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Sınıf Öğretmenlerinin Alternatif Ölçme Değerlendirme Araçlarını Kullanmalarına Yönelik Web Tabanlı Modül Tasarımı ve Değerlendirilmesi*

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ÖZET

Bu çalışmada sınıf öğretmenlerinin eğitim öğretim sürecinde alternatif ölçme ve değerlendirme araçlarını kullanabilmelerini sağlayacak web tabanlı bir ölçme değerlendirme sistemi tasarlayıp bu sistemin kullanılabilirliğini incelemek amaçlanmıştır. Araştırma tasarım tabanlı araştırma yaklaşımı ile şekillenmiştir. Araştırmada geliştirilen tasarımın ön uygulama ve ana uygulama süreci 6 gönüllü sınıf öğretmeni ile iki eğitim öğretim sürecinde gerçekleştirilmiştir. Araştırmada ilk olarak sistemin fizibilitesini belirlemek için yönetici modülünden tasarım süreci incelenmiştir. Ardından yarı yapılandırılmış görüşmeler ile sisteme yönelik öğretmen görüşleri alınmıştır. Elde edilen verileri betimsel analize tabi tutulmuştur. Araştırma sonucunda web tabanlı ölçme değerlendirme sisteminin öğretmenleri zamana ve mekâna olan bağlılıktan kurtardığı, öğretmenlere öğrenci dosyalarını çevrim içi ortamda saklama ve değerlendirme fırsatı verdiği görülmüştür. Ayrıca ölçme değerlendirme formlarının sınıfın gelişim ve başarı düzeyi dikkate alınarak öğretmen tarafından hazırlanabilmesine, kullanılmasına, paylaşılmasına, saklanmasına fırsat verdiği görülmüştür. Öte yandan öğrenciyi değerlendirme sürecine kattığı ve velilere geribildirim verdiği görülmüştür.

Anahtar Sözcükler: Alternatif ölçme değerlendirme, sınıf öğretmeni, web tabanlı ölçme değerlendirme sistemi, tasarım tabanlı araştırma

Web Based Module Design and Evaluation for the Classroom Teachers: Alternative Assessment and Evaluation Tools

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ABSTRACT

This study aims to determine the applicability of the web-based assessment and evaluation system which designed for classroom teachers to usability. This study employs a design-based research approach. The developed design was realized with 6 class teachers who were volunteers during the two educational period including pre-application and main application. First, the design process was examined to determine the feasibility of the system. Then the opinions of the teachers who used the tool were taken. Semi-structured interviews with teachers were conducted and the data obtained were subjected to descriptive analysis. In case the feasibility of the system was examined through manager module the results of the uncovered that web-based assessment and evaluation system helped classroom teachers become independent from time and space factors, and enable teachers to evaluate and save online records of students' files. Besides, it is seen that it supports teachers in preparing, sharing, and keeping assessment and evaluation forms through considering development and success levels of the students. It is also seen that it involved students into the evaluation process and provided feedback for parents. Finally, it is observed that the web-based assessment and evaluation system removed the problems faced during the use of alternative assessment and evaluation tools and provide for teachers during the application.

Keywords: Alternative assessment and evaluation, classroom teacher, web-based assessment and evaluation system, design-based research

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1. INTRODUCTION

In Turkey, a comprehensive educational reform was developed between 2004 and 2005 and amendments were introduced to educational programs in line with the theoretical and practical educational approaches around the world (Akınoğlu, 2005). During this process of change, MoNE (2006) adopted the constructivist approach. The essence of this approach is for the learning individual to process and construct knowledge by making use of his/her experiences and thoughts (Özenç & Doğan, 2007). The fact that each individual has different characteristics and experiences that leads to this knowledge construction process to differ. This differentiation also has an impact on the post-learning evaluation. Because the learning process that is based on individual construction requires different types of evaluation that take into account individual differences. Okur and Azar (2011) suggest that students' individual needs, interests, developmental characteristics, styles of learning, learning difficulties and even languages and cultures need to be taken into consideration in an assessment and evaluation activity. This makes it necessary to make use of alternative assessment and evaluation methods along with traditional ones. Because traditional assessment and evaluation methods allow us to identify student's acquirement level of a certain qualification while alternative ones allow us to see which stage in the learning process a student is in (Çoruhlu, Nas & Çepni, 2009).

The application and effectiveness of assessment and evaluation approaches available in curricula depend on the teacher. Because it is the teacher's responsibility to plan the assessment and evaluation process, to make use of the data acquired throughout this process, and to ensure student participation (Özenç, 2013, p.4). Studies on new curricula show that teachers are most anxious about assessment and evaluation (Bal, 2013; Bayrakdar Çiftçi, Akgün & Deniz, 2013; Benzer & Eldem, 2013; Çiftçi, Sünbül & Köksal, 2013). This may be associated with the teacher's ability to use alternative assessment and evaluation tools with the introduction of a new approach. The reason for this could be the fact that teachers are still under the influence of traditional assessment and evaluation approaches (Çakır & Çimer, 2007; Çalık, 2007; Erdal, 2007) or that they lack information on alternative assessment and evaluation approaches (Adanalı, 2008; Çoruhlu, Nas & Çepni, 2009; Okur & Azar, 2011; Sağlam-Arslan, Kaymakçı-Devecioğlu & Arslan, 2009; Yayla, 2011). Another reason is the fact that teachers find it time-consuming (Okur, 2008; Sağlam, 2013; Bayram, 2012; Özeren, 2013).

