



## A DIGITAL LEARNING – TEACHING PLATFORM EXPERIENCED DURING THE PANDEMIC: AN EDUCATIONAL PROJECT BASED ON AHI COMPETENCE (AYDEP)

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**Abstract:** In the spring of 2020, education was suspended in Turkey, due to the pandemic. In this global chaos, many educational institutions, including universities, continued their education in the form of distance education. Kırşehir Ahi Evran University also continued its education with a learning management system (LMS) called AYDEP. The aim of this study is to reveal and examine opinions of participants about AYDEP they have experienced during the pandemic. The participants are teacher candidates studying at Ahi Evran University. The study was designed as a qualitative research. The data were collected through semi-structured interviews and analyzed using content analysis. As a result of the analysis, opinions of the participants were examined under four main headings. These are as follows: 1) General thoughts and evaluations of participants about AYDEP system, 2) Participants' thoughts and evaluations about the education provided with AYDEP, 3) The situations perceived as advantages and disadvantages by the participants regarding the education provided with AYDEP, and 4) Participants' thoughts and evaluations on distance education carried out with AYDEP and face-to-face education. According to the findings, AYDEP is recommended to be developed in terms of elements such as technical features, pedagogical elements, cooperation and communication, technical infrastructure & access and content etc.

**Key words:** Learning Management System, Ahi Competence-Based Education Project, AYDEP, Distance Education

### 1. Introduction

As in the 2019-2020 spring term face-to-face education was interrupted mandatorily, Kırşehir Ahi Evran University used a learning management system (LMS) called The Educational Project Based on Ahi Competence (AYDEP). AYDEP is a learning management system, the piloting of which was executed by the Kırşehir Ahi Evran University Education Faculty. It was planned that after the trialing stage the system would be implemented generally at the university. As the pandemic broke out, it was used at the whole university in the 2019-2020 spring term. AYDEP is a digital learning – teaching platform designed with the learning management system logic. The learning management system, also called as virtual learning or learning platform, is a web-based technology that enables the planning, implementation and evaluation of the learning process through various software (Aydın & Biroğul, 2008, p. 31). A learning management system is an online program that performs as a learning and communication platform. Blackboard, Canvas, e-College, Moodle, Sakai are popular learning systems and forming an online classroom environment using LMS facilitates the lives of students and professors (Borboa et al., 2014, p.19). According to Pawade (2019, p. 40), in these days, when learning is not limited to classroom walls, learning management systems provide the instructor the convenience for constituting and teaching the lesson and empowers her to create all the tools to be used in the class. By this means, students can reach these lessons any time anywhere.

Mershad and Wakim (2018, p. 23) consider the following regarding learning management system: Learning management systems that provide developing, presenting, managing, monitoring, reporting lessons and evaluating online teaching materials are a technology developing in today's society. It is a central software that is used to combine the developing virtual learning environment technology with pedagogical features. In this way, students can use their personal devices such as mobile phones and

*Received September 2021.*

**Cite as:** Sarıca, R. (2022). A Digital Learning – Teaching Platform Experienced During the Pandemic: An Educational Project Based on Ahi Competence (AYDEP). *Acta Didactica Napocensia*, 15(2), 55-82, <https://doi.org/10.24193/adn.15.2.5>

tablets in order to reach the resources, upload assignments, do tests and share information with their peers and instructors and thus, create a dynamic learning environment. LMS software record the users, monitor the courses, record the data coming from the students and manage the reports and automatize the learning process.

Ellis states that there are various definitions for the learning management system (2009, p. 1) and indicates that, in simplest terms, LMS is a software application that automates the administration, tracking, and reporting of training events. However, he emphasizes the issue that it is not that simple and that a good learning management system needs to have some features. These are as follows:

- ✓ Centralize and automate administration
- ✓ Use self-service and self-guided services
- ✓ Assemble and deliver learning content rapidly
- ✓ Support portability and standards
- ✓ Personalize content and enable knowledge reuse.

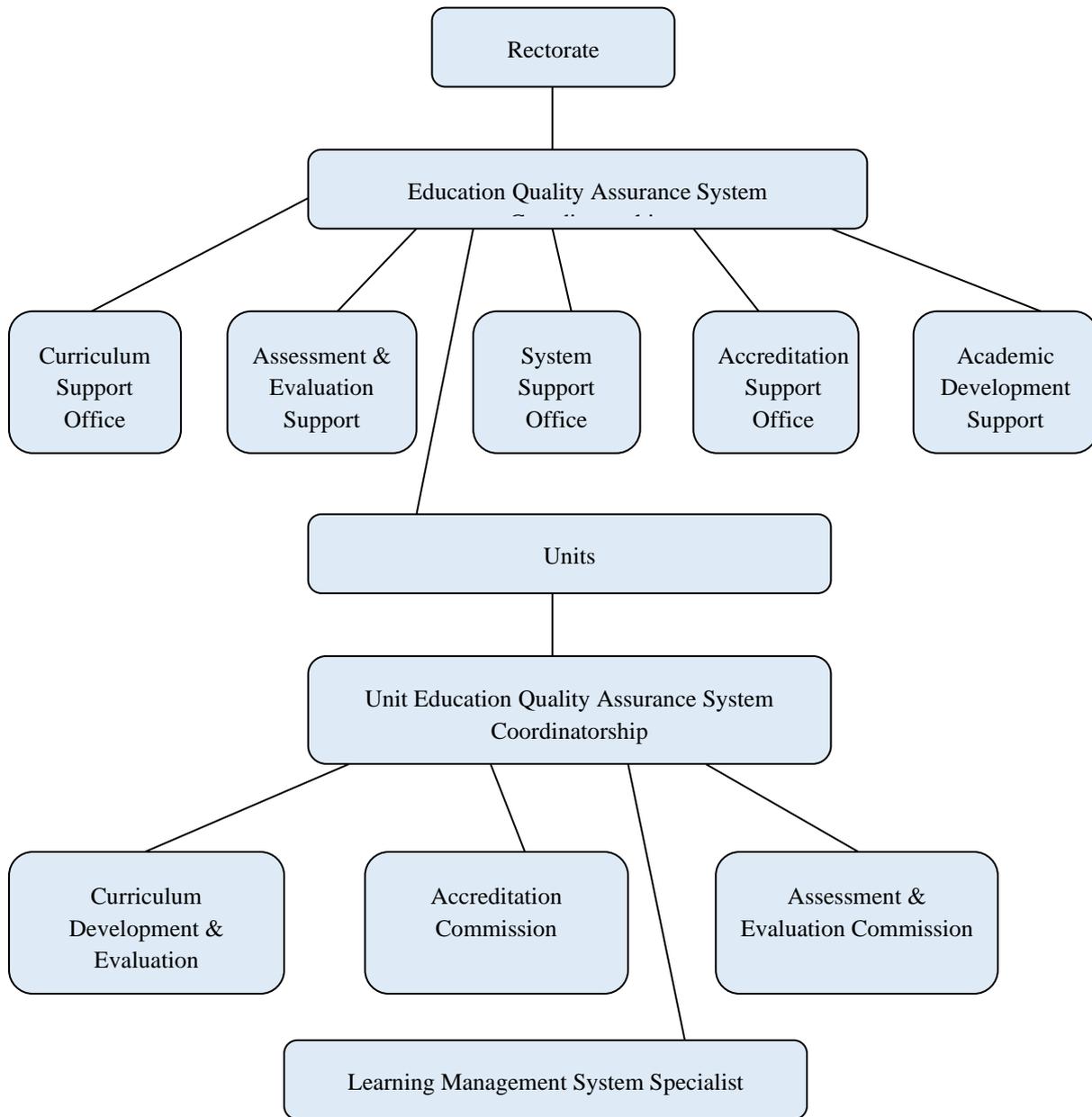
Bove and Conklin (2020) point out that learning management systems provide many tools that are significant and functional for learning and teaching. According to this, these tools are not limited, and some are as follows: group chats, discussions, document sharing, assignments, grading, quizzes and course evaluations. It is also significant how to use these tools. There are some strategies at the point of increasing the performance of the learning management system used (Mtebe, 2015, p. 55-58). These strategies are as follows:

1. Improving the usability of the LMS
2. Developing quality learning materials and uploading them onto the system
3. Developing and presenting support services
4. Reviewing the relevant policies
5. Increasing awareness of LMS
6. Utilizing mobile applications
7. Integration with social media

AYDEP, which is the subject of the present study, is a learning management system used by Kirsehir Ahi Evran University. Within this framework, in the implementation directive developed by Ahi Evran University (2019), the basic principles of AYDEP have been stated as follows:

- ✓ Secures the right for learning.
- ✓ Focuses on learning and multi-faceted development of the student.
- ✓ It is based on student-centered education.
- ✓ It is aimed that pre-defined competences are gained.
- ✓ Takes the consistence between program competences and learning outcomes of subjects as the basis.
- ✓ Takes the consistence between learning outcomes of subjects and instructional implementations as the basis.
- ✓ Takes the presentation of enhanced teaching materials and an interactive learning environment as the basis.
- ✓ Takes using the assessment and evaluation model for competences and learning outcomes of the subjects as the basis.
- ✓ Takes as the basis that common examinations are conducted for the same subject.
- ✓ It aims at program evaluation and continuous development of programs.

