



Education Quarterly Reviews

Koç, E. M. (2022). Student Evaluation of the Features of Learning Management Systems Used by Universities in Distance Higher Education. *Education Quarterly Reviews*, Vol.5 Special Issue 2: Current Education Research in Turkey, 290-301.

ISSN 2621-5799

DOI: 10.31014/aior.1993.05.04.623

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

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Student Evaluation of the Features of Learning Management Systems Used by Universities in Distance Higher Education

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Abstract

The aim of this study is to examine the opinions of university students in higher education institutions during the COVID-19 pandemic period about the basic features that a learning management system (LMS) should have, in nine dimensions: communication and interaction, productivity tools, collaboration tools, management tools, course delivery tools, content development tools, hardware compatibility, reporting, and language support). A total of 125 university students studying in different faculties and departments of 12 universities in various regions of Turkey participated in the study. The data were collected using various social media tools via a questionnaire prepared in Google Forms. According to the results of the study, although some students stated that they did not have any knowledge about the features of the LMS that they used, they stated that they were able to use all the features of the LMS effectively. The percentage of students who expressed a positive opinion about the nine features of the LMS they used varied between 36.8% and 53.6%. Some students also stated that they had no knowledge of the features of the LMS they used. The results of this study reveal that there is still a lack of knowledge and use regarding the functions of LMSs used by students. These results highlight the importance of making more effective use of LMSs, which play an important role in distance education.

Keywords: LMS, Higher Education, Distance Education, University Students

1. Introduction

In consequence of the COVID-19 epidemic, which was declared a global pandemic, courses at all levels of education began to be taught remotely in Turkey as well as all over the world, and this became a model of education. Distance education is an educational system in which students and instructors are in different geographical locations, and in which the transmission of course materials and interaction are carried out simultaneously (synchronously) or at separate times (asynchronously) by utilising a technological tool such as a telephone or computer.

Due to the COVID-19 pandemic, the education LMS system has been oriented towards similar alternative education methods, especially web-based instruction (WBI) (İbili, 2009). For the efficiency and effective management of this virtual education, there is a need for software applications named Learning Management Systems (LMSs) that track, administer and report the activities between the user and the teaching materials (Lonn&Teasley,2009).

There are different definitions of the LMS in the literature. In general terms, the LMS is a software that uses internet technologies to plan, evaluate and implement the teaching process in the distance education process (Paulsen & Keegan, 2002). Similarly, LMS is defined as an education management system designed to present, track, measure and report distance education content for users (Oakes, 2002).

Different types of LMS are available. Some of the simultaneous (synchronous) LMSs are BigBlueButton, Elluminate, Adobe Connect, Open Meetings, and Dimdim; some of the asynchronous LMSs are Moodle, Dokeos, Mambo, TinyLMS, OLAT, and ATutor. Among these tools, synchronous tools used extensively in higher education are webex, Zoom, viber, messenger, Microsoft Teams, Blackboard Collaborate, BigBlueButton, Google Meet, and Adobe Connect (Trapali *et al*, 2022)

Each LMS has different features. The basic features that should be found in a learning management system are categorised in different ways in different sources. Following a literature review, Sezer (2019, p.37) summarised the features that a learning system should have, and gathered them under three main headings: 1) Learning tools (communication, productivity, student participation), 2) Support tools (management, course delivery, curriculum design), and 3) Technical features (hardware/software, pricing). Gültekin (2018, pp.17-20) reported the features of different LMSs in a thesis study, and specified the criteria related to each feature in the category: technical features, course and assessment features, communication features, content features, management features, content features, management features, support features, language features.

According to Martin, Quigley and Rogers (2005), the LMS should enable all the following features: logging into the system, all student-related processes to be performed electronically, conducting tests and exams and taking attendance online, conducting online discussion forums, publishing course content online, rapid communication between instructors and students, easy checking of student homework by the instructor, and reporting educational activities.