There are some efforts to encourage the use of alternative assessment and evaluation tools by teachers. For example, an in-service training was delivered to science teachers within the framework of a study conducted by Şenel (2008). Although there was an improvement in the knowledge and skills of teachers, as a result of this training, no significant difference was observed. It is safe to say that in-service training delivered by MoNE have similar results. Teachers attribute this to the inadequacy of in-service training (Anıl & Acar, 2008; Acar & Anıl, 2009; Bal, 2009; Güneş et al. , 2010) Another effort on encouraging the use of alternative assessment and evaluation tools is the development of web-based assessment and evaluation programs. International literature demonstrates that web-based programs for alternative assessment and evaluation tools such as e-portfolio, peer review, rubric development, etc. are being developed (Bartlett, 2002; Dornisch & McLoughlin, 2006; Lin, Liu & Yuan, 2001). There are similar studies (Bacanak, 2008; Çelik, 2006; Çepni et al. , 2012; Çırak, 2015; Şimşek, 2013) in Turkish literature. For instance, the study conducted by Bacanak (2008) showed that a web-based performance evaluation program was designed to help science teachers to prepare performance evaluation forms and this program was able to overcome problems experienced during the use of alternative assessment and evaluation process. However, web-based programs that are designed as a part of studies are limited to certain assessment tools such as rating scale, checklist, rubric and observation form. On the other hand, there is no web-based assessment system designed specifically for classroom teachers. It is required to make use of a web-based assessment and evaluation system starting from primary school, which is the first stage into compulsory education in Turkey. Making use of the web-based assessment and evaluation system starting from the first stage of formal education could help teachers physically collect cognitive, affective, socio-emotional and academic data about students, and take more objective decisions on students and make assessments. Teachers can also design the learning process taking into consideration information on students and individual differences based on this information. Having information on children throughout the learning process in a single platform can enable guiding services for children to be designed in a much healthier way by form teachers, branch teachers and guiding counselors. Therefore, in order to effectively measure and evaluate the achievements of the new program, it is necessary to use more and more process-based, different types of measurement tools and methods instead of traditional measurement and evaluation methods (Duban & Küçükyılmaz, 2008; Gömleksiz & Kan, 2010; Nazlıçiçek & Akarsu, 2008; Sağlam-Arslan, Devecioğlu-Kaymakçı & Arslan, 2008; Tay, Tokcan & Oruç, 2009). All these developments can only be possible by introducing a web-based assessment and evaluation system for the use of form teachers. It is of vital importance to make a web-based assessment and evaluation system operational in primary schools for students to experience a healthier and more effective learning process and for teachers to make the learning process more effective.

2. METHODOLOGY

2.1. The Research Model

The study employed the design-based research (DBR) method. The DBR is a flexible research method that helps to take the interaction between theory and application to a higher level (Kuzu, Çankaya & Mısırlı,2011). In addition, this method aims to improve educational practices and where analysis, design, development and implementation are conducted in a cycle in a real application environment by means of the cooperation between the implementer and researcher (Wang & Hannafin, 2005).

2.2. The Study Group

In order to determine the applicability of the web-based assessment and evaluation system designed during the research process, the application was conducted for two semesters during the academic year of 2017-2018. The implementation could be carried out by 6 form teachers, who volunteered to implement the web-based assessment and evaluation system. Implementing teachers were particularly selected from classes of different characteristics among the sample, which was identified during the situational analysis. The table below demonstrates details on implementing teachers and classes in which the implementation took place.

Table 1.
Participants' Demographic Information

acTeher Details				Class Details		
Code	**Gender**	**Experience**	**Classroom size**	**Type of Learning**	**Class**	**School Region**
M	Female	9 years	22	Normal	First Grade	Village
D	Female	3 years	30	Normal	Second Grade	Town
Ö	Male	11 years	27	Normal	Third Grade	District Center
R	Male	10 years	47	Normal	First Grade	Provincial Center
E	Male	14 years	12	Normal	Fourth Grade	Village
Y	Female	9 years	15	Multigrade Class	First and Second Grade	Hamlet

Table 1 shows that the implementation was carried out by 6 form teachers, 3 females and 3 males. Participant teachers have an experience of 3 to 14 years. There were 5 regular classrooms and 1 multigrade class which is defined as students of different ages, classes and abilities receiving education in the same group (Little, 1995; UNESCO, 1989) in which were at least 12 and at most 47 regularly-attending students. There were 2 classes in first grade, 1 class each for second, third and fourth grades, and 1 multigrade class for first and second grades. In terms of regions of schools where these classes are located, there were city centers (1), district centers (1), towns (1), villages (2) and hamlets (1). In addition, during the interviews conducted with implementing teachers, each teacher was given a letter code to prevent any confusion and to protect their personal information. One important thing was to make sure that all teachers had personal computers and smartphones. This way, it was assured that the teachers did not have any material-related problems when dealing with the web-based evaluation and assessment system.

2.3. Data collection tool

In this research, semi-structured face-to-face interviews were held with form teachers who implemented the design for two semesters to explore the applicability of the web-based assessment and evaluation system. Interviews are a data collection method involving questions and answers for a predefined purpose (McMillan & Schumacher, 2010). The researcher has the opportunity to get in-depth information on the topic by taking the opinions of teachers after implementation through interviews (McMillan & Schumacher, 2010). The interview questions were drawn up by taking into consideration the purpose of the study and based on a literature review and views of two field experts and one linguist. Through interview questions, teachers were asked their opinions on the structure, applicability, contribution to the learning process, advantages and disadvantages of the web-based assessment and evaluation system and to compare this system to the e-school system which is expressed in the form of a system in which business and transactions related to education, education and management are conducted electronically and information is maintained (MEB, 2017).

2.4. Data analysis

Semi-structured interviews were conducted with teachers to identify the applicability of the assessment and evaluation system. The descriptive analysis method was adopted to analyze the data obtained from interviews. Descriptive analysis is a method often used to obtain summary information about desired events and cases (Büyüköztürk, Çakmak, Akgün, Karadeniz and Demirel, 2026). In the descriptive analysis process, the data is first described in detail, and then the interview is explained using direct excerpts from the data (Aktaş, 2014). After the explanation, all cases related to cause and effect relations are examined individually and conclusions are formed.

2.5. The design process of the research

First, a literature review was performed to ensure the effective use of alternative assessment and evaluation tools by form teachers. Then, 1158 form teachers were consulted to identify the existing situation on the use of alternative assessment and evaluation tools (Demirkol & Kılıç, 2020). The web-based assessment and evaluation system was developed in line with the data collected through the situational analysis, views of faculty members at the department of computer and instructional technologies and literature reviews (Bacanak, 2008; Çepni et al., 2012; Çırak, 2015; Şimşek, 2013).