The same directive also mentions the functioning of AYDEP, the duties and authorities have been distributed hierarchically and the responsibilities of support offices have been stated. The structures and departments regarding the functioning of AYDEP can be briefly visualized in Figure 1 below.



**Figure 1.** AYDEP Organization Chart (Kırşehir Ahi Evran University AYDEP Directive, 2020)

As can be seen in the organization chart, the AYDEP project has been structured within the scope of the quality assurance system in education. As it is considered that the AYDEP learning management system will be used in national and international accreditation, accreditation offices on the basis of the rectorate and the departments have been added. The curriculum offices attract attention in the revised organization. The above make it evident that education carried out over AYDEP is approached within the scope of curriculum development and it is attempted to standardize it. Thus, it could be remarked that the aim is to try to prevent the flaws to arise from different perceptions and use of each department and each instructor. The issue that the AYDEP system has been included in the quality assurance system, the attempt to maintain a standard at the instruction with this learning management

system, the addition of different offices and the integration of the AYDEP learning management system in accreditation work demonstrate that AYDEP is approached with a long - term approach and that the aim is to develop it as a system.

Crouse-Machcinski (2019, p.73) remarks that teacher training programs are very important for the success of universities, which are learning centers. He also points out that using technologies such as learning management systems in teacher training will increase quality and contribute to the success of the students. It is mentioned that although universities worldwide have adopted learning management systems, students do not use this technology optimally all the time (Binyamin et al., 2020, p. 30). It is emphasized, therefore, that it is significant to make out students' perceptions for LMSs and that this will guide the universities to take the relevant decisions. Yuen, Cheng and Chan (2019) draw attention to the issue that learning management systems are being implemented in various universities and educational institutions, however, as using this technology in schools is rather new, it is an important fact to understand whether students will accept this and continue using it. Mozahem (2020, p. 20) remarks that higher education institutions gradually tend to use web-based learning management systems to a higher extent. According to Johnson (2018, p.1), educators have to find innovative ways to increase student success and to develop teaching skills. In addition, teachers need to discover and acquire new skills in order to meet the current technological needs. In his view, although online learning management systems are an innovative way to support student learning, except a few local schools, all teachers do not have access to these systems and neither do they have the necessary training to use this learning tool face-to-face in the classroom environment. When all these points are considered, there is a need emerging for the evaluation of AYDEP, implemented at Kirsehir Ahi Evran University during the pandemic. During this period the Higher Education Council (YÖK) announced under the title New Regulations in the Strive with the Global Epidemic from YOK that they increased the ratio of subjects with remote learning to 40% in formal education (YÖK, 04.06.2020). Within this framework, related to these currently implemented approaches under various titles such as remote learning, e-learning, digital learning – teaching platforms, we encounter firstly the significance of the views of the students, who are the users of the system and the review of these views. Thus, the aim of the present study is to examine and evaluate AYDEP in line with the opinions of teacher candidates. The question of “What are the opinions of teacher candidates for the Education Project Based on Ahi Competence (AYDEP)?” constitutes the problem of this study. It has been considered that it will be beneficial to examine this project that has been implemented in the education faculty for the first time at the university from the point of view of teacher candidates. Also, as many higher education institutions, including Ahi Evran University, have taken the decision to continue with remote learning in the academic year 2020-2021, it is considered that the present study will contribute to the decisions regarding the implemented approach and systems and to the relevant literature. At the present time technologies such as the internet of things, artificial intelligence and robots are being discussed and the results of the present study are of utmost importance, both in terms of our remote teaching – learning applications and also of teacher training. In addition, it is expected that our teacher candidates', who will raise the digital natives, gaining new experiences for technology-based teaching techniques and their relevant opinions will contribute to their awareness. It is hoped that it will be encouraging for them include technology-based applications in their careers.

## 2. Method

### 2. 1. Research Design

In the present study, the qualitative research technique has been adopted. Qualitative research approach is used to discover and learn the meaning that individuals or groups attribute to a social subject, a phenomenon (Creswell, 2013). The most characteristic feature of qualitative research is that the subject of study is approached from the point of view of the participants in the study (Ekiz, 2009). The present study, which aims to reveal the opinions of teacher candidates regarding AYDEP and to review these in this line, has been designed as a case study. A case study is defined as an empirical inquiry that investigates a contemporary subject or phenomenon in depth and within its real-life context (Yin, 2009, p. 18). In the present study it has been aimed that AYDEP, a new experience for

teacher candidates, and education conducted with this platform, is investigated in-depth in line with the participants' opinions.

## 2. 2. Participants

The participants of the study are 36 teacher candidates, studying at the Kirsehir Ahi Evran University in the academic year 2020-2021. The participants have been determined by criterion sampling technique. The criteria for the participants to be included in the study were that they used the AYDEP system and that they were volunteering for participation. Due to the pandemic, face-to-face education was suspended in the spring term of the 2019-2020 academic year and as a result, as all subjects at the university were conducted over AYDEP. Thus, students used the system. From each of the education departments in the table below one student from grades 1st, 2nd, 3rd and 4th participated in the study. Thus, a range was provided both by departments and also for classes to access the opinions of teacher candidates studying at different class levels and at different departments. Table-1 displays the departments and numbers of the participants. The ages of the teacher candidates participating in the study vary between 18-25. Also, 22 of the participants are females and 14 of them are males. A coding system of "K1, K2, .....K36" has been used in the study for the teacher candidates.

**Table 1.** *Departments of participants*

Department	f
Elementary Mathematics Education	4
Turkish Education	4
Social Sciences Education	4
Early Childhood Education	4
Computer Education and Instructional Technologies	4
Science Education	4
Physical Education and Sports	4
Classroom Education	4
Psychological Counselling and Guidance	4
Total	36

## 2. 3. Data Collection and Analysis

Semi-structured interviews have been realized at the present study, which aims to make out the opinions of teacher candidates regarding AYDEP and the examination of AYDEP within this context. The questions prepared to ask the participants have been developed by the researcher. These questions were reviewed by 3 experts regarding the scope, excluding the researcher herself. One of the experts is a professor in the field of assessment – evaluation, the second one is an associate professor in mathematics education and the third one is an assistant professor in the field of Computer and Instructional Technologies and all of them are academicians working in their fields. The questions have also been reviewed by an expert linguist in terms of expression and discourse. The questions have been finalized in line with the views and suggestions of the experts. The 20 questions comprise of open-ended and close-ended questions, including demographic information. Some of the questions are as follows:

1. What are your general opinions on and your evaluation of AYDEP?
2. Do you find the AYDEP system effective to reach learning objectives? Please explain with reasons.
3. In your opinion, what are the advantages and disadvantages of this system?
4. Please compare the distance education you have taken with AYDEP and the other face-to-face education. Please explain your opinions with reasons.
5. When you had a problem with the AYDEP system, could you reach the technical department to solve your problem? If you had a problem, was this resolved?

6. What is the frequency of your attendance of concurrent lessons over the AYDEP system?
7. What are your suggestions to improve AYDEP?

The interviews that were planned to take place face-to-face were realized online because of the pandemic. Before the end of the academic term, video/audio interviews were held with the teacher candidates over various communication tools such as Skype, Zoom, WhatsApp etc. and information and necessary explanations were given on the aim and scope of the study and the questions. The interviews usually took 15-25 minutes. The audio/video files that includes opinions were firstly classified, transcribed and transferred to electronic environment by the researcher. The data obtained were analyzed by content analysis method. Content analysis is the process of classification, tabulation and evaluation through themes and keywords in order to determine the explicit and implicit meaning of the text for study and the material and its possible impact (Krippendorff, 2013, p. 1). It is a commonly used qualitative research technique and there are three approaches that appear prominent (Hiseh & Shannon, 2005, p. 1277). These are the conventional, directed, and summative approaches. Accordingly, these three approaches are used to interpret the meaning from the content of the text data and thus, they keep to the natural paradigm of qualitative research. The basic differences between the approaches are the coding diagram, the sources of the codes and security threats. In the conventional content analysis, the coding categories are derived directly from text data. The analysis starts with a theory or relevant research findings to guide the first codes in a directed analysis. A summative content analysis usually includes the counting of keywords or content and their comparison and then the interpretation of the basic context. The present study has adopted the conventional content analysis approach.

During the content analysis process the data of the study have been examined thematically within the context of categories in a regular way. The data have been analyzed by two people, the researcher herself and an expert. The expert is an academician, whose opinion was sought for the scope of the interview questions as well. He is competent in the fields of statistics, quantitative – qualitative data analysis with many scientific publications in these fields. During the data analysis, the researcher and the expert worked out of touch of each other and made up the themes. Following this, the researcher and the expert came together and worked on the labels of the themes, the codes, criteria etc. and this process continued until they came to a common decision. Firstly, a common decision was made on the theme labels. Next, the same process repeated and the scope of the themes, the relevant codes and the sample sentences reflecting this were determined in such a way as not to leave any differences of opinion. Also, the scopes of the themes that were agreed on were considered and it was agreed that those that are similar should be given under the same title. Within this context, the main headings below, related to the qualitative data analyzed were formed as follows:

1. General opinions and evaluations of the participants regarding the AYDEP system
2. General opinions and evaluations of the participants regarding the education realized through AYDEP
3. Circumstances specified as advantages and disadvantages by the participants regarding the education realized through AYDEP
4. Opinions and evaluations of the participants regarding distance education over AYDEP and face-to-face education

The themes, codes and related criteria agreed upon have been presented in separate tables for each heading in Table-2, Table-3, Table-4 and Table-5 below.