The LMS should have the following features: 1) Defining and managing users, 2) Preparing course contents, 3) Managing courses, 4) Assigning/delivering homework and projects, 5) Preparing and implementing exams and tests, 6) Tracking and examining student behaviour in order to observe how effectively the system is used, and 7) Discussion groups, chat rooms, fluid video and audio transmission, use of interface technologies such as Flash in the creation of interactive communication environments, and management of these environments (Al & Madran, 2004; Chahal & Patel, 2021)

Universities not only purchase LMS services such as ALMS, Blackboard and Enocta from private companies, but also use open source code LMS systems such as Moodle and Canvas, which they adapt within their own structure (Kocatürk, Kapucu & Uşun,2020). Each LMS has features that are superior to and weaker than others. These features have an important role in the selection of the LMS to be used. In terms of evaluating the system, it is important to obtain the opinions of students and instructors about the distance education platform in universities (Kant, Prasad& Anjali, 2021). When the literature on the use of learning management systems in higher education is examined, the studies generally focus on determining users' attitudes, usability and user satisfaction levels regarding LMSs (Asıcı, 2018; Chan, Botelho & Lam, 2021; Chien-Yuan, & Cheng-Huan, 2022; Çevik,2021; Dilfiruz, 2019; Kestel,2020; Kılınç, 2022; Hamutoğlu & Kıyıcı, 2017; Horvat, Dobrota, Krsmanovic & Cudanov, 2015; Sarıkaya, 2021; Saygılı, 2021; Servidio & Cronin, 2018; Sezer, 2019). Some studies have aimed to develop an educational LMS in line with needs and to compare the features of the newly developed LMS with different LMSs (Baimurzayev, 2016; Taşkesenligil, 2021). However, in the related literature, there is no study examining users' opinions about the features that an LMS should have.

Previous studies in the literature show that LMSs used during the COVID-19 pandemic period were found to be inadequate by both educators and students (Can & Köroğlu, 2020). This may be because the features of the LMS chosen for use by the higher education institution did not meet the users' objectives. In order to ensure the continuity of LMS usage, it is necessary to determine the degree of user satisfaction with the system after they have used the system (Çevik, 2021). The aim of this study is to examine whether university students in higher education institutions have positive opinions about the basic features that an LMS should have during the COVID-19 pandemic period. The research questions of the study are:

- 1) What are the opinions of university students about the effective use of learning management systems?
- 2) What are the thoughts of university students about the features of learning management systems?

2. Method

In this study, a mixed research model was used. This is both a qualitative and quantitative study. Both questionnaire and semi-structured interview questions were used to investigate university students' evaluations of learning management systems (LMSs).

2.1 Participants

A total of 125 university students from 12 universities in the Eastern Anatolia, Central Anatolia, Black Sea, Western Anatolia, Aegean and South-eastern Anatolia regions participated in the study. These students are studying in various departments of the faculty of engineering, faculty of education, faculty of fine arts, faculty of science and literature, faculty of theology, faculty of economics and administrative sciences, and faculty of pharmacy. 71.2% (N=89) of the students are female and 28.8% (N= 36) are male.

2.2 Data Collection Tools

The questionnaire used in this study comprises three parts. The first part consists of seven questions designed to learn the students' demographic information (name of university, faculty/department, gender, LMS used by the university, name of the synchronous platform used, how LMS-related training was received, and degree of satisfaction with the LMS-related training). In the second part of the questionnaire, there are two statements about the use of LMS features, while in the third section of the questionnaire, there are nine statements for which students are asked to indicate whether or not they feel positive about the features of the LMS. In this study, the LMS features were modelled on the LMS features that Baimurzayev (2016, pp.35-37) examined in nine categories as a result of a detailed literature review. Based on the assumption that participants might not have enough knowledge about the features of the LMS modules, short explanatory texts about the content of each module were prepared. For the construct and content validity of the prepared questionnaire, the opinions of an expert academician in the computer and instructional technologies department were sought, and as a result of the feedback received, some revisions were made to the module contents and the explanatory texts related to the modules. In order to test the understandability of the questions, a pilot study of the draft questionnaire was conducted with five students, and the final questionnaire was created according to the feedback received. The scores in the second part of the questionnaire were coded as "1= strongly disagree", "2= disagree", "3= undecided", "4= agree" and "5= strongly agree", and the participants were asked to indicate their degree of agreement with the given statements. In the third part of the questionnaire, the answers were coded as "0= no knowledge", "1= strongly disagree", "2= disagree", "3= undecided", "4= agree" and "5= strongly agree".