It was decided to test the applicability of the designed system with 6 volunteer form teachers. Before the application, form teachers received seminars on how to use the web-based assessment and evaluation system. These seminars lasted 8 hours, 2 hours per day for 4 days (2 weekends). In addition, a user's manual for the web-based assessment and evaluation system was developed and handed out to teachers to support them during the implementation process. After briefing the teachers, they were asked to provide information to parents and students. After briefing, participating teachers, parents and students created accounts in the system. This way, the active involvement of parents and students was ensured.

After creating accounts for active users and delivering the necessary information with regards to the system, the system was made operational for the first time. The first application lasted through the fall semester of the school year of 2017-2018. During the application, constant feedback was received from participating teachers about the web-based assessment and evaluation system and necessary improvements were made accordingly. A second application took place during the spring semester of the school year of 2017-2018 after the improvements. After the application, participating teachers were interviewed about the applicability of the system. Data collection tools and product files, which were used by teachers and students, were analyzed by the researcher through the administrator module. Afterwards, a report was drawn up reflecting the collected data.

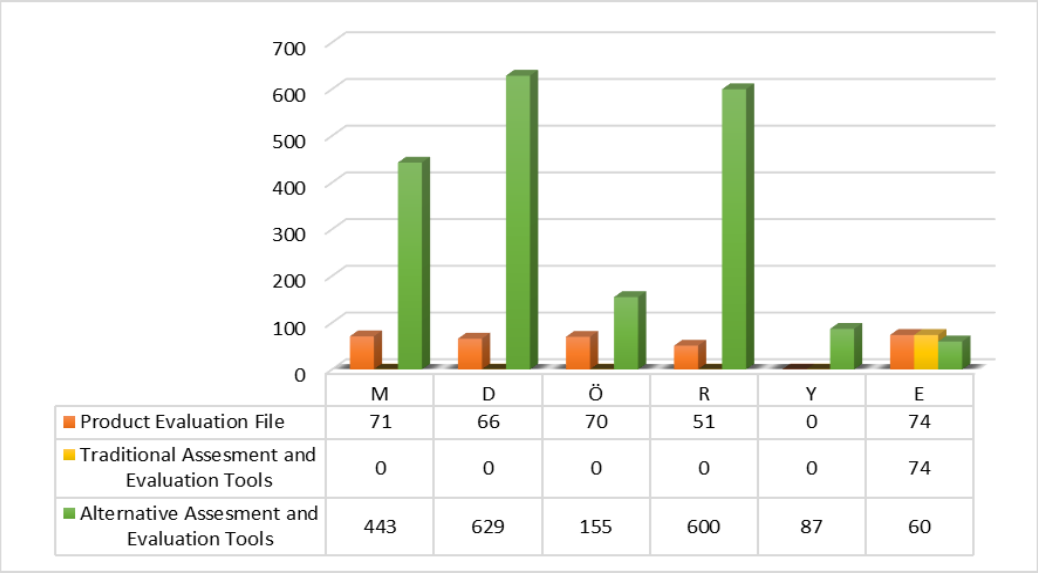
Following the review of the literature and situational analysis, a web-based assessment and evaluation system to enable teachers and students to actively participate in the assessment process and to inform parents about students. An application effort took place to identify the applicability of the design. The implementation was conducted during the fall and spring semesters of the school year of 2017 and 2018.

At the end of the first semester of implementation, teachers were interviewed to identify the problems with regards to the system and these problems (Likert scale type added by teachers, coloring student grades according to grades, archiving portfolios) were resolved. In addition, the features requested by teachers to be included in the system were taken into consideration and these features were either added onto the system or some changes were made in accordance with the research budget. At the end of the second semester, during which the research was conducted, forms in the web-based evaluation and assessment system and their levels of usage were analyzed. In addition, interviews were conducted with teachers, who were involved in the application, to identify the applicability of the system. First, a seminar was delivered to teachers, who would do the implementation, to inform them about the web-based evaluation and assessment system. Then, each teacher was assigned a username and password for logging in. In addition, each teacher was handed a user's manual on the web-based evaluation and assessment system to avoid any problems during implementation. Teachers were left to decide whether parents and students should be a part of the implementation process and to do registration.

3. FINDINGS

3.1. Findings on the application of the design

The application showed that teachers made use of the web-based assessment and evaluation system. The graph below demonstrates the level of use of alternative and traditional assessment and evaluation tools by teachers and the number of files they uploaded to the system.



	M	D	Ö	R	Y	E
Product Evaluation File	71	66	70	51	0	74
Traditional Assesment and Evaluation Tools	0	0	0	0	0	74
Alternative Assesment and Evaluation Tools	443	629	155	600	87	60

Figure 1: Graph demonstrating the amount of assessment and evaluation tools used in the system.

According to Figure 1, a second-grade teacher, teacher D, made the most use out of alternative evaluation and assessment tools, which were either already available in the system or were uploaded by teachers. The teacher D uploaded 66 product files onto the system along with explanations and remarks.

For first-grade teachers M and R, M actively used 443 alternative assessment and evaluation tools in the system and R used 600. In terms of the number of product files uploaded onto the system, the teacher M uploaded 71 and the teacher R uploaded 51 product files onto the system. Teachers M and R uploaded onto the system files of products online activities, text reading, free activity, etc. and made use of similar assessment and evaluation tools. Teachers M and R rarely made evaluations or added remarks on product files they upload onto the system.

As seen from the table above, the teacher Y, who is teaching a multigrade class of first and second graders, used 87 alternative assessment and evaluation tools and did not upload any product file onto the system. Based on the findings of the evaluation and assessment system, the teacher Y only made use of evaluation and assessment forms that were already available on the system or were uploaded by other teachers and did not develop any new evaluation and assessment tool.

A third-grade teacher, teacher Ö, used 155 alternative assessment and evaluation tools in the system and uploaded 70 product files. The teacher Ö added two joint project products onto each student's page in the system and also made use of the project evaluation form and research evaluation scale for this project.

A fourth-grade teacher, teacher E, uploaded onto the system results collected from both alternative assessment and evaluation tools (60) and traditional assessment and evaluation tools (74). This teacher also uploaded traditional assessment and evaluation tools (74) such as multiple-choice tests, gap-fill exercises, etc. as product files. The findings collected from the system show that teacher E does not make use of alternative assessment and evaluation tools in each class.