**Table 2.** Themes, codes and criteria

Heading	Theme	Codes	Criteria
General Opinions and Evaluations of the Participants regarding the AYDEP System	AYDEP is a good system in the context of distance education.	A successful application Suitable for extraordinary circumstances such as the pandemic etc. It provides attendance to classes/education. Useful Practical and functional Sufficient Suitable for assignments	It covers various opinions of participants on AYDEP being a good system in terms of distance education. The positive statements expressed by them related to AYDEP such as successful, suitable for this period, it provides continuity for classes/school, practical, functional, useful, sufficient, suitable for assignments are considered in this scope.
	AYDEP needs to be improved.	The system is good, however,... There are positive and negative aspects Class time Guide	It covers various opinions of participants on the issue that AYDEP needs to be improved. They stated about AYDEP that the system is good, however, there are some aspects to be improved. The issues mentioned by them are guide, increasing the lesson time and opinions on positive and negative aspects are considered in this scope.
	AYDEP is not an effective system.	It is not effective/useful. It is not suitable for all lessons, particularly for applied courses. Technical problems Insufficient It does not abide by equality of opportunities in education. Attendance It is not productive It is not suitable for assessment	It covers various opinions of participants on the issue that AYDEP is not an effective system. Their opinions on AYDEP regarding the issues that the system is not effective, it is not suitable for every course, there are technical problems and it is insufficient, it does not abide by equality of opportunities in education, it is not productive and not suitable for assessment, there is a problem of attendance and opinions on negative aspects are considered in this scope.

**Table 3.** Themes, codes and criteria

Heading	Theme	Codes	Criteria
General Opinions and Evaluations of the Participants regarding the Education Realized through AYDEP	AYDEP is productive to reach the learning objectives.	The 30-minutes limited lesson increases motivation Developing research skills Autonomous learning Interaction Synchronized lessons Not limiting learning to the class Sharing course materials	It covers various opinions of participants on the issue that education with AYDEP is productive enough to reach the learning objectives. Positive opinions such as limited lesson time increasing motivation, education with AYDEP developing research skills, supporting autonomous learning, synchronized lessons, interaction, learning not being limited to the classroom, sharing course materials, tracking and easy access, being like tutorials, comfortable and convenient access to classes from home, responsibility, easy attendance, easy access to knowledge, opportunity to re-track the lesson, useful assignments, continuity for education and uses for senior classes are considered within this scope.
	AYDEP is productive to	Tracking and easy access Private tutorials Attendance from home is comfortable Responsibility Concentration and attention Attendance is easy Opportunity to re-track the lesson Easy access to knowledge Provides continuity for education Assignments given over the system are useful. Useful for senior classes	
	AYDEP is productive to	Students with no technical equipment are disadvantaged in this system.	It covers various opinions of participants on the issue that education

	reach the learning objectives to a certain extent.	<p>It changes according to the lecturer of the course.</p> <p>It is not as effective as face-to-face lessons.</p> <p>Students should also be given active roles.</p> <p>It changes according to the course.</p> <p>Its impact on vocational competence and gaining experience is limited.</p> <p>It requires support /additional work.</p>	<p>with AYDEP is productive to a certain extent to reach the learning objectives. Opinions such as students with no technical equipment being disadvantaged, it changes according to the course and the lecturer, it is not as effective as face-to-face lessons, students need to be given active roles, it requires support/additional work and its impact on vocational competence and gaining experience being limited are considered within this scope.</p>
	AYDEP is not productive to reach learning objectives.	<p>It is not like the classroom environment.</p> <p>Absenteeism</p> <p>In-depth learning does not happen.</p> <p>Class time is limited to 30 minutes.</p> <p>Technical problems</p> <p>Regarding senior students to take the KPSS</p> <p>Weak interaction</p> <p>No implicit and social learning.</p> <p>Examination</p> <p>Learning materials are insufficient.</p> <p>Face-to-face education is more effective.</p> <p>It is contrary to equal opportunities in education.</p> <p>Note taking/no note taking</p> <p>Home environment is distracting.</p> <p>Assignments</p> <p>Asking questions</p>	<p>It covers various opinions of participants on the issue that education with AYDEP is not productive to reach the learning objectives. Opinions such as not being like the classroom environment, problem of absenteeism, in-depth learning not happening, weak interaction, technical problems, implicit and social learning not happening, classes being limited to 30 minutes, no examination over the system, insufficient teaching materials, face-to-face education being more effective, this type of education being contrary to equal opportunities in education, no note taking in classes, assignments not being useful and limited opportunities for asking questions are considered within this scope.</p>

**Table 4.** Themes, codes and criteria

Heading	Theme	Codes	Criteria
Circumstances Specified as Advantages and Disadvantages by the Participants regarding the Education Realized through AYDEP	Advantages	<p>It provided attendance to formal education during the pandemic.</p> <p>Economical</p> <p>Reduces waste of time</p> <p>Relieves fatigue</p> <p>Opportunity to follow classes at home, at desired places and comfortable environments.</p> <p>Sharing of, access to course materials and opportunity for review</p> <p>Ideal class times</p> <p>Ideal for theoretical classes</p> <p>Lessons are not boring</p> <p>Protects from infection during the pandemic.</p> <p>Suitable for technological developments.</p> <p>Increases technology skills</p> <p>None</p>	<p>It covers various opinions of participants on issues perceived as advantages regarding education realized through AYDEP. Opinions such as providing continuity of education during the pandemic, economical education with this system, reducing waste of time and fatigue, opportunity to follow classes from anywhere, access to course materials and opportunity for review, ideal class time, the system being ideal for theoretical courses, lessons not being boring, protecting from infection during the pandemic, suitable for technological developments, increasing technology skills and having no disadvantages are considered within this scope.</p>
	Disadvantages	<p>Lacks supervision</p> <p>Not effective in applied courses</p> <p>Problems with internet</p>	<p>It covers various opinions of participants on issues perceived as disadvantages regarding education</p>

		<p>Not all students may have the necessary technical equipment for remote learning (computer, internet etc.).</p> <p>The student is not active.</p> <p>Technical problems such as sound, image, etc.</p> <p>Limited time for synchronized lessons.</p> <p>No opportunities for activities such as experiments, observations, etc.</p> <p>Not compatible with the phone and doesn't work on the mobile</p> <p>Problems at the entry to the system and slow.</p> <p>Retention in learning</p> <p>Self-discipline</p> <p>The education is not effective enough.</p> <p>The section "announcements" is not used effectively.</p> <p>Lack of communication between teacher – lecturer.</p> <p>Causes health problems</p> <p>Not a social environment</p> <p>Distractibility and lack of motivation</p> <p>Cases arising from ineffective use of the system.</p>	<p>realized through AYDEP. Opinions such as lack of supervision, being ineffective in applied courses, problems of internet, not all students may have the necessary technical equipment, the student not being active in this system, technical problems., limited time for synchronized lessons, no opportunities for activities such as experiments, observations, the system not working on the mobile, problems on entry to the system and being slow, not providing retention in learning, not supporting self-discipline, education not being effective, announcements section not being used effectively, communication problem between student – lecturer, not being a social environment, causing health problems, easy distraction and no disadvantages are considered within this scope.</p>
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**Table 5.** Themes, codes and criteria

Heading	Theme	Codes	Criteria
Opinions and Evaluations of the Participants regarding Distance Education over AYDEP and Face-to-Face Education	Face-to-face education	<p>More opportunities to ask questions</p> <p>Affective factors in learning</p> <p>Relations with the lecturer and peers</p> <p>Easier access to lecturers</p> <p>Learning is more effective</p> <p>Planned</p> <p>In-depth learning</p> <p>Class atmosphere and school climate</p> <p>Longer class times</p> <p>More motivation and attention</p> <p>Feedback is faster and more intensive</p> <p>Communication and interaction</p> <p>Permanence</p> <p>Project work</p> <p>The student is more active</p>	<p>It covers various opinions of participants on face-to-face education and its features. Opinions such as more opportunities to ask questions, affective factors in learning, warmer relations with the lecturer and peers, easier access to lecturers, learning beings more effective, being planned, in-depth learning, class atmosphere and school climate, longer class times, feedback being faster and more intensive, more communication and interaction, permanence of learning, project work and the student being more active are considered within this scope.</p>
	Distance education with AYDEP	<p>Opportunity to re-track lessons</p> <p>Not effective</p> <p>Not suitable for learning by doing.</p>	<p>It covers various opinions of participants on distance education and its features. Opinions such as opportunities</p>

		Access from anywhere and any environment with various tools. Student has the learning responsibility Very useful for assignments No need for physical preparation for classes. Internet expense No familiarity More suitable for make-up and additional courses. Problems with resources Not suitable for group work Fewer learning experiences Flexible lesson times and practical	for re-tracking lessons, AYDEP not being effective, not being suitable for experiential learning, being accessible from anywhere and any environment with various tools, the student having the responsibility for learning, the system being useful for assignments, having no need for physical preparation for classes, no familiarity, internet expense, this system being more suitable for make-up and additional courses, occasional resource problems, not being suitable for group work, fewer learning experiences, the system being practical with flexible lesson times are considered within this scope.
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The researcher and the expert have re-analyzed the data within the scope of the agreed themes and relevant codes independently from each other. Inter-code reliability has been calculated separately for each heading using the Reliability =  $[\text{Consensus} / (\text{Consensus} + \text{Disagreement})] * 100$  formula, suggested by Miles and Huberman (1994). The inter-code reliability values obtained for each heading are displayed in Table-6.