2.3. Data Collection Procedure

Since the data were collected during the pandemic, the questionnaire, which was prepared electronically through Google Forms, was delivered to the participants with the snowball method using social communication tools such as Instagram, WhatsApp and e-mail. The consent form, in which participants were informed about the purpose and process of the study, was also sent along with the questionnaire.

2.4. Data Analysis

Item analysis was performed for each question item in the questionnaire, and in the first part of the questionnaire, the number and percentage were calculated for each answer given to the questions related to demographic information. For the data analysis of the second and third parts of the questionnaire, the percentages for "strongly disagree (1)" and "disagree (2)" from the responses given by the participants were combined and interpreted as "negative". Similarly, the percentages for "strongly agree (5)" and "agree (4)" statements made by the participants were combined and interpreted as "positive".

3. Results

3.1. Effective Use of the LMS

Over half of the students (62 %) stated that they knew all the features of the LMS used in their university. Almost a quarter of them (23%) were undecided. A considerable percentage of students (15%) stated that they did not know all the features of the LMS, while 36% stated that they could not effectively use all the features of the LMS in their university or were undecided on this issue. When the students were asked whether they had received any LMS-related training, 42 students (33.6%) reported that they had not received any such training. According to the analysis of the responses given to the question in which students who had received LMS-related training were asked to express the adequacy and effectiveness of this training, 30 students (24%) stated that they did not find the training adequate or effective (Table 1).

3.2. Features of the LMS

Whereas only 40% of the students agreed with the statement, *“I have a positive opinion about the features of COMMUNICATION AND INTERACTION TOOLS of the LMS used in our university”*, the number of students who disagreed with this statement or were undecided was 63 (50.4%). The number of students had no knowledge of the communication and interaction features of the LMS was 12 (9.6%) (Table 2)

While more than half of the students (53.6%) agreed with the statement, *“I have a positive opinion about the features of PRODUCTIVITY TOOLS of the LMS used in our university”*, 13.9% stated that they disagreed.

Regarding the statement, *“I have a positive opinion about the features of COLLABORATION TOOLS of the LMS used in our university”*, almost one fifth (18.4%) of the students stated that they did not have a positive opinion of this feature of the LMS, while 13.6% stated that they had no knowledge of this feature of the LMS.

Almost half of the students (48%) agreed with the statement, *“I have a positive opinion about the features of MANAGEMENT TOOLS of the LMS used in our university”*. On the other hand, a similar percentage (44.8%) of the students had a negative view of this feature of the LMS.

Almost half of the students (45.6%) agreed with the statement, *“I have a positive opinion about the features of COURSE DELIVERY TOOLS of the LMS used in our university”*. Over half of the students (54.4%) either stated that they did not know about this feature of the LMS they used, had a negative opinion of this feature, or were undecided about whether this feature was positive or not.

Regarding the statement, *“I have a positive opinion about the features of CONTENT DEVELOPMENT TOOLS of the LMS used in our university”*, a few of the students (11.2%) stated that they had no knowledge of this feature of the LMS. On the other hand, only 40% of the students had a negative view about this feature of the LMS.

It was determined that one fifth (20.8%) of the students disagreed with the statement, *“I have a positive opinion about the HARDWARE COMPATIBILITY features of the LMS used in our university”*.