Table 2.
The List of Assessment and Evaluation Tools Used by Participants during Implementation

Course	Class	Data Collection Tool Used	Added By	Number of Use
Math	First Grade	General Student Monitoring Form (Psychological Characteristics)	Administrator	2
		General Student Monitoring Form (Social Skills)	Administrator	2
		General Student Monitoring Form (Social Skills)	Administrator	1
		Math Evaluation Form	Teacher R	2
		Number Evaluation Form	Teacher R	2
		Evaluation Form for Addition	Teacher M	2
		Evaluation Form for Subtraction	Teacher M	2
	Second Grade	Evaluation Form for Problem Solving Skills	Teacher D	2
		General Student Monitoring Form (Psychological Characteristics)	Administrator	1
		Evaluation Form for the Concept of Time	Teacher D	1
		General Student Monitoring Form (Cognitive)	Administrator	1
		Evaluation Form for Geometric Shapes	Teacher D	1
		Evaluation Form for Multiplication and Division	Teacher D	1
	Third Grade	Research Evaluation Scale	Administrator	1
	Fourth Grade	-		
Turkish	First Grade	Exhibition Evaluation Scale	Administrator	2
		Evaluation Form for the First Teaching Process for Reading and Writing	Teacher R	2
		Evaluation Form for Writing	Teacher M	2
		Evaluation Form for Reading	Teacher M	2
		Evaluation Form for Comprehension	Teacher M	2
	Second Grade	Evaluation Form for Individual and Social Contact	Teacher D	1
		Oral Presentation Evaluation Scale	Administrator	1
		Written Presentation Evaluation Scale	Administrator	1
		Discussion Evaluation Scale	Administrator	1
		Listening Skills	Teacher D	1
		Speed Reading Evaluation Form	Teacher D	1
		Acquisition Evaluation Form	Teacher D	1
	Third Grade	Checklist for Reading and Writing		1
	Fourth Grade	Student Observation Form	Administrator	1

Life Sciences	First Grade	Evaluation Form on Life in Turkey	Teacher R	2
		Evaluation Form on Safe Life	Teacher R	2
		Evaluation Form on Healthy Life	Teacher R	2
		Exhibition Evaluation Scale	Administrator	2
	Second Grade	Evaluation Form for Individual and Social Contact	Teacher D	1
		General Student Monitoring Form (Psychomotor Skills)	Administrator	1
		Exhibition Evaluation Scale	Administrator	1
		Acquisition Evaluation Form - 2	Teacher D	1
		Acquisition Evaluation Form on Health	Teacher D	1
		Peer Evaluation Scale	Teacher D	1
		Research Evaluation Scale	Teacher D	1
	Third Grade	Evaluation Form on Life in Turkey		1
Music	First Grade	Musical Evaluation Form -1	Teacher R	2
	Second Grade	Musical Evaluation Form -1	Teacher R	1
		General Student Monitoring Form (Social Skills)	Administrator	1
	Third Grade	Evaluation Form (Creativity) Third Grade	Teacher Ö	1
	Fourth Grade	Musical Evaluation Form – 4	Teacher E	1
Games and Physical Activities	First Grade	Game Evaluation Form	Teacher R	2
		Game and Physical Activity Evaluation Form	Teacher M	2
		Observation Form	Administrator	2
	Second Grade	General Student Monitoring Form (Social Skills)	Administrator	1
		General Student Monitoring Form (Psychological Characteristics)	Administrator	1
	Third Grade	Application Test Evaluation Scale	Teacher Ö	1
	Fourth Grade	Application Test Evaluation Scale	Teacher Ö	1
Visual Arts	First Grade	Visual Arts Evaluation Form	Teacher R	2
		Visual Arts Evaluation Form – 2	Teacher M	2
	Second Grade	-		-
	Third Grade	Visual Arts Product Evaluation Form	Teacher Ö	1
	Fourth Grade	Visual Arts Product Evaluation Form	Teacher E	1
Science	Third Grade	Project evaluation form	Administrator	1

The list of assessment and evaluation tools developed and added to the web-based assessment and evaluation system by the administrator or a teacher and used for student evaluation is shown in the table above. 18 of the actively used assessment and evaluation tools were uploaded onto the system by the administrator and 36 by teachers: 13 by the teacher D, 10 by the teacher R, 4 by the teacher M, 4 by the teacher Ö and 2 by the teacher E. Assessment and evaluation tools developed onto the system by one teacher is also used by other teachers in the system. For example, teachers M and R, who are first grade teachers, use the assessment and evaluation tools they developed and used onto the system jointly. It is noteworthy that the multigrade class teacher Y did not develop any assessment and evaluation tool onto the system but made use of assessment and evaluation tools uploaded by the administrator or other teachers. In addition, teachers mostly made use of the gains related to learning areas in courses as criteria in the assessment and evaluation tools they designed.

In terms of the use of evaluation and assessment tools by course: 14 types of evaluation and assessment tools were used for math and Turkish courses, 12 for life sciences courses, 7 for game and physical exercises courses, 4 for visual arts courses and 1 for science. The fourth-grade teacher made use of traditional evaluation and assessment tools for Human Rights, Civics and Democracy, Science, Religious Culture and Ethics, Social Sciences, Math, Foreign Language, and Road Safety courses as product files and uploaded onto the system student grades, which were collected as a result of the evaluation, as written exam scores. Interviews were held with teachers after the implementation using semi-structured forms to identify the convenience of the design. Through these interviews held with teachers, the applicability of the web-based assessment and evaluation system within the teaching process was explored.

3.2. Views of teachers in the applicability of the design

This section involves views of form teachers who implemented the web-based assessment and evaluation system. The views of teachers on the applicability of the design of the web-based assessment and evaluation system revolve around six main topics. These topics are listed under titles and interpreted directly by teachers' views.