**Table 6.** *Inter-code reliability values*

No	Heading	Number of agreed codes	Number of disagreed codes	Reliability
1	General Opinions and Evaluations of the Participants regarding the AYDEP System	61	6	0.91
2	General Opinions and Evaluations of the Participants regarding the Education Realized through AYDEP	73	10	0.87
3	Circumstances Specified as Advantages and Disadvantages by the Participants regarding the Education Realized through AYDEP	91	15	0.85
4	Opinions and Evaluations of the Participants regarding Distance Education over AYDEP and Face-to-face Education	85	11	0.88
	All themes covering all qualitative data	310	42	0.88

## 2. 4. Ethical Consent of the Study

This study was approved by the Ahi Evran University Social and Human Sciences Scientific Research and Publication Ethics Committee (Protocol No: 2020/4 & Document No: 51450103-755.02.06 ).

## 3. Findings

As a result of the qualitative analysis of the opinions of teacher candidates on AYDEP, a digital learning – teaching platform that they experienced during the pandemic, 4 subheadings came about. In this section of the study the findings for each heading have been displayed separately in order to enable fluency in reading. As can be seen at the analyses in the tables, it attracts attention that the frequency values of the codes under the headings and the themes exceed the number of the participants. Regarding this issue, the researcher and the expert have agreed to adopt the strategy that

each of the same code repeated in different places in the opinions of the participants should be added to the frequency value separately and data analysis has been realized within the framework of this view.

### 3. 1. Findings on the General Opinions and Evaluations of Teacher Candidates regarding the AYDEP System

The themes, codes, frequency values and samples from participants' views that emerged from the general opinions and evaluations regarding the AYDEP system are presented in Table-7.

**Table 7.** General opinions and evaluations on the AYDEP system

Theme	Codes	Participants	f	Participant Opinion Sample
AYDEP is a good system in the context of distance education.	A successful application	K9, K11, K18, K34, K25	5	K34: <i>It is a useful system that enables us to be successful in distance education.</i>
	Suitable for extraordinary circumstances such as the pandemic etc.	K1, K6, K19, K22, K29	5	K1: <i>In my opinion, AYDEP is a system that can be used in mandatory and extraordinary situations ...</i>
	It provides attendance to classes/education	K7, K8, K10, K12, K13, K19	6	K7: <i>I did not know that our university had such a system in this challenging period. I think that this system that does not exist at many universities is rather useful for the students as it prevented us from discontinuing our classes...</i>
	Useful	K7, K12, K36	3	K12: <i>It is a useful system that enables us to continue with our lessons in these challenging days. It has a very useful and comprehensible structure.</i>
	Practical and functional	K1, K12, K31	3	K31: <i>I can say that it is the most ideal and functional system that could be developed in such a short time.</i>
	Sufficient	K15	1	K15: <i>It is a very adequate application...</i>
	Suitable for assignments	K2	1	K2: <i>... In my opinion it is very suitable for assignments ...</i>
AYDEP needs to be improved.	The system is good, however,...	K3, K5, K6, K7, K15, K17, K18, K27	8	K3: <i>It is a very nice system except that there are no notifications when classes start as I forget them.</i>
	There are positive and negative aspects	K1	1	K1: <i>... It has got good and bad sides however, generally it is a useful system.</i>
	Class time	K4, K5, K9, K18, K21, K23, K25, K27	8	K9: <i>For a short time, it is very successful however, 30 minutes lesson time is insufficient.</i>
	Guide	K11	1	K11: <i>It is a very good application, however, writing everything about AYDEP in the instructions manual will be better for people, who will use the system for the first time.</i>
AYDEP is not an effective system.	It is not effective/useful.	K2, K22, K23, K26, K28, K35	6	K2: <i>It has no sense for classes and it is unnecessary as it has no impact on me. I do not understand anything.</i>
	It is not suitable for all lessons, particularly for applied courses.	K7, K24, K28, K33	4	K28: <i>I do not believe we get sufficient efficiency as we have applied courses.</i>
	Technical problems	K4, K7, K16, K21, K23	5	K16: <i>... Sometimes there are errors in</i>

				<i>sound and image. Participation in the lesson gets difficult as there can be internet problems ...</i>
	Insufficient	K14, K20, K21	3	<i>K14: I find it insufficient.</i>
	It does not abide by equality of opportunities in education.	K8, K10, K22, K30	4	<i>K8: It is a nice system for education to continue remotely however, due to both financial and moral impossibilities all students cannot participate in it.</i>
	Attendance	K7, K8	2	<i>K7:...We cannot provide video conferencing as students...</i>
	It is not suitable for assessment	K32	1	<i>K32: In my opinion, it is not suitable for student assessment.</i>

As can be seen in Table-7, the general opinions and evaluations about the AYDEP system can be collected under 3 themes. The first of these is that AYDEP is a good system for distance education and there are 7 codes under this theme. There are 4 codes under the theme on the necessity for improving AYDEP. Under the theme of AYDEP not being an effective system, there are 7 codes. When these are examined holistically, the total frequency number of codes under the theme that AYDEP is a good system is 24, the total frequency number of codes under the theme that AYDEP needs to be improved is 18 and the total frequency number of codes under the theme that AYDEP is not an effective system is 27. When the frequency numbers in the first two themes are taken into consideration, it may be pointed out that the opinions of teacher candidates on the AYDEP system are generally positive.

### 3. 2. Findings on General Opinions and Evaluations of Teacher Candidates regarding Education with AYDEP

The themes, codes, their frequency values and sample participant opinions derived from the opinions and evaluations of teacher candidates on education with AYDEP are presented in Table-8.

**Table 8.** *Opinions and evaluations on education with AYDEP*

Theme	Codes	Participants	f	Participant Opinion Sample
AYDEP is productive to reach the learning objectives.	The 30-minutes limited lesson increases motivation.	K1, K8, K20	3	<i>K20: I find it productive because instead of long lessons, we can concentrate of sufficient lesson time and listen to the lessons.</i>
	Developing research skills	K1	1	<i>K1:... We focus on the assignments and research. We did not have any problems with assignments. Everybody uploaded in time and we learned while researching.</i>
	Autonomous learning	K1	1	<i>K1:... We were learning with our own efforts ...</i>
	Interaction	K4, K12	2	<i>K12:... We can communicate our questions easily. I think we are providing an interactive environment at AYDEP.</i>
	Synchronized lessons	K3, K6, K23, K34	4	<i>K6: The AYDEP system provides opportunities for synchronized lessons for learning objectives. It is effective and productive in terms of learning...</i>
	Not limiting learning to the class	K7	1	<i>K7: The learning environment should not be limited to the classroom. When necessary, online education can also be used.</i>
	Sharing course materials	K9, K16, K24, K34	4	<i>K9: There are no problems for somebody studying in a social sciences/linguistics department as information of all topics we study are transferred to the system...</i>
	Tracking and easy access	K8, K10	2	<i>K8:... We can follow the lecture notes with the instructor. We can track our assignments easily...</i>
	Private tutorials	K11	1	<i>K11:... Productivity increases because</i>

