5 codes), assessment and evaluation systems (2 codes), other factors that affect the evaluation (2 codes), negative situations (8 codes), and positive situations (2 codes). The statements of some participants were as follows:

P4: Since the evaluations are made with homework, I think that it is inadequate to measure whether the information is actually gained or not...

P5: Evaluations were made with assignments. Some of the assignments were rote-based and meant only for writing and sending, so they didn't make any sense…

P7: Evaluations in the distance education process were made through class participation, in-class presentations, and research assignments. Research assignments have been fruitful for my personal development and ability to learn…

P8: I think that the evaluations are invalid and unreliable. The lack of planning for assessment and evaluation and the uncertainties in the process created stress for us...

P10: The fact that the evaluation processes are not well planned and the technical problems experienced during the online exams are among the problems I see…

P11: A process-oriented evaluation was made, and discussion environments that required high-level interpretation skills contributed to learning…

P13: Most of the courses were evaluated with the homework uploaded to the system. I think the evaluations made did not reflect the truth in any way…

Views on assessment and evaluation processes in distance education as a teacher

Participants were asked for their opinions on the assessment and evaluation processes in distance education as teachers, and the findings are presented in Table 5.

Table 5. Views on assessment and evaluation processes in distance education from a teacher's perspective

Theme	Sub Theme	Code	f
Assessment and evaluation in distance education from a teacher perspective	Measured learning outcomes	Cognitive gains at the knowledge level	5
		High-level cognitive gains	2
	Assessment and evaluation tools	Online discussion	5
		Exam	5
		Homework	2
	Assessment and evaluation system	Result oriented	9
		Process oriented	5
	Other factors that affect the evaluation	Student attendance	4
		Student success before distance education	3
	Negative situations	Inability to make in-class assessments due to lack of regular attendance to classes	6
		Failure to identify learning deficiencies	5
		Invalid and unreliable assessment and evaluation	4
		Inexperience in assessment and evaluation in distance education	4
		The pressure created on the students by the uncertainties in the assessment and evaluation processes	4
		Difficulties in accessing assessment and evaluation materials	3

According to Table 5, the views on assessment and evaluation processes in distance education as a teacher are grouped under the sub-themes of measured learning outcomes (2 codes), assessment and evaluation tools (3 codes), assessment and evaluation systems (2 codes), other factors that affect the evaluation (2 codes), and negative situations (6 codes). The statements of some of the participants are as follows:

P2: Especially in my field of technology and design courses, we have never had the chance to learn face-to-face. We had to evaluate according to class participation…

P5: Since I could not take a face-to-face exam, I graded my students according to criteria such as attending live classes, answering the questions in the lesson, and doing the homework given…

P7: I made the evaluations considering the previous performances of the students since they did not attend the classes or could not attend the classes…

P8: During the pandemic, I had great difficulties in the evaluation processes because I had no experience in assessment and evaluation in distance education…

P12: It is impossible for me to talk about a healthy evaluation since we did not receive training on measurement and evaluation in distance education…

Views on the competencies that an instructor should have in an effective distance education process

The participants were asked for their opinions on the competencies that an instructor should have in an effective distance education process, and the findings are presented in Table 6.

Table 6. Views on the competencies that an instructor should have in an effective distance education process

Theme	Sub Theme	Code	f
Assessment and evaluation in distance education from a student perspective	Measured learning outcomes	Cognitive gains at the knowledge level	7
		High-level cognitive gains	2
	Assessment and evaluation tools	Homework report	11
		Online discussions	5
		Presentation	4
		Project	2
		Exam	2
	Assessment and evaluation system	Result oriented	9
		Process oriented	3

	Other factors that affect the evaluation	Student attendance	4
		Instructor's prior knowledge of the student	2
	Negative situations	Invalid and unreliable assessment and evaluation	6
		Unclear boundaries and wide scopes of the homework	6
		Unclear and incomprehensible homework or exam instructions	4
		Failure to identify learning deficiencies	4
		Homework upload/download problems due to systemic deficiencies	4
		Formation of learning deficiencies due to a lack of feedback	4
		Inadequate planning or uncertainties in the process	4
		Technical problems in online exams	2
	Positive situations	Contribution of homework that requires high-level skills to learning	4
		Being efficient in terms of learning to learn	2