Regarding the statement, *“I have a positive opinion about the REPORTING TOOLS feature of the LMS used in our university”*, this was the feature that had the second highest percentage of student agreement (52.8%) among all the LMS features.

Almost half of the students (46.4%) agreed with the statement *“I have a positive opinion about the LANGUAGE SUPPORT feature of the LMS used in our university”*. Almost a quarter of the students stated that they had no knowledge of this feature of the LMS. On the other hand, 12.8% of the students declared that they had a negative opinion about the language support feature of the LMS.

Table 1: Items Related to Use of LMS Features , Percentages of Participants' Answers to Items of the Questionnaire in Part 2

Part 2 Items related to use of LMS features		Disagree (-)	Agree (+)	Undecided (3)
1	I know all the features of the LMS used in our university.	15 %	62 %	23 %
2	I can effectively use all the features of the LMS used in our university.	12.8%	64%	23.2%

Table 2: Items Related to Evaluation of LMS Features, Item Explanations, and Percentages of Participants' Answers to Items of the Questionnaire in Part 3

Part 3	Items related to evaluation of LMS features	Explanation of LMS feature	No Knowledge (0)	Disagree (-)	Agree (+)	Undecided (3)
1	I have a positive opinion about the features of COMMUNICATION AND INTERACTION TOOLS of the LMS used in our university	The COMMUNICATION AND INTERACTION TOOLS of an LMS include these features: forum applications, in-site messaging between users, synchronous chat, making announcements, video conferencing, uploading files in various formats such as mp3/mp4/ppt to the system, using the computer screen as a blackboard during the live lesson.	9.6%	17.6%	40 %	32.8%
2	I have a positive opinion about the features of PRODUCTIVITY TOOLS of the LMS used in our university	The PRODUCTIVITY TOOLS of an LMS include these features: archiving course content, adding date and time limitations to assignments/activities, viewing upcoming activities, downloading course content to a PC for offline work, extra information on how to use the system, and access to help resources and the help menu.	9.8%	13.9%	53.6%	22.7%
3.	I have a positive opinion about the features of COLLABORATION TOOLS of the LMS used in our university	The COLLABORATION TOOLS of an LMS include these features: -Instructors can create as many groups as they wish, students can see their groups, send messages to each other, and interact with chat rooms and forums. -Instructors can track students' progress by examining the products (for example, homework and projects) created by the students during the semester and uploaded to the system. -With the wiki module, participants can create and edit a web page, and prepare a content individually or by working together with the whole class.	13.6%	18.4%	36.8%	31.2%

4	I have a positive opinion about the features of MANAGEMENT TOOLS of the LMS used in our university.	<p>The MANAGEMENT TOOLS of an LMS include these features:</p> <ul style="list-style-type: none"> -Authentication takes place after the user enters his/her username and password once, and then the user is not required to enter the username and password again to access different applications in the system. -The system makes it possible to define student, instructor, administrator and guest roles according to their authorisation levels, the administrator can specify an unlimited number of user types, and students and teachers can be assigned to different roles in different courses. -Instructors can allow students to enrol students in the course or they can enrol students themselves. The administrator can enrol students in a course en masse. -The current course can be archived or used to transfer the content of the same course to another course. 	7.2%	20 %	48 %	24.8%
5	I have a positive opinion about the features of COURSE DELIVERY TOOLS of the LMS used in our university.	<p>The COURSE DELIVERY TOOLS of an LMS include these features:</p> <ul style="list-style-type: none"> -Creating a question bank, creating various question types, preparing feedback for questions. -Homework and exam grades can be viewed, awarded grades can be added to the grade book automatically, and grading can be made optionally according to a bell curve, letter grade or passing grade. -During exams, questions and options for questions may appear randomly by themselves, time and repetition limitations may be imposed on exams, and instructors can decide whether or not to display results/or whether to display the result after each question or at the end of the exam. -The instructor can add and edit various activities for a course such as homework, online classes (Moodle, Google Meet, etc.), resources and exams. -The instructor's information and explanations related to the introduction to the course, the resources to be used in the course, etc., can be published on the page of the relevant course. -The instructor can add resources such as videos, animations, presentations and e-books related to the topics. 	7.2%	17.6%	45.6%	29.6%
6	I have a positive opinion about the features of CONTENT DEVELOPMENT TOOLS of the LMS used in our university.	<p>The CONTENT DEVELOPMENT TOOLS of an LMS include these features:</p> <ul style="list-style-type: none"> -The instructor can transfer course materials from one course to another, and share content with other instructors in the system. -A designed course can be used as a template for courses in subsequent academic periods. -The instructor can change the menu structure and the names of the menus in his/her own course, and the student can change the places of the objects and optimise the interface for him/herself. -The instructor can support the course content with texts, visuals, animation, sound and video. 	11.2%	20%	40%	28.8%