- The structure of the web-based assessment and evaluation system

The aim was to identify the design of the web-based evaluation and assessment system in terms of accessing and navigating the system and its ease of use, etc. by the implementing teachers. To this end, teachers were asked "Can you evaluate the design of the web-based assessment and evaluation system?" Based on the answers, it is safe to say that teachers share a similar view in terms of the structure of the system. Teachers found the web-based assessment and evaluation system simple, user-friendly and easy-to-understand and mentioned that it was easy to access data since there were not many tabs. In addition, teachers welcomed the fact that the system was accessible from anywhere with an Internet connection, it was compatible with computers, phones and tablets, and operated with username and password to offer privacy. The facts that averages collected from evaluation and assessment forms are added automatically under course average and that the score of the student is shown in a different color in a way that it is not tiring for the eyes were also welcomed by teachers. Here are views of some of the teachers on this topic:

> Teacher R: *It has an easy-to-use design. With the ID number and a password, you can easily access the program. It is particularly great that the program is accessible through mobile phone. Markers on the left and right of the program window enable users to reach data easily. The fact that assessment results are presented in an easy-to-understand way at once made my job easier for the application and evaluation process.*

> Teacher E: *You can access the program wherever you have an Internet connection. We can also login to the system using our mobile phones. This is very convenient and easy.*

> Teacher D: *It has an easy-to-use design. Finding the data you are looking for is very easy. Functionality and limited number of signs in the upper right panel enable that. Having form, teacher and student sections separately indicated in the upper left panel makes it easier for me to access data. It was not challenging to login to the system since we used our ID numbers and passwords but seeing the not secure writing in red from time to time in the address bar was a bit disturbing. Colors of the design were matching. The colors that are used are not tiring for the eyes and not complex. In addition, not having any unnecessary titles or information on the system makes it easier to use.*

It can be concluded that teachers found the design convenient and easy-to-use. In addition to the positive feedback on the design of the system received from teachers, some teachers mentioned seeing the *not secure* indication on the address bar while logging in. This situation is related to the web browser that is used by the teacher. Because a web browser tries to identify the privacy of the website and the adequacy of encryption when connecting to a website. If the encryption of a website is not strong enough, the browser will disconnect from the website or display an error page.

- Applicability of the web-based evaluation and assessment system in teaching

To analyze the applicability of the web-based evaluation and assessment system during the teaching process teachers were asked "Do you think the web-based assessment and evaluation system is applicable to the teaching process?" The common view of the teachers suggest that the web-based assessment and evaluation system is applicable to the teaching process. The facts that the evaluation and assessment system can be put to use at any time, a scale can be developed and put to use on any topic, it can evaluate a student in all aspects, students can do self, peer and group evaluations, and parents can login and monitor each and every stage of learning were welcomed and found to be applicable by teachers. In addition, the fact that student product files can be stored and evaluated, and remarks and anecdotes can be stored was considered an added value of the system by teachers. Here are the views of teachers on the applicability of the web-based evaluation and assessment system to the teaching process.

> Teacher Ö: *I can do evaluation whenever I want and store products. We can also evaluate the self-evaluation system as a criterion. This is particularly beneficial for project evaluations. It is a great advantage to also have parents and students in the system. However, it makes me nervous that student pages with self-evaluation could be viewed by parents.*

> Teacher Y: *It is a very easy-to-use system. It allows me to engage in any kind of evaluation any time. However, the fact that it is a web-based system and I am working in a village school prevents me from benefiting from it fully. Because in the village I am working in, the reception is not good and satellite Internet is extremely limited. That is why I can only use the system in Diyarbakır, at home. Nevertheless, thanks to the system I do not have to be buried in paperwork and that is great.*

Teacher R: *Yes, I think it is useful. It is especially great that we have concrete data on students, we can store product files and access these data with only using a password. However, it was troublesome to enter the data of all 56 students in my class. In classes with low population, this would be a proper and easy-to-use design.*

Teacher D: *I think the applicability of the web-based evaluation and assessment system to the teaching process comes from the fact that you can reflect the teaching process onto the system as much as you like. Especially, the fact that you can develop a scale in any topic you want and store it to use any time is of vital importance to evaluate the child in every aspect. For example, if you want to find out the cause of an emerging problem in the classroom, you will be able to easily find it out by making use of a simple Likert scale. To this end, we have recently developed and carried out a survey to explore how children reflect their family relationships and domestic life onto school. The thing that I like about the system the most is the opportunity to carry out multiple assessments. It is motivating to be able to present these as alternative evaluation and assessment tools. I also got motivated when I realized that I was far away from traditionalism when entering data. I think the most functional module in the system was the product evaluation module. Thanks to this module, I was able to evaluate the products of my students, get to know them much better and store my products for life. Aside from being able to evaluate students in all aspects using the Likert scale, color coding (good, mediocre, poor) the grades of students after entering the grades enabled teachers to evaluate students from various aspects. The fact that the system displays not only failed but also successful courses or scales and fields showed that each child may succeed in different fields and courses.*

It can be concluded that after the application, teachers found the web-based evaluation and assessment system applicable to the teaching process. Even so, Internet connection failures in some regions where teachers work during the implementation and high classroom populations caused some troubles for teachers. The possibility of parents filling out the student module concerns teachers.

- The benefits of using the web-based evaluation and assessment system for teachers

To identify the benefits of using the web-based evaluation and assessment system for teachers, teachers were asked "What kind of benefits the web-based evaluation and assessment system offered for you during the application?" Based on the teachers' views, they are able conduct evaluations of multiple students at the same time by using the web-based assessment and evaluation system and as a result of this, students can see more clearly what they can and cannot achieve. In addition, the fact that the system enables teachers to store student products, evaluation forms and results on these forms saved teachers to deal with paperwork. Teachers also adapt the program based on the learning speed of children in line with the results of the overall evaluation. Based on the views of teachers, parents can log into the system and view evaluation results of students and teachers received positive feedback from parents. Here are the views of some of the teachers on the benefits of the web-based evaluation and assessment system for teachers:

Teacher D: *The most important contribution of the design was the fact that it proved my observations in class right. After filling out the scales I realized that the student in class was completely the same with the student I evaluated in the design. In short, the course was the child's body while the design was his inner world. As I said before, thanks to multiple evaluation criteria, I was able to get to know a student in every aspect and to focus on his/her areas of success (green-colored grades) rather than failures. For example, I was able to identify some students' language problems since they were able to speed read but unable to solve or understand Turkish questions or understand mathematical expressions but unable to understand or solve mathematical problems. In summary, I've had the opportunity to get to know students closely because this system allows you to analyze. Especially while developing the products, even a single line of drawing made by the child reflects his/her inner world and enables me to determine what kind of approach to adopt.*