				<i>home environment is comfortable. It is like one-to-one tutorial.</i>
	Attendance from home is comfortable	K11, K22	2	<i>K22:... I find it suitable because we can listen to the lesson comfortably at home without any pressure.</i>
	Responsibility	K13	1	<i>K13:... I have realized that we can cope with some responsibilities individually.</i>
	Concentration and attention	K15, K20, K36	3	<i>K15:... Attendance in classes is easy so I can concentrate easily on classes.</i>
	Attendance is easy	K15, K16	2	<i>K16:... It is possible to attend both by audio or video so it can change according to the requirements of the class.</i>
	Opportunity to re-track the lesson	K24	1	<i>K24:... An additional feature is that there are repeats of classes and we can listen to relevant lessons.</i>
	Easy access to knowledge	K18, K24	2	<i>K18: I find it effective. I think assignments help reaching learning objectives.</i>
	Provides continuity for education	K14, K23, K27	3	<i>K14: I think that during the pandemic a very good project has been actualized.</i>
	Assignments given over the system are useful	K1, K3, K9, K32	4	<i>K32: I find it effective. I think assignments help reaching learning objectives.</i>
	Useful for senior classes	K1	1	<i>K1:... There was only a period of 3.5 months for our graduation. We are already KPSS students. I don't think we have lost too much.</i>
AYDEP is productive to reach the learning objectives to a certain extent.	Students with no technical equipment are disadvantaged in this system.	K2	1	<i>K2: I find it effective to a certain extent, because most of the students do not have internet or devices such as smart phones or tablets. Some of us are not lucky in this regard.</i>
	It changes according to the lecturer of the course.	K1, K3, K10	3	<i>K3: I find it productive to a certain extent as this somewhat depends on the instructor of the course...</i>
	It is not as effective as face-to-face lessons.	K1, K3, K19, K22, K29	5	<i>K1: ... We need to have the book in our hands. I find live lessons in classroom environments more useful for learning...</i>
	Students should also be given active roles.	K3	1	<i>K3:... I am speaking for the teacher training faculty, we are teacher candidates and we could connect to the system and give some of the lessons.</i>
	It changes according to the course.	K5, K17, K24	3	<i>K5: We need to think about this on a course basis, while some courses are taught effectively through AYDEP, while others cannot...</i>
	Its impact on vocational competence and gaining experience is limited.	K5	1	<i>K5: ...We shoot videos for training and upload this onto the system. However, it is debatable how much experience this will give us, because we are not interacting with students and we cannot reflect ourselves completely. Therefore, we lack the experience for lecturing. Then, there are the assignments, we prepare slide shows for the assignments requiring presentation experience and this does not help us gain presentation experience, as it would do at the school...</i>
	It requires support /additional work	K26	1	<i>K26:... Besides AYDEP, I need additional support for writing articles on search engines such as Google and Safari.</i>
	It is not like the	K29	1	<i>K29: When education is mentioned, we think</i>

AYDEP is not productive to reach learning objectives.	classroom environment.			<i>of school, I cannot get any benefit if I do not sit at those desks and have eye contact with the teacher, this is not effective education. I cannot listen to the instructor on the internet system. I cannot learn, as I do not enter the system in a serious way.</i>
	Absenteeism	K1	1	<i>K1: ... We, students, procrastinate anything that is not mandatory. I think attendance should be taken...</i>
	In-depth learning does not happen	K1, K4	2	<i>K4:... Lectures go very fast so I think we do not get sufficient efficiency.</i>
	Class time is limited to 30 minutes.	K1, K4, K6, K10, K23, K25, K31	7	<i>K25: I do not think it is efficient. I believe lessons are not understood well due to short time limits.</i>
	Technical problems	K1, K21, K31	3	<i>K21: I do not find it sufficient because there are many negative points. It is negative that the system cannot be uploaded into the mobile. I may have internet connection problems or no internet...</i>
	Weak interaction	K4, K29, K30, K35	4	<i>K35: I do not find it effective enough because I feel as if I have turned on YouTube to listen to a lecture.</i>
	No implicit and social learning	K4, K30	2	<i>K4: ... At the school, we had chats in classes from time to time and then we had our lessons. However, due to time limitations on the system we go directly to the lesson without even greeting each other...</i>
	Examination	K5, K28	2	<i>K5: ... The examinations could have been given remotely within a specific time period.</i>
	Learning materials are insufficient.	K6	1	<i>K6: ...The PDF and course materials are insufficient for applied courses.</i>
	It is contrary to equal opportunities in education.	K21	1	<i>K21: Students' socio-economical levels should be taken into consideration.</i>
	Note taking/no note taking	K28	1	<i>K28: I do not think it is productive, because students do not listen to the class and do not take notes as they know they will not have any exams.</i>
	Home environment is distracting	K30, K31	2	<i>K30: I do not find it productive as in classroom environment there is simultaneous interaction, social learning and there is no time limitation. However, here it is as if we are listening to the lecture from a robot. Also, I think in home environment people do not experience their roles and seriousness in school environment.</i>
	Assignments	K5, K33	2	<i>K33: I do not find it productive enough. That many assignments over the system leads the student to unproductivity and lack of enthusiasm.</i>
Asking questions	K1	1	<i>K1: ... In the classroom it was our advantage to ask the teacher questions, however, in the AYDEP system we can ask questions for 10 minutes and we do not understand most of them, then only 20 minutes are left for the lesson...</i>	

### 3. 3. Findings Regarding the Advantages and Disadvantages of Education with AYDEP Specified by Teacher Candidates

The themes, codes, their frequency values and examples of participant views regarding the situations that teacher candidates perceive as advantages and disadvantages related to the education carried out with AYDEP are presented in Table-9.

**Table 9.** Advantages and disadvantages related to the education carried out with AYDEP

Theme	Codes	Participants	f	Participant Opinion Sample
Advantages	It provided attendance to formal education during the pandemic.	K1, K3, K7, K10, K12, K16, K26, K27, K29, K32, K33, K36	12	K10:... We have seen that education can be provided uninterruptedly under any circumstances.
	Economical	K2, K11, K28	3	K28: It saves time, it is more advantaged to have education at home and there is no luxury such as being late for classes...
	Reduces waste of time	K4, K16, K18, K24, K28	5	K16: Having these lessons without going to school is rather easy and effective for saving time...
	Relieves fatigue	K4	1	K4:... There is no such thing as getting tired. We have lessons online either sitting or lying down. Normally, there were classes we had from morning to evening sitting in the desks and sleeping and these were tiring. The block lessons were 2 hours. There were some teachers who had lessons for 3 hours and these lessons were not productive at all...
	Opportunity to follow classes at home, at desired places and comfortable environments	K2, K4, K9, K13, K17, K21, K27	7	K21: I can reach my class notes regularly from the system. I can listen to lectures from home comfortably...
	Sharing of, access to course materials and opportunity for review	K5, K6, K15, K20, K21, K23, K25, K26	8	K6: I follow classes regularly. If I cannot attend the class, I listen to the repeat class. I can repeat the past subjects...
	Ideal lesson times	K5	1	K5: In my opinion, half an hour lessons are an advantage, because if they were longer, it would be boring...
	Ideal for theoretical classes	K7	1	K7:... There is a pandemic in our country and this is a system formed for us not to stay behind in our classes. Therefore, I think it is an advantageous system for theoretical lessons as well.
	Lessons are not boring	K5	1	K5: In my opinion, half an hour lessons are an advantage, because if they were longer, it

				would be boring...
	Protects from infection during the pandemic	K9, K12, K14	3	K9:... At the school environment we are not face to face with the virus so it is a good system ...
	Suitable for technological developments	K19	1	K19: ... I believe this program is a preparation for the future, which has been developed suitable for current changes and improvement.
	Increases technology skills	K25	1	K25: It is a useful system in terms of reaching the notes and improving technology use...
	None	K35	1	K35: No advantages. It is not effective.
Disadvantages	Lacks supervision	K1, K15, K16, K17, K20	5	K1:... The student can turn on the computer and not listen. I think the control mechanism of this system is weak.
	Not effective in applied courses	K2, K31	2	K31: Lessons do not fulfill the targets as our lessons are applied courses.
	Problems with internet	K3, K15, K25, K26, K28, K36	6	K28: ...There is internet problem for our classmates, who live in villages...
	Not all students may have the necessary technical equipment for remote or distance learning (computer, internet etc.).	K3, K8, K10, K12	4	K8: I have learned that the classroom does not consist of concrete only, however, considering the conditions of Turkey, a lot of people have problems of accessing technology.
	The student is not active.	K4, K7, K15, K27	4	K7: Time limitation is a disadvantage. It is not really possible for students to be active in classes...
	Technical problems such as sound, image, etc.	K4, K26, K27	3	K27: ...As the system is rather new, it is not very strong. Sometimes we have problems of images and sound.
	Limited time for synchronized lessons	K4, K6, K7, K10, K12, K13, K21, K25, K26, K32	10	K26:... 30 minutes are not enough for live lessons... K12: ...The short time periods for lessons are a problem...
	No opportunities for activities such as experiments, observations, etc.	K4	1	K4: ... I think university students need to make more research and discovery, they need to learn by seeing, through science, they need education with experiments and observations ...
	Not compatible with the phone and does not work on the mobile	K5	1	K5:... The application did not work on my mobile, I do not know the reason however, there was no sound. I had to use my computer.
	Problems at the entry to the system and being slow	K6	1	K6: Problems like a slow system, the intensity at the entry to the class and short time...
	Retention in learning	K2	1	K2:... It is rather insufficient to provide permanent learning...
	Self-discipline	K2	1	K2:... It is a big loss for being

				<i>disciplined...</i>
	The teaching is not effective enough.	K4, K9, K16, K19, K23, K24, K29, K33, K35	9	K23: <i>The advantages are that we can listen to the lessons repeatedly however, there are more disadvantages because we do not get productivity from classes, we do not enjoy them, we do not want to listen as we are not face to face with our lecturers.</i>
	Lack of communication between teacher – lecturer	K9	1	K9: <i>... Problems are that it is not as effective as face-to-face education, that the section announcements is not used effectively by our instructors, that there is a lack of communication between students and instructors...</i>
	Causes health problems	K11, K26	2	K26: <i>Watching the screen for 30 minutes makes my eyes ache...</i>
	Not a social environment	K11	1	K11: <i>The disadvantage is being away from social environment and that it causes various health problems.</i>
	Distractibility and lack of motivation	K16, K18, K20, K23, K29	5	K18: <i>... I experience lack of concentration as there is no classroom environment...</i>
	None	K22, K34	2	K22: <i>In my opinion, there are no disadvantages.</i>
	Cases arising from ineffective use of the system	K9, K30	2	K30: <i>We cannot get the announcements at the right times. For situations such as change of class times it may be useful that we receive notification via mail a few hours before the change to attend the lesson actively. In the explanations of some lessons the relevant exam or assignment notifications may be confusing, therefore, an explanatory video on the assignment can be uploaded by the relevant instructor.</i>

As can be seen in Table-9, the situations regarding education with AYDEP as perceived by teacher candidates are collected under 2 themes. The first one of these, the theme ‘advantages’ has 13 codes under it. There are 19 codes under the theme ‘disadvantages’. When these are examined holistically, the total frequency number of codes under the theme ‘cases perceived as advantages of education with AYDEP’, is 45, the total frequency number of codes under the theme ‘cases perceived as disadvantages of education with AYDEP’ is 61. Considering the frequency numbers in the themes, it might be pointed out that cases perceived as disadvantages regarding education with AYDEP by the teacher candidates exceed those with advantages.