According to Table 6, the views on assessment and evaluation processes in distance education as a teacher are grouped under the sub-themes of technical knowledge (6 codes), knowledge of instructional design (3 codes), social skills (6 codes), knowledge of pedagogical content (11 codes), management skills (3 codes), and knowledge of assessment and evaluation (2 codes). The statements of some participants were as follows:

P1: Since the learner is alone in front of the screen in distance education and it is not possible to control what he/she is doing, the instructor must carry out the process in a way that will attract the student's attention to the lesson…

P3: Unfortunately, not every student has the same conditions. Therefore, the teacher should be able to provide flexibility in some aspects, taking the student's conditions…

P5: First of all, trainers should be able to use information technologies such as computers, tablets, and phones well…

P7: A lesson plan should be prepared by being aware of individual learning skills and developmental periods. It should be progressed according to the level of the students...

P8: In the distance education process, an instructor should be able to prepare digital content and have a good grasp of the distance education platform used…

P10: One of the characteristics that a teacher should have in the distance education process is the ability to provide flexibility to students and to empathize with them.

Results and Discussion

In the current study, the problems encountered by the participants in the distance education process in which they took part as teachers were grouped under the sub-themes of "instructor dimension, student dimension, family dimension, infrastructure, equipment, and physical environment dimension, social interaction dimension, and process dimension".

Within the literature, the problems related to distance education processes are described as the inability to carry out the practical courses with the desired efficiency, a lack of interaction, the inability to provide adequate support for assessment and evaluation processes' academic development of students, the inability to provide instant feedback to students, educators lack of skills for distance education, and the inadequacy of infrastructure services (Koç, 2021; Oliveira et al., 2018). Active online learning processes tailored to the interests and requirements of the learners are required in distance education to address the deficiencies mentioned and increase interaction. For this, active learning methods and techniques and different digital materials should be used. The use of various technologies will guarantee active student participation and improve learning interactions.

In terms of effectiveness, the distance education process is generally associated with interaction. (Simpson & Anderson, 2012). There is a directly proportional relationship between interaction and students' success in distance education (Cheng & Chau, 2016). To increase the interaction in distance education applications, online learning experiences should be used (Salmon, 2013). The interaction and cooperation between the learner-learner

and the learner-teacher must be supported by technology-based applications. Technology-based research-learning communities that support knowledge sharing, knowledge exchange, and development make the learning process efficient and effective for all stakeholders (Van Weert, 2006). Educators can create virtual communities for this purpose. The main purpose of creating these communities is to prevent students from being isolated and help them feel connected to each other, to the educator, and to the learning community (Gohl, 2020).

The learning and teaching process needs to be organized in a way that appeals to students with different learning styles. In addition, the learner needs to switch from the passive participant role to the active learner role, to actively experience the learning process, which will ensure efficiency in education. Some of the targeted gains may not be achieved during the learning process. Identifying these deficiencies is among the duties of the teacher. Identifying these deficiencies in distance education may be more difficult than in face-to-face education. In fact, participants claimed that it is difficult to determine the learning needs of students in distance education.

Individuals studying in distance education find learning environments that allow learner-teacher, learner-learner, and learner-content interaction enjoyable. Making learning enjoyable increases the student's motivation (Holmberg, 2005). In distance education, students are open to external stimuli in their environment. For this reason, they may lose their interest in the lesson, their concentration may deteriorate, and they may experience motivational problems. In the current study, it was found that the instructors had difficulties providing student motivation in virtual classrooms.

In the current study, the participants stated that the students did not actively participate in the lesson and that they had absenteeism problems. For the continuity of the learning process in distance education, learners should be integrated with peer groups, academic systems and social systems. The interaction provided in online course processes is highly effective in fostering the learner's desire to continue online courses (Croxton, 2014). To increase interaction, the instructor must be accessible to the students and guide them. Another important issue identified in this research is the uncertainty of the private lives of the instructors in the distance education processes. Distance education has made the boundary between family time and work time more permeable than ever before (Mesch, 2006).

Some problems that teachers encountered during the distance education process were found to be grouped under the subtheme of "student dimension". Some of the characteristics that learners must have in order to be successful in distance education are stated as being able to learn with limited support, managing time, communicating with instructors online, frequently checking e-mail, having self-confidence, communicating with other learners online, using technology at a basic level, and having self-discipline (Beaudoin et al., 2009). The features of learners, such as technology self-efficacy and self-regulation skills, can be effective for learning outcomes in distance education (Wang et al., 2013).