7	I have a positive opinion about the HARDWARE COMPATIBILITY features of the LMS used in our university.	The HARDWARE COMPATIBILITY of an LMS includes these features: -The LMS can be accessed from different browsers such as Google Chrome, Mozilla Firefox or Microsoft Edge, and the LMS can operate on many database platforms. -The LMS can always be accessed / can operate uninterruptedly.	8.8%	20.8%	38.4%	32%
8	I have a positive opinion about the REPORTING TOOLS feature of the LMS used in our university.	The REPORTING TOOLS feature of an LMS is as follows: the length of time in which the student and instructor remain in the course content and the frequency with which they visit it, and the frequency, dates and duration of users' access to course content, forums and assignments can be seen.	12 %	10.4%	52.8%	24.8%
9	I have a positive opinion about the LANGUAGE SUPPORT feature of the LMS used in our university.	The LMS can be used in multiple languages (there is a language selection option)	24%	12.8%	46.4%	16.8%

4. Discussion

4.1. LMS-related Training and Effective Use of LMS

A number of students stated that they did not know all the features of the LMS or that they could not use all the features of the LMS effectively. These two findings may be related to LMS training, because some students stated that they did not receive any LMS-related training, while almost a quarter of the students who had received training stated that this training was not adequate or effective. According to these results, the lack of knowledge about the features of the LMS among the students who had not received training may have impacted their effective use of the LMS. Similarly, in the study conducted by Kirazlı-Korkmaz (2022, p.92) with 383 tourism students, only 40% of the students reported that they received training on the use of the system at the beginning of the distance education process, while 34.8% expressed the opinion that adequate training about the use of the LMS was not given.

Although only a small number of students stated that the LMS-related training was adequate and effective, the students' positive statements about their knowledge of all the features of the LMS and their ability to use these features effectively appear to be contradictory findings. A similar contradiction was also reported in a study conducted by Serçemeli & Kurnaz (2020) on students who took accounting courses via the distance education method. The authors stated in their study that although students did not fully adopt the LMS system, they did not experience any problems in terms of self-efficacy for using the LMS. This self-efficacy may be related to the possibility that the LMS used by the university had a user-friendly and understandable interface compared to its counterparts, or to the fact that students had the opportunity to easily access the online educational resources related to LMS systems from outside the university.

4.2. Features of the LMS

The most important component in distance education is interaction (Anderson & Simpson, 2012). Moore (1993) defined three types of interaction in distance education. These are 1) student-student interaction, which is

characterised as the mutual exchange of ideas and sharing of information and dialogue among students, 2) teacher-student interaction, which is carried out for dialogue between the student and teacher (in this study, the lecturer) and for giving and receiving feedback, and 3) student-content interaction, which is the process by which students can utilise course materials related to the subject they are to learn. Along with the greater inclusion of computer and internet applications in distance education due to developing technology, the “student-interface interaction” dimension defined by Hillman, Willis and Gunawardena (2009) emerged as a fourth type of interaction.