Teacher R: *As a teacher, I was able to see each and every student's learning level. I was able to see what they are and not able to do and adapted my curriculum accordingly. I have also received positive feedback from parents. They were also able to easily see the educational development of their children by means of the system. I did not make my students do the self or peer assessment because I thought they would not be able to deal with data entry since they are first graders. The fact that the classroom population was high also created a challenge. I may be able to do that next year.*

Teacher E: *The biggest contribution the system offered me was the ability for me to evaluate students during class using observation forms and application scales. By making use of these forms in addition to written exams, I was able to gather information about students even though students did not offer such information in exams. This enabled me to have a more positive approach towards students.*

- Comparison of the web-based evaluation and assessment system with the e-school system

To compare the web-based evaluation and assessment system with the e-school system of the Ministry of National Education, teachers were asked "Can you compare the web-based evaluation and assessment system with the e-school system in terms of evaluation?" Here are views of some of the teachers on this topic:

Teacher Y: *There is no opportunity to evaluate in the e-school system. E-school only allows teachers to enter student grades. This evaluation and assessment system allows us to evaluate, identify criteria and store and interpret files. You can even inform parents and students in detail.*

Teacher M: *The web-based evaluation and assessment system is more comprehensive than the e-school system and allows you to evaluate on a wider scale. Frankly, while entering the grades of students to e-school, we don't have to explain how we did the evaluation, we only enter the grade based on what we think about students.*

Teacher D: *What I realized when comparing this system with the e-school was that this system does not allow fast grade entry. Even though I used this function, I sometimes think that it is unfair to successful students to give the same grade for every student. In addition, the sharing module allows you to actively use and enrich the content just like in the EBA.*

It can be concluded that teachers compared the web-based evaluation and assessment system with the e-school and that they consider e-school's grade module to be a system that records only a student's achievement in a specific course rather than an evaluation. Teachers consider the web-based evaluation and assessment system to be a more comprehensive tool that is able to reflect the evaluation process onto the system as it is. Based on the interviews, it is safe to say that teachers liked the product storing function, which is not supported in the e-school system, of the web-based evaluation and assessment system.

- The advantages and disadvantages of the web-based evaluation and assessment system

To identify the advantages and disadvantages of the web-based assessment and evaluation system that is used by teachers for two semesters, teachers were asked "What are the advantages and disadvantages of the web-based assessment and evaluation system?" Here are views of some of the teachers on this topic:

Teacher Ö: *Let me tell you about the advantages of the system first. First of all, it enables you to evaluate. Through self-assessment, it allows students to evaluate themselves. It allows parents to be informed in detail. Teachers can share information and application if they wish to do so. For example, you can make use of the evaluation forms drawn up by other teachers. It also allows you to design your own evaluation form. In terms of disadvantages, it does not allow fast grade entry. And entering the information of students and parents took a lot of time.*

Teacher R: *We are able to evaluate each and every student individually using concrete data. Thanks to this system, we do not only learn about children's details but also their interests. Parents can get information on every stage of the learning process. I can file and store student products. We can also include students in the evaluation process. I can develop my own evaluation tool. All of these were the advantages of the system, which I have used and liked. My classroom has a lot of students, so I had a hard time uploading the data onto the system. Having more ready-to-use evaluation forms in the system would have made my work easier.*

Teacher E: *The system is great to use. For example, while the students were playing games or doing activities, I was able to do the evaluation on my phone. I was able to upload all tests and exams for math, science, etc. onto the system. Which allows me to access exam papers whenever I need to. There is one thing that I think is a disadvantage, which is having to evaluate students individually. I wish the system had a function where I could see and evaluate students collectively.*

Based on the views, it can be concluded that all the teachers think the web-based evaluation and assessment system offers advantages. The fact that the system offers concrete data on students, is available on smartphones and allows teachers to develop evaluation forms were listed as advantages by teachers. Some other advantages are the abilities to evaluate students, inform parents and exchange information among teachers. Nevertheless, teachers found it disadvantageous to upload student and parent data onto the system and to enter the information for each student separately for evaluation. As a result of the interviews conducted to identify the advantages and disadvantages of the system, it is striking that some teachers considered the system not having a fast grade entry function a disadvantage while others considered the lack of this function an advantage. Teachers, who argue that the system should have a fast grade entry function, pointed out that it was time consuming to evaluate each student individually. Teachers, who think that it is better not to have a fast grade entry function, argue that evaluating students individually would improve objectivity and help teachers to adopt a fairer approach towards evaluation.

- Recommendations for the web-based evaluation and assessment system

After hearing their views, teachers were also asked about their recommendations for the web-based evaluation and assessment system Here are some of the recommendations of teachers with regards to the system:

Teacher Ö: *Having a fast grade entry function in the system would be better. Being able to automatically upload student and parent data as in the e-school system may be more efficient.*

Teacher R: *The system is quite good but having a fast grade entry function would save a lot of time. Highlighting the sharing page can improve cooperation among teachers.*

Teacher M: *Having to enter all data for each student evaluation is limiting in terms of effective use of time. It would also be better to have a collective evaluation function.*

It is safe to say that recommendations of teachers with regards to the web-based evaluation and assessment system mostly focus on functions that are considered a waste of time. Teachers recommend student and parent data to be able to automatically upload onto the system and to have a fast grade entry function.

4. DISCUSSION AND CONCLUSION

4.1. Results collected during the application process and discussion

During the one-year application process of the research, six teachers actively made use of the web-based evaluation and assessment system. It is safe to say that the classroom size, the region in which the school is located and the grade has an impact on how teachers use the web-based evaluation and assessment process and lead them to direct the evaluation and assessment process differently. Another reason for this difference is the fact that participating teachers implement the evaluation and assessment process based on their annual curricula. For example, the teachers R and M, who teach first-graders, mostly upload reading and writing related product files onto the evaluation and assessment system while the fourth-grade teacher uploads product files on multiple choice and gap-filling tests. However, the teacher Y of the multigrade class did not upload any product file onto the system.