In the current study, the problems encountered by the participants in the distance education process in which they took part as students were grouped under the sub-themes of "instructor dimension, student dimension, family dimension, infrastructure, equipment, and physical environment dimension, social interaction dimension, and process dimension". In the literature, it is stated that students experience difficulties such as independent learning, time management, maintaining motivation, and problems such as accessibility, the digital divide, and inequality in the online learning process (Lee et al., 2021; Shin & Hickey, 2021).

Under the sub-theme of the "instructor dimension" from the student's point of view, the following codes are found: Inexperience in assessment and evaluation in distance education, inadequate planning of the education process, lack of providing motivation in virtual classrooms, failure of the instructor to use different methods and techniques in the class, the instructor not starting the course on time, the instructor's failure to prepare the physical environment and equipment before the class, the instructor's inability to use digital technologies properly, and a lack of knowledge about infrastructure and hardware usage are among the reasons for this failure. Since there is no physical interaction in distance education, students may feel lonely and distracted during the class. In order to prevent this, students' attention should be drawn to the lesson, and students should be motivated by interacting with them. Drawing attention to the subject of the class and explaining the importance of the lesson will have a positive effect on the students' motivation. Students will be involved in the process as their motivation increases. In order to motivate the students to attend the class, different visuals and humorous elements can be used, and discussion environments can be organized. Furthermore, considering the problems experienced by students in the study, it is possible to say that pedagogical support is an important need in the process of distance education.

Assessment and evaluation are two of the most important components of education. The assessment and evaluation process allows for evaluating the learning levels of students, identifying learning difficulties, and

making necessary improvements. In the current study, the opinions of the participants about the assessment and evaluation processes in distance education as students were gathered under the sub-themes of measured learning outcomes, assessment and evaluation tools, assessment and evaluation systems, other factors that affect the evaluation, negative situations, and positive situations. When the views on assessment and evaluation processes in distance education are examined from the teacher's perspective, the sub-themes are found to be similar, except the "positive situations" sub-theme does not occur.

Participants talked about similar situations regarding learning outcomes measured in assessment and evaluation from the perspective of both students and teachers. It has been found that the learning outcomes measured from both student and teacher perspectives are mostly cognitive gains at the knowledge level. The majority of the participants stated that the behaviors in the lower levels of Bloom's taxonomy were measured. However, according to the digital bloom taxonomy, assessment and evaluation of all stages of the cognitive field are possible. That is in remembering steps, short-answer tests, multiple-choice tests, poster presentations, and lectures; in comprehension steps, written reports, multiple choice tests, short answer questions, summaries, poster presentations, comparisons, and discussions; in analysis steps, diagrams, role-playing, following directions, simulations, projects, case studies, surveys, discussions, and graphics; in evaluation steps, generating hypotheses, projects, creative activities, articles, and simulation; in creation stages, projects, case studies, criticisms, and self-evaluations are suggested (Churches, 2008). Handling and implementing the specified activities holistically will increase the efficiency of the assessment and evaluation process in distance education.

In the current study, it was discovered that both traditional and non-traditional tools were used for assessment and evaluation in distance learning. In distance education, alternative methods based on the constructivist approach (such as product files, performance evaluation, and projects) should be given more place instead of traditional measurement tools (classical written exams, multiple choice, essay writing, true-false exams, and filling in the blanks) (Simonson et al., 2019). Additionally, assessments can be made using self and peer assessments (Alvarez et al., 2012), online discussions (Kent et al., 2016), feedback, and students' learning analytics (Nyland et al., 2017). However, it is possible to say that designing and implementing online assessment in general is a difficult topic (Atherton et al., 2017).

From the student's point of view, the "assessment and evaluation tools" sub-theme includes "homework report, online discussions, presentation, project, and exam" codes, while the "assessment and evaluation tools" sub-theme from the teacher's perspective includes "online discussion, exam, and homework" codes. Homework and online discussions were found to be the most preferred assessment and evaluation tools. Participants stated that homework that requires high-level skills contributes to learning and is productive in terms of learning to learn. Participants stated that result-oriented evaluations were carried out heavily in distance education.