In distance education, communication between the computer and the user is also a type of interaction. Regarding this dimension, Bouhnik and Morcus (2006) added the student-system-instructor dimension, which is communication with the software by the student and instructor, as the fourth type of interaction. Many studies in the literature have revealed the importance of communication and interaction in distance education, and have shown that a lack of interaction negatively affects student achievement and motivation (Çakın, 2021).

Although it is emphasised that interaction is very important in distance education, it is a very thought-provoking finding that only 40% of the students in this study had a positive opinion about the features of **communication and interaction tools** of the LMS they used. These features of an LMS include functions such as forum applications, synchronous and/or asynchronous in-site messaging, chats, making announcements, and video conferencing between users. The features of **collaboration tools** of an LMS also include functions such as enabling instructors to create as many groups of students as they wish during the course, and allowing student groups to send messages to each other and to the instructor. In order to increase the amount and quality of interaction in distance education, not only should an LMS have these features, but also, both students and instructors should know how to use these functions. Otherwise, limited communication and interaction will negatively affect individuals’ socialisation (Hawkey, L.C. & Cacioppo, 2010)

The low number of students who thought positively about the communication and interaction features of the LMS they used, and the considerable number of students (18.4%) expressing negative opinions about the features of collaboration tools of the LMS that they used may be related to the inability of the LMS to meet students’ needs due to its limited features for providing communication, interaction and collaboration. Another reason may be due to students’ negative perceptions towards distance education. In her study, Mercan (2018) revealed that students had strong beliefs in terms of not believing that they could learn better in distance education. In this study, too, even though the LMS used by students had effective communication and interaction features, they might not have wished to spend time and effort on learning the features enabling interaction of the LMS they used or on how to use them because they thought that distance education would not be effective for their learning.

The features of **management tools** of an LMS include functions such as login and authentication processes; procedures related to defining the student, instructor, administrator and guest roles according to their authorisation levels; the processes of identifying different user types and assigning these users to different roles in different courses; procedures for instructors aimed at enrolling students in the course; and archiving the current course. Although almost half of the students stated that they thought positively about this feature of the LMS, a similar percentage (44.8%) of students had a negative opinion of this feature of the LMS or were undecided about whether they thought positively about this feature, which suggests the possibility that they might have experienced some problems while registering in the system or that they might have thought that the authorisations defined for the student role were limited.

The features of **productivity tools** of an LMS include functions such as adding date and time limitations to assignments/activities, viewing upcoming activities, downloading course content to a PC for offline work, extra information on how to use the system, and accessing help resources and the help menu. The features of **course delivery tools** of an LMS include processes related to preparing feedback for questions, viewing homework and exam grades, automatically adding grades to the grade system, determining the method of grading, and enabling the instructor to add resources such as homework, exams, videos and presentations to the course, while the features of **content development tools** include the processes related to allowing the instructor to share course content with other instructors in the system, using a designed course as a template in the lessons of subsequent education periods, changing the menu structure and the names of the menus in his/her own course, enabling the student to optimise the interface by making certain changes, and supporting the course content with texts, visuals, animation,

sound and video. These two features of an LMS are also related to all of Moore's theory of interaction: in distance education, the student accesses the knowledge and skills that he/she wishes to acquire in asynchronous and/or synchronous environments by using all the functions of the LMS that he/she uses: he/she asynchronously and/or synchronously reads/watches the course materials prepared by the instructor, downloads them to his/her computer to study them when offline as well, takes the relevant tests and exams, obtains feedback, participates in group and class discussions with friends, sees the homework assigned by the trainer and the announcements, asks questions to the trainer and answers the questions asked by the trainer, participates in in-class or group discussions on the subject, prepares homework projects in groups or pairs, and obtains support from the help menu when he/she has a problem with the software. All of these require the student to interact synchronously and/or asynchronously with his/her classmates, the course instructor, and course materials at different times. The LMS used by the student also forms the main platform for this interaction. Therefore, another interesting finding is that 53.6% of the students had positive opinions about the features of productivity tools of the LMS they used, which has a very important function for effective and permanent learning in distance education, 45.6% of students thought positively about the features of course delivery tools, and similarly, only 40% of students had positive views about the features of content development tools. The reason for this may be related to instructors' low level of knowledge and skills for using information technologies and the LMS. In the study by Chen et al. (2020), university students stated that university lecturers' ability to use information technologies was not sufficient. Similarly, in their research, Nenko, Kybalna and Snisarenko (2020) also revealed that academicians who could not keep up with the speed of technology development and could not improve themselves in this regard were reluctant to use information technologies.