### 3. 4. Findings on Opinions and Evaluations of Teacher Candidates regarding Education with AYDEP and Face-to-face Education

The themes, codes, the frequency values and participants’ opinions samples regarding distance education with AYDEP and face-to-face education are presented in Table-10.

**Table 10.** *Opinions on distance education with AYDEP and face-to-face education*

Theme	Codes	Participants	f	Participant Opinion Sample
Face-to-face education	More opportunities to ask questions	K1, K7, K10, K12, K23	5	K7: ... <i>At face-to-face education we could ask questions during the lesson when we did not understand something. This is difficult in distance education...</i>
	Affective factors in learning	K2, K23	2	K2: <i>At distance learning the teaching direction proceeds in a normal way, however, in face-to-face education, we could have both teaching and learning ...</i>
	Relations with the lecturer and peers	K2, K3, K6, K18	4	K3: ... <i>As we could talk one-to-one with our instructors, we could tell them about any problems we had, however, this is not very likely to do over AYDEP.</i>
	Easier access to lecturers	K2, K3, K6	3	K3: <i>As we could talk one-to-one with our instructors, we could tell them about any problems we had, however, this is not very likely to do over AYDEP.</i>
	Learning is more effective	K4, K8, K10, K11, K14, K17, K18, K19, K22, K24, K26, K36	12	K17: <i>I would like to give the following example: I studied in the distance vocational high school. This means I had both distance education and face-to-face education. Therefore, to compare it with this environment, face-to-face education seems to me more informative and more constructive, however, education with remote learning is not permanent and causes the teaching to be forgotten over time.</i>
	Planned	K7	1	K7: <i>At face-to-face education everything is planned. At distance education it is a little confusing.</i>
	In-depth learning	K8, K9, K24	3	K8: ... <i>And also, as there was sufficient time, the topics could be learned well ...</i>
	Class atmosphere and school climate	K2, K10, K20, K28	4	K10: <i>Face-to-face is more efficient. There is a school spirit. We can ask questions to the teacher. We ask questions over AYDEP as well, however, there is no school atmosphere at home.</i>
	Longer class times	K11	1	K11: <i>The longer lesson times at face-to-face education enabled us to understand the topic better and to concentrate on the lesson better. The synchronous lessons with AYDEP are not as efficient as face-to-face education.</i>
	More motivation and attention	K11, K13, K15, K16, K17, K18, K21, K26, K27, K33	10	K13: <i>In classroom environment we are more serious and there is an authority. This increases my interest in the lesson...</i>
	Feedback is faster and more intensive	K12	1	K12: <i>Certainly, face-to-face education is more distinctive. You have eye contact and you receive feedback. At AYDEP, we listen at listening mode only as there will be problems with sound and feedback is delayed.</i>
	Communication and interaction	K12, K16, K18, K21, K23, K30, K35	7	K16: ... <i>At face-to-face education, the instructor makes eye contact, draws the attention of the student and provides an environment with more interaction.</i>

	Retention	K17, K36	2	K36:... <i>At face-to-face education, learning is more permanent and effective.</i>
	Project works	K6, K29	2	K6:... <i>When there was something that we could not do and for our projects, we could ask our instructors, however, in this system we are trying to do these ourselves.</i>
	The student is more active.	K21	1	K21: <i>There was a healthier communication at face-to-face education. Our classmates who were shy and not very active in the classroom environment could participate in the lesson with the teacher managing the class, however, at online education they can get more introvert, thinking that they will be not noticed anyway.</i>
Distance education with AYDEP	Opportunity to re-track lessons	K1	1	K1:... <i>That we can re-track the classes in the evening we could not attend.</i>
	Not effective	K5, K11, K15, K19, K26, K31, K32, K34, K35	9	K5: <i>AYDEP is not productive because it is remote. How can I understand the lessons that I could not understand face-to-face now with AYDEP, I think they are far away from each other.</i>
	Not suitable for learning by doing	K5, K31, K32	3	K5:... <i>There is no experiential, learning by doing.</i>
	Access from anywhere and any environment with various tools	K6	1	K6: <i>It is the opportunity for someone with internet to follow the lesson from anywhere, mobile or computer, without the need for anything else...</i>
	Student has the learning responsibility	K9	1	K9: <i>There was more time in face-to-face education and the topics were taught in more detail. At distance education, the responsibility is with the student. It is a challenging process for students who cannot get organized.</i>
	Very useful for assignments	K9	1	K9:... <i>AYDEP is more advantageous for assignment check.</i>
	No need for physical preparation for lessons	K10	1	K10:... <i>Normally, I used to prepare for hours to go to class such as shower, make-up etc. However, it is simpler and easier to follow lessons over the system.</i>
	Internet expense and other technic porblmes	K13, K19	2	K13:... <i>Distance learning with AYDEP has many negative points, particularly financially. I cannot have enough internet packages.</i>
	No familiarity	K20	1	K20: <i>...Distance education does not reflect the school spirit that we have been used to since our childhood at all. We have grown up with that spirit and now this situation is rather challenging for us.</i>
	More suitable for make-up and additional lessons	K22	1	K22: <i>In fact, what instructors what to do with AYDEP is make up and part of the additional classes can be done this way...</i>
	Resource and research	K24	1	K24: <i>As you know, we are in quarantine. We cannot go out, we have book problems, assignments are given and we are expected to research different resources. It is not possible to understand the logic behind this. It would have been possible at the school however, this system is not suitable for such things.</i>

	Not suitable for group work	K29	1	K29: <i>Face-to-face education is definitely better. We could do our project and group work better. Now I am having problems with group assignments.</i>
	Fewer learning experiences	K25, K27, K30, K34	4	K27: <i>... We cannot carry out the applications we do in lessons remotely. Time is limited.</i>
	Flexible lesson times and practical	K33, K36	2	K33: <i>... I think distance education is more practical compared to face-to-face education.</i>
	Learning-teaching contents and material	K1, K6, K23,	3	K23: <i>... The lecturer sharing the course material immediately.</i>
	Insufficient synchronous lesson time	K1, K2, K7, K9, K12, K30	6	K7: <i>At face-to-face education, the lesson could be understood as time was sufficient, however, now in distance education 30 minutes are not enough.</i>

As can be seen in Table-10, the opinions of teacher candidates regarding comparison of education with AYDEP with face-to-face education are collected under 2 themes. The first one of these, the theme 'face-to-face education has 15 codes under it. There are 16 codes under the theme distance education. A holistic review shows that the total frequency number of the codes under the theme face-to-face education is 58; the total frequency number of the codes under distance education is 38. Considering the frequency numbers and contents of the codes under the themes, it might be pointed out that teacher candidates have more positive opinions of face-to-face education.

#### 4. Discussion and Suggestions

In this study, the opinions of teacher candidates about AYDEP have been examined under headings, themes and codes. In this section the opinions under each heading and relevant theme have been attempted to be discussed referring to the works in the body of literature. Within this context, as remarked in the findings, it will be observed that particularly some common codes under different themes are repeated, even if with different frequencies. These opinions of teacher candidates stated within the scope of different questions generally point out to the issues they were focusing on in their experiences with AYDEP, which is noteworthy. In this section an approach that focuses on the opinions in each theme arising intensively as frequency and on the stated common codes has been adopted. Similar opinions under different themes and headings have been discussed in this section each time as the occasion arises and repetition has been avoided. As there are too many codes under each heading and theme, issues of page limit of the article and fluency of the study have been taken into consideration for the adoption of this approach.