The feedback used in distance education is very important for the students. Feedback greatly contributes to students' ability to organize and control their own learning experiences and gain autonomous learning experiences (Evans, 2013; Price et al., 2010). Feedback can add new information to individuals' knowledge, confirm their existing thoughts, reconstruct their existing knowledge, or correct their misunderstandings (Peterson & Irving, 2008). Therefore, it is possible to say that feedback has a formative role (Alvarez et al., 2012). When students do not get feedback, they might assume that their instructors are not concerned with their performances in the learning environment (Miller & King, 2003). Due to this reason, students may become disinterested in the lesson, lose the desire to learn, and become less motivated. Positive feedback increases the motivation of individuals to realize their potential. It is possible to ensure the realization of permanent learning with didactic feedback.

In the current study, it was found that the assessment and evaluation process is an important issue that needs to be improved from the perspective of both the student and instructor. It was stated that assessment and evaluation in distance education are invalid and unreliable from both the teacher's and student's points of view. It is also found that the instructor's knowing the student beforehand and the student's attendance status are factors affecting the evaluation process. The inability to comprehensively measure the post-training learning outcomes of distance education students, the lack of use of different assessment and evaluation tools, and the lack of systematic assessment and evaluation may have negatively affected trust in the assessment and evaluation process. Using different assessment and evaluation techniques in distance education and making process evaluations rather than product evaluations will increase confidence in assessment and evaluation.

Successful distance education instructors should be aware of the similarities and differences between face-to-face and distance education and apply this knowledge to the distance education process. (Palloff & Pratt, 2011). In order for distance education to be effective and successful, instructors must have some qualifications. Teacher competencies for e-learning processes, which are based on technology, are defined as e-teacher competencies or

online teacher competencies. Some researchers rank online competencies as personal, social, pedagogical, and technological (Baran & Correia, 2014; Guasch et al., 2010). Bailie (2011) listed the most preferred competencies as content, feedback, social, and managerial. Outcomes of the current study indicate the competence areas that teachers should have as technical knowledge, knowledge of instructional design, social skills, knowledge of pedagogical content, management skills, and knowledge of assessment and evaluation.

In order for the distance education process to be successful, the instructor must have sufficient knowledge about distance education. In distance education processes, instructors should perform different actions, such as adapting their pedagogical knowledge to online environments, using technology effectively, and transferring content to digital environments. It is stated that online instructors should have pedagogical, content, design, technological, social, and communication skills (Albrahim, 2020). Additionally, instructors should design teaching methods and strategies suitable for live class processes in line with pedagogical principles and organize activities to increase the motivation of learners (Bawane & Spector, 2009; Kassandrinou et al., 2014; Roblyer & Doering, 2013).

The activity development skill of the instructor is very effective in increasing the quality of distance education (Lerra, 2014). In order to meet the needs of learners with different learning levels and styles in distance education, instructors need to design and use interactive activities, solve problems that online students may encounter, and improve their technical skills (Martin & Parker, 2014). Gagne's nine-step model for teaching is one of the most accepted proposals for the design of distance education course activities (Reisner & Dempsey, 2021). The first three steps of the Gagne model consist of suggestions for attracting attention, communicating goals, and linking previous learning. Studies showed that these suggestions could be taken as a basis for evaluating the classes (Martin et al., 2004; Uğraş et al., 2016).

The materials prepared according to the objectives of the course are essential for the effective and efficient execution of the distance education process. The instructor should be able to prepare digital content or reach digital content suitable for the purpose. Using materials in distance education can guide the teacher to conduct the process well and enable the students to focus their attention and make what they learn permanent. However, the material used should be suitable for the objectives of the course and the level of the student, enriched with visuals, remarkable, and up-to-date. These materials can be used for different purposes, such as informing the student about what to do in the lesson beforehand, gaining the student's attention during the lesson, helping the student make sense of the subject, and reinforcing the subject and giving feedback after the lesson.

Educators should be able to take learning to higher levels by using the techniques most suitable for student characteristics and learning goals (Koç, 2021). It is recommended to use the Digital Bloom Taxonomy in the gradual classification of learning in distance education. Churches (2008) updated the Bloom Taxonomy to create this taxonomy for use in distance education procedures. The Digital Bloom Taxonomy contains important clues to strengthen and enrich the processes of distance education. It also guides educators in reflecting practice-based courses in distance education on the processes. According to this taxonomy, activities such as making virtual presentations, sharing documents, and conducting virtual interviews can be done in the application step. In the analysis step, activities such as creating virtual graphics, preparing reports, and using mind maps can be achieved; in the evaluation step, activities such as creating a network, preparing panels, doing research, and conducting peer evaluation activities via blogs or wikis can be achieved. At the highest level of creation, activities such as making a podcast series consisting of original content and writing a program using a programming language can be included.