The **hardware compatibility** of an LMS includes features such as being accessible from different browsers such as Google Chrome and Mozilla Firefox, operating on many database platforms, being continuously accessible and operating uninterruptedly. It was determined that one fifth (20.8%) of the students did not have a positive opinion about this feature. These students with negative views are likely to have experienced technical problems during the distance education process. Numerous studies in the literature revealed that the most important problems encountered by students during distance education were technical and infrastructure problems. Technical problems were mostly experienced during synchronous exams. Kirazlı-Korkmaz (2022) and Taşkesenligil (2021) stated that domestic learning systems developed by universities did not have the infrastructure to support online exams.

The **reporting** feature of an LMS includes functions such as the possibility to see how long the student and instructor remain in the course content, how often they visit it, and the frequency, dates and duration of users' access to course content and assignments. Students who did not know about this feature of the LMS they used, had a negative opinion of it, or were indecisive comprised almost half of the total number of participants (46.8 %). By providing educators with data on whether students are following the tutorials and showing interest in educational activities, this feature helps them decide whether the lesson is progressing in line with the objectives and whether any adjustments are needed. The reason why a considerable (35.2%) number of students were undecided or had a negative opinion of the reporting feature of the LMS they used may be that in some LMSs, the reporting feature was available only to instructors or included limited functions for students. The reason why more than half of the students were satisfied with this feature may be that they did not think that this limitation affected students' education.

The **language support** feature of an LMS is concerned with whether the LMS is available in multiple languages and whether it has a language selection option. Almost half of the students (46.4%) stated that they thought positively about the language support feature of the LMS that they used. However, almost a quarter of the students stated that they did not know about this feature of the LMS. Among the nine LMS features, this was the feature that students reported having the least knowledge of. This may be due to the fact that the language of instruction in most universities attended by the students participating in the study is Turkish and the language of the LMSs used by the universities is also Turkish, and therefore, the students did not feel the need to use the LMS in another language. On the other hand, a few students declared that they had a negative opinion about the language support feature of the LMS that they used. Similarly, a few students in Aşıcı's (2018) study stated that the limited Turkish language support made the LMS difficult to use. It is not known whether foreign students studying at a university in Turkey participated in this study, as there was no question about student nationality in the questionnaire used to collect the data in the study. However, considering the possibility that foreign students did participate, even if

these students knew enough Turkish to use the LMS, it is possible that they needed to use the LMS by choosing their own mother tongue or a foreign language that they knew better than Turkish in order to be able to use the LMS more effectively, and that they had difficulties in use due to the lack of this feature.

5. Conclusion

The use of communication technologies in educational environments reduces communication-based problems and increases students' motivation in distance education (Harasim, Hiltz, Teles & Turoff, 1996; Sudiby, 2022). LMSs provide a platform for organising distance learning in a way that enables the highest level of interaction. However, in order for this platform to increase the quality of education, not only should it have functional features that can meet the goals of users, but also, stakeholders need to know the features of the LMS in question and use these features effectively. Before choosing any LMS, the training service that will be provided and what kind of training will be provided to students should be determined, and depending on the data obtained by conducting research on user efficiency and satisfaction after use, it should be decided to either improve the LMS currently in use or to switch to using another LMS that has the features to meet the identified needs.

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