The first theme arising from the general opinions and evaluations of teacher candidates regarding AYDEP is that AYDEP is a good system when distance education is concerned. The most frequent opinions emphasized by teacher candidates under this theme are that AYDEP enables attendance to classes/education, that it is suitable for extraordinary situations such as the pandemic, that it is a successful application and that it is useful, practical, and functional. As face-to-face education was suspended unanticipatedly as of March 2020 due to the pandemic, firstly there was a chaos in education as in all other areas. Following the next few weeks, both the Ministry of Education and also the Higher Education Council and universities adapted quickly to this process and tried to find solutions for education to continue. At primary and secondary levels classes were held on the Education Data Processing Network (EBA), the digital learning platform of MoE, and on the Turkish Radio Television (TRT). Many universities both in Turkey and in other countries many universities continued education with remote learning tools. Kirsehir Ahi Evran University activated a learning management system, with the acronym AYDEP, that was still in piloting process and continued education. Thus, as it was also obvious in the participants' opinions, AYDEP provided continuity of education at Ahi Evran University, where the researcher is also working. As it was put forth similarly

in the opinions, different learning management systems were preferred quite a few institutions as one of the means to explore in such a chaotic period.

Opinions such as the lesson time and “*the system is good, however,...*” code came up under the theme that AYDEP needs to be improved, including that there are some deficiencies, that different features should be added or changed. Within this context, the lessons with AYDEP, as experienced by the participants, were organized in 30-minute periods. The researcher herself used the same system and it was experienced that, particularly depending on the subject area or content, this period was not enough in some lessons. This situation may certainly have caused setbacks; however, these systems were adapted rather fast in order to continue education during the pandemic. Thus, considering AYDEP is a pilot project, it is very natural that it has features to be improved. However, extending class times or organizing these according to courses are topics, on which AYDEP commissions are working in the new term. Accordingly, regarding this problem, in 2020-2021 fall term it is planned that in education with AYDEP the 3- and 4-hour lessons in face-to-face education will be 2 lessons as 40+40 and the 2-hour lessons will be a single lesson of 40 minutes. At this point technical details such as synchronized classes at the same time in all departments in the whole university, band width and server and internet speed have to be considered. It is aimed that at a project financed by the EU, a platform called Redesign, activated digitally, will be designed for use to provide cultural exchange among university students and collaboration of lecturers of the same disciplines throughout Europe (Avgousti & Hadjistassou, 2019, p. 48). Student opinions have also been taken for the process of the design of this platform. The study reports that similar features of social media tools such as Facebook have been used for the outlook, use and functionality of the platform, which students are used to using. However, it is pointed out that the said platform, which provides an intercultural experience for the students, has some structural and technical problems and that it needs to be developed in terms of functionality.

Under the theme that AYDEP is not an effective system there are participant opinions such as it is not effective/useful, technical problems, it is not suitable for every course, it is not in line with equal opportunities in education. The problems of sound, frozen image etc., internet connection, slow speed at the entry to the system due to intensiveness etc. mentioned by teacher candidates are technical problems. A study on the perceptions of instructors on an LMS use mentions weak internet connection, lack of skills, fear and workload are mentioned related to difficulties in LMS use (Gani, 2019, p. 15). In another study called Enocta, in which LMS evaluated according to student opinions, it is reported that participants had negative views of the deficiencies of student affairs according to the findings of the study, it was suggested that new features should be added to the system (Özonur et al., 2019, p. 283). In another study the LMS used at Gazi English Language School was evaluated by the users and the levels of navigation group, design, accessibility, easy use, and general usability were specified as medium (Turan & Canal, 2011, p. 48-49). Technical problems can be experienced at all the digital platforms. We experience some technical and access problems in our daily lives at the platforms Twitter, Facebook, Instagram etc. that are managed by huge technology giants and have billions of users. It is considered that the present study will be useful in these terms and that it will provide feedback for the technical team at the university and for the software specialists of AYDEP. In the other headings and themes participants mentioned that AYDEP is not suitable for each course, that it is suitable for theoretical courses, that it does not provide applications for applied courses, that they could not have experiential learning, that learning experience was limited and that there were no activities such as experiments or observations. Courses such as teaching practices and trainee teaching were also conducted over AYDEP and as per the decisions of YOK sent to universities, students completed the process with various activities without practice or internship schools. The statements of a participant are attention-grabbing; “*some lessons can be held effectively over AYDEP, however, some cannot. For example, history, which is a verbal course, can be held effectively. However, I do not think that courses such as drama, in which feelings need to be transmitted to the other party, are productive enough or we shoot videos for internship and upload these onto the system. However, it is debatable how much experience this will provide for us, because we are not interacting with the student individually and may not be reflecting ourselves as necessary and so we lack the experience for conducting a lesson*”. Within this framework, it is suggested that new web technologies, augmented reality (AR), virtual reality (VR) are integrated into learning management systems

(Avgousti & Hadjistassou, 2019, p. 54). For example, observations and experiments can be conducted in the laboratories with AR and VR applications and activities.

Under different headings and themes, the participants have reported opinions on the points that distance education with AYDEP is contrary to equal opportunities in education, that in this system students with no technical equipment such as computers, internet etc. are in a disadvantaged situation. In parallel to the opinions of the participants Bozkurt (2020, p. 125) points out that in Turkey learners with digital technologies and the necessary infrastructure and digital skills are at an advantage in terms of urgent distance education and learners who are at a disadvantaged situation socio-economically experience inequality. Unlike the mentioned opinions of teacher candidates, Kandemir (2014, p. 1155) remarks that distance education practices provide equal opportunities in education. In his study, in which he examined the distance education services of Anadolu University Faculty of Open Education, he states that this system contributes to equal opportunities in education in that it provides education for people who need to work due to economic difficulties, for women who cannot receive education due to gender inequality in the society and for disadvantageous groups such as handicapped people. Similarly, it is also remarked that distance education is an important tool in terms of equal opportunities for individuals with low income living in rural areas with no opportunities for formal education and for women, who benefit less from educational opportunities compared to men throughout the world (Demiray, 2013, p. 166). Within this context, in Turkey, YOK has provided 6 GB free internet support for the mobile operators of all university students in order for them to be able to follow distance education classes (YOK, 2020). This may be a relatively small step and similar support needs to be provided for the student. In this sense, improving the technological infrastructure and providing technical equipment such as laptops, tablets etc. for the students will provide that distance education practices will be more functional in Turkey in terms of equal opportunities in education. However, pointing out that currently in Turkey all students are under equal conditions in terms of accessing technology would not be realistic. It is emphasized that the Covid-19 pandemic has increased the demand for distance education in Turkey and that in this system quality is also very important; however, the significance of the issue that in Turkey remote and open education need to be improved with regard to infrastructure, access, security, content, design, implementation, quality, legislations and pedagogy has arisen one more time during this period (Can, 2020, p. 11).

The first theme that has come up with the opinions and evaluations of teacher candidates on education with AYDEP is that AYDEP is productive in reaching the learning objectives. The most frequent codes under this theme are sharing course materials, opportunities for synchronized classes, assignments given over the system being useful, concentration and attention and not limiting learning to the classroom. Nowadays, when learning is not restricted to classroom walls, it is stated that learning management systems such as Moodle provide opportunities for the lecturer to create all materials s/he will use in the lesson and distribute these to students; and students are given the opportunity to access these lessons any time they desire (Pawade, 2019, p. 40). A study conducted with teacher candidates by Kalelioğlu (2017, p. 83) draws attention to some problematic situations, perceived as advantage, related to using Facebook as a LMS in a distance education lesson mandatorily. It is remarked that most of the participants were satisfied with the experience they gained via Facebook; however, while some issues and cases were received positively by some teacher candidates and were found problematic by others. A similar result was encountered at the present study, too. While limiting synchronized classes to 30 minutes was received positively by some students with the reasons of concentration, attention, continued interest in the class, time saving, not being boring as long and successive lessons in face-to-face education, some students perceived this situation negatively as it did not provide opportunities for in-depth learning, topics were not understood well, it decreased the chance to ask questions to the instructor etc. Similarly, some students continuing their education with AYDEP from home perceived this situation positively as comfortable and that it did not require physical preparation for the class, however some others perceived it negatively as there are more distractors at the home environment, that classes were not taken seriously in the lack of classroom environment etc. Similar to the participants' view of the assignments being useful, it is stated that 73% of students using Blackboard in science lessons, another LMS, believed that in this system they were more productive and spared more time for their assignments (Furda & Straka, 2016, p.18).

The codes under the theme of AYDEP being partly productive in terms of reaching the learning objectives that attract attention are that lessons are not as effective as in face-to-face education and that efficiency changes according to the lecturer or the course. In the study of Kite et al. (2020, p. 183), in which they investigated the opinions of students and lecturers regarding the common LMS Canvas, it is stated that face-to-face education is perceived as more superior to online learning. The participants remark that the efficiency of AYDEP at the point of reaching the learning objectives vary with the instructor or the course. This may be related to their skills and competence of using AYDEP, the structure of the content or the type of presentation. It is indicated that from time to time, students and instructors display deficient or wrong uses of the interactive tools of the LMS (Holmes & Prieto-Rodriguez, 2018, 28-32). Accordingly, for example, the discussion boards are generally perceived as a spot for student complaints about a course or a lesson. However, it is also emphasized that if the discussion boards are followed up carefully and student comments are answered quickly, complaints will be minimized. At this point, it may be considered that the way the lecturer uses the discussion board could be decisive. The most frequent opinions under the theme of AYDEP not being productive to reach the learning objectives are the codes of lesson time being limited to 30 minutes, technical problems, and weak interaction. The issues of interaction and the limited 30-minute lesson time are perceived negatively by some students and positively by others. The interaction in education with AYDEP may certainly be different from the interaction that the participants are used to having with their friends and lecturers in the classroom and at the school. At AYDEP during the synchronized lessons students can participate with sound, however not visually. This situation may not have been sufficient in terms of interaction for some students or students who do not attend classes regularly may have considered the interaction more insufficient. It is stated that the lecturers upload course materials onto the system for student use; however, in spite of this being considered necessary for interaction in effective learning and teaching, it causes limited use of the other interactive features of the LMS (Kite et al., 2020, p. 183).