Evaluating the results of the current study in general, it is seen that a successful education and training process is directly related to the competencies of the instructor. A high level of interaction between the learner and the teacher can be achieved through the instructors' knowledge and practice of distance education competencies. In this manner, communication problems during the learning process will be avoided. Students will have a positive attitude and motivation toward the distance education process. Thus, an effective education will be realized.

Suggestions

- Seminars on lesson planning, content, material preparation, assessment, and evaluation processes should be given to distance education educators. Training activities for instructors organized for distance education should be widespread and continuous.
- In-service training should be given at regular intervals to overcome the problem of instructors adapting to digital environments.

- To increase the effectiveness of the education process, the usage of different educational materials should be ensured.
- Applications such as chat rooms and discussion groups should be used to ensure interaction in distance education.
- In order to increase the efficiency of distance education, studies should be conducted to increase the self-control skills of learners who are not in the same environment as the instructor.
- The assessment and evaluation process should be clearly explained to the student, and the student's anxieties regarding the assessment process should be reduced.
- Evaluation criteria should be shared with students to ensure confidence in the assessment and evaluation processes.
- Information guides should be prepared for students about the exam systems to be used in distance education.
- Assessment and evaluation tools used in distance education should be diversified.
- Assessment and evaluation activities in distance education should be brought to a level that will allow the development of high-level thinking skills in 21st century learners.
- The validity and reliability of the measurement tools used in distance education should be increased.
- In distance education, not only result-oriented but process-oriented evaluations should be made.

Conflicts of Interest

No potential conflict of interest was reported by the author(s).

Ethical Approval

Ethical permission (21.10.2021-161) was obtained from Dicle University Ethics Committee for this research.

References

Albrahim, F. A. (2020). Online Teaching Skills and Competencies. *The Turkish Online Journal of Educational Technology*, *19*(1). https://doi.org/10.5430/wjel.v12n3p187

Alvarez, I., Espasa, A., & Guasch, T. (2012). The value of feedback in improving collaborative writing assignments in an online learning environment. *Studies in Higher Education*, *37*(4), 387–400. https://doi.org/10.1080/03075079.2010.510182

Atherton, M., Shah, M., Vazquez, J., Griffiths, Z., Jackson, B., & Burgess, C. (2017). Using learning analytics to assess student engagement and academic outcomes in open access enabling programmes. *Open Learning*, *32*(2), 119–136. https://doi.org/10.1080/02680513.2017.1309646

Bailie, J. (2011). Effective online instructional competencies as perceived by online university faculty and students: A sequel study. *Journal of Online Learning and Teaching*, *7*(1), 82–89. http://jolt.merlot.org/vol7no1/bailie_0311.htm

Baran, E., & Correia, A. P. (2014). A professional development framework for online teaching. *TechTrends*, *58*(5), 95–101. https://doi.org/10.1007/s11528-014-0791-0

Barton, D. C. (2020). Impacts of the COVID-19 pandemic on field instruction and remote teaching alternatives: Results from a survey of instructors. *Ecology and Evolution*, *10*(22), 12499–12507. https://doi.org/10.1002/ece3.6628

Bates, A. W. (2019). *Teaching in a Digital Age – Second Edition*. Vancouver, B.C.: Tony Bates Associates Ltd. https://pressbooks.bccampus.ca/teachinginadigitalagev2/

Bawane, J., & Spector, J. M. (2009). Prioritization of online instructor roles: Implications for competency-based teacher education programs. *Distance Education*, *30*(3), 383–397. https://doi.org/10.1080/01587910903236536

Beaudoin, M. F., Kurtz, G., & Eden, S. (2009). Experiences and Opinions of E-learners: What Works, What are the Challenges, and What Competencies Ensure Successful Online Learning. *Interdisciplinary Journal of E-Skills and Lifelong Learning*, *5*, 275–289. https://doi.org/10.28945/78

Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research*, *79*(3), 1243–1289. https://doi.org/10.3102/0034654309333844