Based on the results of the application, it is concluded that teachers use the evaluation and assessment forms developed by themselves more than the ones already available in the system which is added by administrators. This supports the results of the research carried out by Bacanak (2008). In addition, evaluation and assessment forms that are designed and uploaded onto the system by teachers are used by implementing teachers unbeknownst to others. This result is in line with the results of the research by Çepni et al. (2012) and Eyal (2012). For example, first-grade teachers made use of evaluation forms designed by one another. This may be due to teachers living in the same province and teaching students with similar cultural and social backgrounds.

During the implementation process, only one teacher (teacher D) involved students in the evaluation and assessment system. Based on the observations by the researcher, other teachers made students carry out self-evaluations. Nevertheless, it is safe to say that teachers have trust issues in involving students to the web-based evaluation and assessment system. The reason why teachers do not let students use self-evaluation forms in the student module is because they believe that students would not be able to use the web-based evaluation and assessment system due to their age and readiness level. Another obstacle before this application is the concern of teachers about the possibility of self-evaluation and peer evaluation forms to be filled out by parents instead of students. In Bacanak's (2008) research conducted in secondary schools' children were included in the evaluation process by means of the developed programs and the application led to positive outcomes. This difference between the results of this research and studies in the literature can be associated with demographic differences of sample groups of these studies.

4.2. Results of teachers' views and discussion

As a result of the application, teachers generally found the web-based evaluation and assessment system to be user-friendly, easy-to-understand and simple. The fact that the system is accessible from not only computers but also smart phones, iPads, etc. was received positively by teachers. Teachers also found it useful that each user can log into the system with their own ID number and password and that all evaluation and assessment forms can be shared, except for confidential information. The fact that average scores obtained from an evaluation and assessment form used in the web-based evaluation and assessment system is automatically included in the general average of the related course and that student evaluation results can be viewed in different colors that are not tiring to the eye were received positively by teachers.

It was found that teachers have a tendency to make use of alternative evaluation and assessment tools in conjunction with the web-based evaluation and assessment system. In particular, it was useful for teachers to be able to conduct evaluation during a school year at any time without any need for documentation. The evaluation and assessment tool, which was used during the evaluation process, was found to be developable and applicable by teachers. In addition to that, the ability to store student product files and evaluations, remarks, and anecdotal records with regards to these product files in the system was another feature of the system found useful by teachers. The use of student product files allows teachers to reduce their burden of scoring exam papers on a daily basis and improves their collective understanding, perceptive and thinking skills through multidimensional scoring (Kan, 2007, p. 32). For the process of evaluating student product files, teachers' inability to access products at a desired time and place and collecting and archiving products are considered as problems (Erdemci, 2015). The fact that student product files are accessible through the web-based evaluation and assessment system anytime anywhere makes up for the disadvantages of student product files. The fact that 362 product files were uploaded to the system by teachers

during the process of application of the web-based measurement and evaluation system can be considered as proof for this situation.

Parent information system is included both in the web-based evaluation and assessment system and the e-school system. The literature suggests that the purpose of the parent information system in the e-school system is in parallel with the way parents make use of it (Demirli, Demirkol & Varol, 2011) and that it helps parents to get information about their children without having to go to their schools (Gültekin, 2010). Another feature that teachers find useful is the fact that the parent module in the web-based evaluation and assessment system serves a similar purpose. Thanks to this feature of the system, results that are collected in every step of the evaluation process are included in the teacher and parent modules, which serve as feedback for students and inform parents. The student module enables students to take active part in the evaluation process by allowing them to evaluate themselves with self-evaluation, their friends with peer evaluation and their group with group evaluation. A study conducted by Çırak (2015) suggests that web-based peer and self-evaluation are an effective method of improving students' communication skills and interpersonal relationships. During the implementation process, only teacher D performed peer evaluation. As concluded from the interviews, teachers think that students do not make use of self, peer and group evaluation forms because they are not ready to deal with a web-based system just yet. Another reason why teachers did not make the student module available was the possibility of the self-evaluation to be filled out not by students but by their parents since students may be under pressure by their parents to score higher. Despite this view, the majority of the teachers think that this feature is applicable.

Teachers pointed out that by making use of the web-based evaluation and assessment system they were able to collect concrete data on students by conducting multiple evaluations and thanks to this data they were able to get clearer information about students' learning levels. For example, by making use of the system during the evaluation process, teacher D discovered that a student of his was unable to comprehend Turkish questions due to language problems even though this student was able to speed read and was successful in class. Teachers consider such situations as added value. Thanks to these data, teachers were able to get more concrete information on the learning level of the class and adapt their teaching process based on the learning speed of students. It is safe to say that teachers had the opportunity to get to know and understand students in more detail thanks to the ability of storing product files and conducting multiple evaluation in the web-based assessment system. Form teachers were asked to compare the web-based evaluation and assessment system with the e-school system. Teachers found the web-based evaluation and assessment system to be more comprehensive. Teachers consider the grade section of the e-school to be only a grade entry system but consider the web-based evaluation and assessment system to be an evaluation system that reflects students' learning processes. In addition, the fact that evaluation and assessment forms can be developed by teachers and that students can take part in the assessment process using the student module in the web-based assessment system is one of the reasons why teachers find this system more usable than the e-school system. Finally, it is striking that the function that enables teachers to exchange information in the web-based evaluation and assessment system is likened to the EBA system.

Form teachers found the web-based evaluation and assessment system to be advantageous in many aspects. Teachers consider the web-based evaluation and assessment system to be easy-to-use thanks to its compatibility with computers, smartphones and tablets in terms of accessibility and use. Aside from the evaluation and assessment forms already available in the system, the ability of teachers to develop their own evaluation and assessment forms and having student and parent modules are considered as advantages of the system. On the other hand, the fact that teachers have to enter student and parent information into the system one by one and the lack of fast grade entry function are considered disadvantages. The fact that student information in the Central Civil Registration System is not linked with the system forces teachers to enter student and parent data into the web-based evaluation and assessment system one by one. The reason why the researcher did not take action on this situation is that the system is in the process of implementation. In addition, the reason why some teachers think that the lack of the fast grade entry function in the system was the convenience this function offers when they save student evaluations in the grade entry section of the e-school system and that this is not the case in the newly-designed system. Even though this is considered a disadvantage, the fast grade entry function was not included in the system because the objective was to make sure that teachers evaluate each student individually based on that specific student's differences, interests, needs and skills and that grades do not influence teachers' opinions during evaluation.