The situations perceived as advantages and disadvantages in the opinions of teacher candidates related to education with AYDEP have been reviewed under the theme advantages and disadvantages. Under the theme advantages the codes of providing attendance to formal education in the pandemic, sharing, accessing course materials and opportunities for repeating, following classes from home or from anywhere desired and in comfortable environments, helping waste of time, being economical, protecting from infection risk arose. Sharing course materials and accessing them, students re-tracking the lessons and following classes from home or any other preferred place are opportunities presented by all learning management systems. Learning management systems provide various resources such as videos, tests, and forum discussions to support learners in their learning (Chaw & Tang, 2018, p. 152). Similar to the opinions of teacher candidates, it is emphasized that the cost of distance education is rather low compared to formal education (Kandemir, 2014, p. 1155). The codes under the theme disadvantages are the limited time for synchronized lessons, the education not being effective enough, internet problems or other technical problems, lack of a supervision mechanism, the student not being active, lack of concentration and motivation, not all students having the necessary technical equipment for distance education, the system not being compatible with mobiles and not working on the phones. Thus, it is observed that some participants believe that education with AYDEP is not effective. There may be reasons for this arising from the student, the AYDEP system or the lecturer. It is remarked related to another LMS, the Redesign platform, that students are generally pleased with using the system and believe that the platform contributes to reaching the course objectives (Avgousti & Hadjistassou, 2019). According to Chaw and Tang (2018, p. 152), learning management systems provide various resources for learners such as videos, tests, and forum discussions to support their learning; however, accessing a LMS does not come to mean that learning definitely actualizes effectively. Chaw and Tang (2018, p. 152) underline the following with regard to the subject: although learning management systems are clearly useful, the issue whether they help students to learn effectively is an interesting and debatable subject, discussed by instructors, students, LMS service providers etc. and stakeholders. Within this framework, attention is drawn to the point that the system quality, knowledge quality and service quality of the LMS may have an impact on students' use and contentment of the LMS for effective learning, thus, it may impact the effectiveness of learning. Another attention-grabbing participant opinion is about the lack of supervision in the system. The way

to see student attendance in the AYDEP system is by viewing the list of student names on the left side of the screen. This approach seems open to abuse. The student may seem online in the system and may be at another place and not participate in the lesson. However, considering that the level is higher education, it might be expected that students would be aware of their responsibilities. Using the AYDEP system herself, the researcher has tried to find a solution for this situation in her classes with a strategy by sometimes asking questions to all the students and sometimes asking questions to students randomly by name when they seem to be online. In face-to-face education there is no compulsory attendance for many courses, or it is within the initiative of the lecturer. Another solution for this problem might be to follow up the attendance and participation in on-line classes or including attendance in the assessment of the course to a certain extent. Another issue considered as a disadvantage by teacher candidates is that they cannot access AYDEP from their mobile phones or experience problems in accessing the system from mobiles. Similarly, the most frequent issue about another LMS indicated by the students is the fact that the platform cannot be accessed from mobile devices such as telephones (Avgousti & Hadjistassou, 2019, p. 58).

The opinions of teacher candidates with regard to distance education with AYDEP and face-to-face education have been examined under the themes face-to-face education and distance education. The codes that came up under the theme face-to-face education are that learning is more effective, that there is more interest and motivation, communication and interaction, more opportunities to ask questions, class atmosphere and school climate and relations with lecturers and peers. It attracts attention that the issue of more opportunities to ask questions has not been discussed in the previous paragraphs. In a study, which researched the perceptions of teacher candidates regarding distance education it has been indicated that the participants believed in this system they had no opportunities to ask the lecturer questions outside the class and this led to a negative perception about distance education (Kaleli-Yılmaz & Güven, 2015, p. 299). With regards to the issues of communication and interaction and relations with instructors and peers, the forms of these factors may be different in face-to-face education and distance education. In a study, in which a mathematics lesson was conducted over web-based distance education, discussions were made with the students at the end of the experimental process, and it set forth that almost all students believed that interaction similar to the traditional classroom environment could not be provided with this methodology (Yorgancı, 2014, p. 1401). It was emphasized that students expect to experience more human-human interaction and using the existing communication tools, to develop a feeling of society/community with regard to LMS (Dreamson et al., 2018, p. 431). It may certainly be not easy to get used to the communication, collaboration, and interaction formats in distance education for the participants, who are used to visiting the lecturer in his/her office after class, making use of the campus facilities with their friends and participating in the activities with their friends physically as in face-to-face education or it may take some time to get used to this situation. The participants expressed similar opinions indicating that they were not used to distance education and that class atmosphere and school spirit were sensed more intensively in face-to-face education. Within this context, the education with AYDEP may have been the first distance education experience for the majority of the participants. In another study conducted with teacher candidates it is remarked that the previous habits of the participants are particularly important when a new technique is implemented and they are not used to such situations, that sometimes they can develop negative perceptions or even resist to new implementations and prefer the system they are used to (Sarica, 2016, p. 167).

The codes that came up under the theme distance education are not productive, insufficient synchronized lesson time, not suitable for experiential learning, internet and other technical problems and learning – teaching content. Most of these codes have been discussed previously as occasion arose. Here, the learning – teaching content attracts attention as different from the above. It has been stated that the effectiveness of teaching in remote learning technique is linked to the quality of the learning materials integrated into the system (Karagöz, 2012, p. 157). There are significant duties of organizing, presenting and diversifying the learning – teaching content that fall upon the instructors. The instructors need to take the needs of the students into consideration within this context. Uploading the materials related to the subject field does not demonstrate that the relevant responsibility has been fulfilled. Rather than such an approach, it is necessary that assignments that will keep the students up with the content are given, that these are followed up and fast feedback strategies are implemented.

Teacher candidates find the synchronized class times on AYDEP sufficient. In another study it is pointed out that similarly, teacher candidates found the 90-minute synchronized class time too long, that there were technical problems, and these caused negative perceptions regarding distance education (Kaleli-Yılmaz & Güven, 2015, p. 299). It might be more useful to adopt a flexible approach in terms of class time or to add a class time specification feature for the group onto system and defined for the instructors.

The opinions of the participants on the distance education with AYDEP not being productive may be rooted in the pandemic, the insufficient experiences of students on distance education, the habits they bring from traditional education, technical problems, the extremely fast and mandatory transfer to distance education, the lack of knowledge and skill of the instructors in this area, the quality of the learning materials, the technical features, and many other various reasons. Regarding a LMS implemented at a university in Kyrgyzstan, it is emphasized that the technical features of the LMS, ease of use, feedback options of the LMS were important in the success of the students in their courses they took with LMS or in their effective learning (Nurakun Kyzy, Ismailova & Dünder, 2018, p. 1010). In the same study the points about the subject indicated by the instructors are the way students perceive online classes, the lack of knowledge and skills of the instructors about distance education and administrative problems. In a study by Dash (2019, p. 1) the effectiveness of Google Classroom, which was launched in 2014 and is a LMS with a convenient platform, was tested in the learning of the biochemistry module in a Medical school in India. In respect to the study, the issues indicated by the students are better access to learning materials and other supporting learning resources, usefulness of spontaneous feedback and that learning can be actualized outside the classroom, too.

## 5. Conclusion

As a result, in the study, the opinions of teacher candidates on their educational process with AYDEP, which is both a digital platform they experienced during the pandemic and also a remote teaching practice and an example for a learning management system, have been examined. Within this context, the opinions of the participants have been studied and discussed in a detailed way. In consequence, distance education, digital platforms including learning management system and other web applications and their use with educational aims are on-going processes. In this sense, it may be pointed out that during this process AYDEP has fulfilled a significant function at Ahi Evran University. It is evident that students shared their opinions taking the period of the pandemic into consideration. As has been set forth in the opinions of the participants, as other digital platforms, the AYDEP system has aspects that need to be developed and to be improved. The technical features of the system could be re-designed according to the needs of the students and pedagogical principles. When considered that in the coming academic year 2020-2021 distance education and this system will continue, it might be remarked that the system needs to be improved in terms of technical features, access, content and materials, interaction and collaboration, competence of the instructors in this area. The system needs to be improved in respect to practices in classes. For example, experiments and observations with virtual laboratory activities and augmented reality and virtual reality integration could be considered. Considering that at the present time the period of the pandemic continues throughout the world and in Turkey, it can be foreseen that such applications will be used intensively. It will prove useful that all universities using these applications share their experiences and the process in this regard under the same common roof. In this sense, it may be suggested that the strong and deficient aspects and aspects to be improved of different LMS and distance education practices are reviewed for new studies and these will contribute to the relevant literature.

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