Bruhn, A., McDaniel, S., & Kreigh, C. (2015). Self-monitoring interventions for students with behavior problems: A systematic review of current research. *Behavioral Disorders*, *40*(2), 102–121. https://doi.org/10.17988/BD-13-45.1

Cheng, G., & Chau, J. (2016). Exploring the relationships between learning styles, online participation, learning achievement and course satisfaction: An empirical study of a blended learning course. *British Journal of Educational Technology*, *47*(2), 257–278. https://doi.org/10.1111/bjet.12243

Chiemeke, S., & Imafidor, M. O. (2020). Web-based Learning In Periods of Crisis: Reflections on the Impact of Covid-19. *International Journal of Computer Science and Information Technology*, *12*(3), 33–46. https://doi.org/10.5121/ijcsit.2020.12303

Churches, A. (2008). *Bloom's Digital Taxonomy*. https://www.researchgate.net/publication/228381038_Bloom's_Digital_Taxonomy

Creswell, J. W., & Creswell, J. D. (2017). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. In *New York: Sage* (5th ed.). SAGE Publications, Inc.

Croxton, R. A. (2014). The Role of Interactivity in Student Satisfaction and Persistence in Online Learning. *Journal of Online Learning and Teaching*, *10*(2), 314–325.

Eom, S. B., & Ashill, N. (2016). The Determinants of Students' Perceived Learning Outcomes and Satisfaction in University Online Education: An Update*. *Decision Sciences Journal of Innovative Education*, *14*(3), 185–215. https://doi.org/10.1111/dsji.12097

Evans, C. (2013). Making Sense of Assessment Feedback in Higher Education. *Review of Educational Research*, *83*(1), 70–120. https://doi.org/10.3102/0034654312474350

Flick, U. (2014). The SAGE Handbook of Qualitative Data Analysis. In *The SAGE Handbook of Qualitative Data Analysis*. London: Sage. https://doi.org/10.4135/9781446282243

Gohl, E. (2020). *Strategies for Fostering a Productive Distance Learning Experience | Getting Smart*. https://www.gettingsmart.com/2020/10/03/strategies-for-fostering-a-productive-distance-learning-experience/

Guasch, T., Alvarez, I., & Espasa, A. (2010). University teacher competencies in a virtual teaching/learning environment: Analysis of a teacher training experience. *Teaching and Teacher Education*, *26*(2), 199–206. https://doi.org/10.1016/j.tate.2009.02.018

Gunn, C. (2010). Sustainability factors for e-learning initiatives. *ALT-J: Research in Learning Technology*, *18*(2), 89–103. https://doi.org/10.1080/09687769.2010.492848

Gurung, R. A. R., & Stone, A. M. (2020). You can't always get what you want and it hurts: Learning during the pandemic. *Scholarship of Teaching and Learning in Psychology*. https://doi.org/10.1037/stl0000236

He, L., Yang, N., Xu, L., Ping, F., Li, W., Sun, Q., Li, Y., Zhu, H., & Zhang, H. (2021). Synchronous distance education vs traditional education for health science students: A systematic review and meta-analysis. *Medical Education*, *55*(3), 293–308. https://doi.org/10.1111/medu.14364

Holmberg, B. (2005). *Theory and Practice of Distance Education*. https://doi.org/10.4324/9780203973820

Horzum, M. B. (2013). Uzaktan Eğitimde Transaksiyonel Uzaklığın Öğrencilerin Özyeterlilik Algılarına Etkisi. *Eğitim Bilimleri ve Uygulama*, *12*(24), 159–174.

Hsieh Chang, S. H., & Smith, R. A. (2008). Effectiveness of personal interaction in a learner-centered paradigm distance education class based on student satisfaction. *Journal of Research on Technology in Education*, *40*(4), 407–426. https://doi.org/10.1080/15391523.2008.10782514

Johnson, R. B., & Christensen, L. (2019). *Educational Research Quantitative, Qualitative, and Mixed Approaches* (7th ed.). SAGE Publications, Inc.

Kassandrinou, A., Angelaki, C., & Mavroidis, I. (2014). Transactional Distance among Open University Students: How Does it Affect the Learning Process? *European Journal of Open, Distance and E-Learning*, *17*(1), 26–42. https://doi.org/10.2478/eurodl-2014-0002

Kent, C., Laslo, E., & Rafaeli, S. (2016). Interactivity in online discussions and learning outcomes. *Computers and Education*, *97*, 116–128. https://doi.org/10.1016/j.compedu.2016.03.002

Koç, E. S. (2021). Nasıl bir uzaktan eğitim? 1 yılın sonunda yapılan çalışmaların değerlendirilmesi. *Sosyal Bilimler Dergisi*, *7*(2), 13–26.

Larreamendy-Joerns, J., & Leinhardt, G. (2006). Going the distance with online education. *Review of Educational Research*, 76(4), 567–605. https://doi.org/10.3102/00346543076004567

Lee, K., Fanguy, M., Lu, X. S., & Bligh, B. (2021). Student learning during COVID-19: It was not as bad as we feared. *Distance Education*, *42*(1), 164–172. https://doi.org/10.1080/01587919.2020.1869529

Lerra, M. D. (2014). The Dynamics and Challenges of Distance Education at Private Higher Institutions in South Ethiopia. *Asian Journal of Humanity, Art and Literature*, *2*(1), 9–22. https://doi.org/10.18034/ajhal.v2i1.290

Mailizar, Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary school mathematics teachers' views on e-learning implementation barriers during the COVID-19 pandemic: The case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education*, *16*(7). https://doi.org/10.29333/EJMSTE/8240

Marshall, S. (2012). Improving the quality of e-learning: Lessons from the eMM. *Journal of Computer Assisted Learning*, *28*(1), 65–78. https://doi.org/10.1111/j.1365-2729.2011.00443.x

Martin, F., Klein, J., & Sullivan, H. (2004). Effects of Instructional Events in Computer-Based Instruction. In *Association for Educational Communications and Technology*.

Martin, F., & Parker, M. (2014). Use of Synchronous Virtual Classrooms: Why, Who, and How? *Journal of Online Learning and Teaching*.

Mesch, G. S. (2006). Family Relations and the Internet: Exploring a Family Boundaries Approach. *Journal of Family Communication*, *6*(2), 119–138. https://doi.org/10.1207/s15327698jfc0602_2

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook* (2nd ed.). Sage Publications.

Miller, T. W., & King, F. K. (2003). Distance education: Pedagogy and best practices in the new millennium. *International Journal of Leadership in Education*, *6*(3), 283–297. https://doi.org/10.1080/1360312032000118225

Mladenova, T., Kalmukov, Y., & Valova, I. (2020). Covid 19 - A major cause of digital transformation in education or just an evaluation test. *TEM Journal*, *9*(3), 1163–1170. https://doi.org/10.18421/TEM93-42

Moore, M. G., & Kearsley, G. (2011). *Distance Education: A Systems View of Online Learning* (3rd ed.). Belmont, CA: Wadsworth.

Naylor, D., & Nyanjom, J. (2021). Educators' emotions involved in the transition to online teaching in higher education. *Higher Education Research and Development*, *40*(6), 1236–1250. https://doi.org/10.1080/07294360.2020.1811645

Nordmann, E., Horlin, C., Hutchison, J., Murray, J. A., Robson, L., Seery, M. K., & MacKay, J. R. D. (2020). Ten simple rules for supporting a temporary online pivot in higher education. *PLoS Computational Biology*, *16*(10). https://doi.org/10.1371/journal.pcbi.1008242

Nyland, R., Davies, R. S., Chapman, J., & Allen, G. (2017). Transaction-level learning analytics in online authentic assessments. *Journal of Computing in Higher Education*, *29*(2), 201–217. https://doi.org/10.1007/s12528-016-9122-0

Oliveira, M. M. S. de, Penedo, A. S. T., & Pereira, V. S. (2018). Distance education: advantages and disadvantages of the point of view of education and society. *Dialogia*, *29*, 139–152. https://doi.org/10.5585/dialogia.n29.7661

Palloff, R., & Pratt, K. (2011). *The Excellent Online Instructor: Strategies for Professional Development*. Jossey-Bass.

Parahoo, S. K., Santally, M. I., Rajabalee, Y., & Harvey, H. L. (2016). Designing a predictive model of student satisfaction in online learning. *Journal of Marketing for Higher Education*, *26*(1), 1–19. https://doi.org/10.1080/08841241.2015.1083511

Patton, M. Q. (2014). Qualitative Research & Evaluation Methods. In *Sage* (4th ed.). SAGE Publications, Inc. https://doi.org/10.1590/s1415-65552003000200018

Peterson, E. R., & Irving, S. E. (2008). Secondary school students' conceptions of assessment and feedback. *Learning and Instruction*, *18*(3), 238–250. https://doi.org/10.1016/j.learninstruc.2007.05.001

Price, M., Handley, K., Millar, J., & O'Donovan, B. (2010). Feedback: All that effort, but what is the effect? *Assessment and Evaluation in Higher Education*, *35*(3), 277–289. https://doi.org/10.1080/02602930903541007

Reisner, R. A., & Dempsey, J. V. (2021). *Trends and issues in instructional design and technology* (4th ed.). Pearson. https://doi.org/10.1007/bf02504986

Roblyer, M., & Doering, A. (2013). *Integrating Educational Technology into Teaching* (8th ed.). Pearson.

Rose, P., Beeby, J., & Parker, D. (1995). Academic rigour in the lived experience of researchers using phenomenological methods in nursing in nursing. *Journal of Advanced Nursing*, *21*(6), 1123–1129. https://doi.org/10.1046/j.1365-2648.1995.21061123.x

Ross, J. A., & Bruce, C. D. (2007). Teacher self-assessment: A mechanism for facilitating professional growth. *Teaching and Teacher Education*, *23*(2), 146–159. https://doi.org/10.1016/j.tate.2006.04.035

Rourke, L., & Anderson, T. (2004). Validity in quantitative content analysis. *Educational Technology Research and Development*, *52*(1), 5–18. https://doi.org/10.1007/BF02504769

Salmon, G. (2013). *E-tivities the key to active online learning* (2nd ed.). Routledge, New York NY.

Shin, M., & Hickey, K. (2021). Needs a little TLC: examining college students' emergency remote teaching and learning experiences during COVID-19. *Journal of Further and Higher Education*, *45*(7), 973–986. https://doi.org/10.1080/0309877X.2020.1847261

Simonson, M., Zvacek, S., & Smaldino, S. (2019). *Teaching and learning at a distance - Foundations of distance education* (7th ed.). Information Age Publishing. https://doi.org/10.1016/S1096-7516(01)00034-3

Simpson, M., & Anderson, B. (2012). History and heritage in open, flexible, and distance education. *Journal of Open, Flexible and Distance Learning*, *16*(2), 1–10.

Uğraş, G., Uzun, A. M., Battal, A., & Kayaduman, H. (2016). An Examination of Instructional High School Chemistry Videos on EBA Portal in terms of Nine Events of Instruction. *Participatory Educational Research*, *3*(1), 66–78. https://doi.org/10.17275/per.16.04.3.1

van Manen, M. (2016). Phenomenology of Practice. *Phenomenology of Practice*. https://doi.org/10.4324/9781315422657

Van Weert, T. J. (2006). Education of the twenty-first century: New professionalism in lifelong learning, knowledge development and knowledge sharing. *Education and Information Technologies*, *11*(3–4), 217–237. https://doi.org/10.1007/s10639-006-9018-0

Wang, C. H., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics, self-regulated learning, technology self-efficacy, and course outcomes in online learning. *Distance Education*, *34*(3), 302–323. https://doi.org/10.1080/01587919.2013.835779

Weidlich, J., & Bastiaens, T. J. (2018). Technology matters - The impact of transactional distance on satisfaction in online distance learning. *International Review of Research in Open and Distance Learning*, *19*(3), 222–242. https://doi.org/10.19173/irrodl.v19i3.3417

White, E. (2019). Teacher Self-Assessment of Feedback Practices in an EFL Academic Writing Class - A Reflective Case Study. In *Learning and Performance Assessment: Concepts, Methodologies, Tools, and Applications*. (pp. 1200–1224). IGI Global. https://doi.org/10.4018/978-1-7998-0420-8.ch057

Woodard, B. S. (2003). Technology and the constructivist learning environment: Implications for teaching information literacy skills. *Research Strategies*, *19*(3), 181–192. https://doi.org/10.1016/j.resstr.2005.01.001

Yen, S. C., Lo, Y., Lee, A., & Enriquez, J. M. (2018). Learning online, offline, and in-between: comparing student academic outcomes and course satisfaction in face-to-face, online, and blended teaching modalities. *Education and Information Technologies*, *23*(5), 2141–2153. https://doi.org/10.1007/s10639-018-9707-5