Recommendations offered by teachers on the web-based evaluation and assessment system are related to the disadvantages of the system. Teachers recommended transferring student and parent information from the Central Civil Registration System and adding the fast grade entry function to the system.

Research and Publication Ethics Statement

The authors hereby declare that they have not used any sources other than those listed in the references. The authors further declare that they have not submitted this article at any other journal for publication.

Contribution Rates of Authors to the Article

The authors equally contributed for the article.

Statement of Interest

The authors declare that there is no conflict of interest.

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ANNEX 1. The Designed Web-Based Evaluation and Assessment System

A web-based evaluation and assessment system was developed under this study to improve the utility of alternative evaluation and assessment tools. The aim of this system is to develop, edit, use, and store rating scales, observation forms and checklists and ensure active participation of parents and students in the evaluation process. The system also offers an e-portfolio feature to make sure that students' works are evaluated, stored, and transferred onto the next learning stage. The newly-designed web-based evaluation and assessment system was made available on www.odesis.online.

While developing the web-based evaluation and assessment system, the PHP scripting language was used and the application was made compatible with IE version 9 and up and all updated browsers (Mobile, Tablet, iPad) by making use of HTML and Framework infrastructures. Thanks to the 100% search engine optimization (SEO), the website can be accessed via every search engine. Similarly, all links are interrelated so that search engines can follow and contain descriptive texts for these search engines. The web site has a user-friendly design which allows fast, easy and secure transition between web pages. The web-based evaluation and assessment system consists of the teacher module, the student module, the parent module and the administrator module. This section introduces the designed system.

User login

For the evaluation and assessment system, teacher, student, parent and administrator roles were defined. A single interface was designed for all users to log into the system. User account information (username and password) was created for each participant, who will make use of the system. The interface designed for user login is shown in Figure 1.

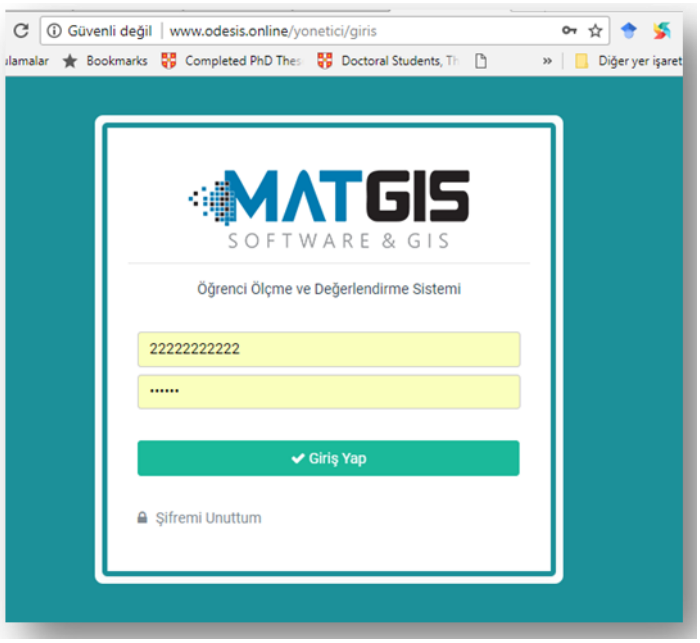

Figure 1. User login page of the web-based evaluation and assessment system

As shown in Figure 1, the developed system is accessible with internet support via www.odesis.online and user account information is requested at login stage. After the user login screen, participants who are logged in with their own account information, are directed to the interface of the role they are assigned with. User account information for the teacher role is assigned by implementers with administrator role. However, user account information assignments for student and parent roles are left to practitioners with teacher roles upon permission of administrators.

Teacher's module

After a teacher logs into the evaluation and assessment system by using the username and password provided by the administrator, the interface that teachers are authorized to display opens up. This interface enables teachers to view the student list, absentees, latest student evaluation forms and content shared by other teachers.

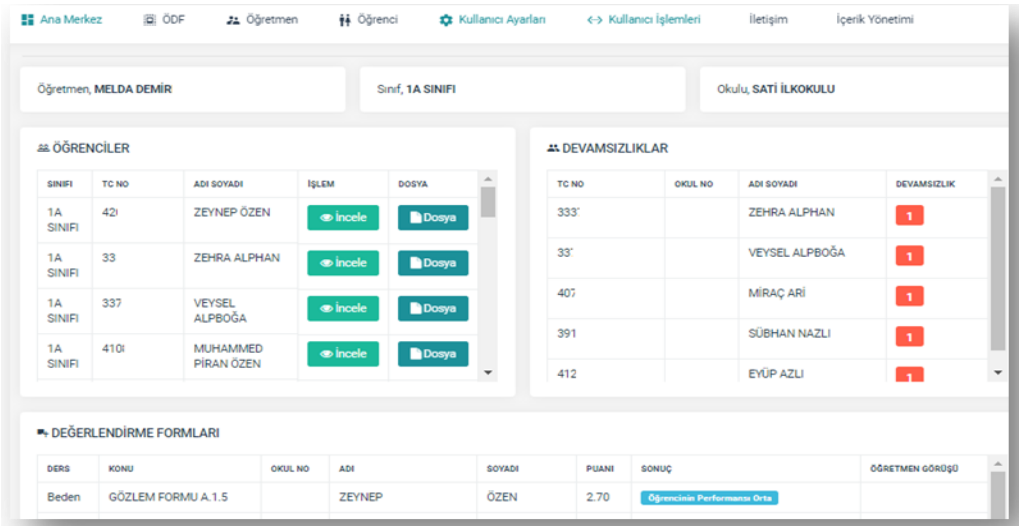

Figure 2. A screenshot of the teacher's module home page

Figure 2 shows the interface designed for the teacher's module. Clicking on the "Review" or "File" buttons takes the user to details with regards to the relevant student.

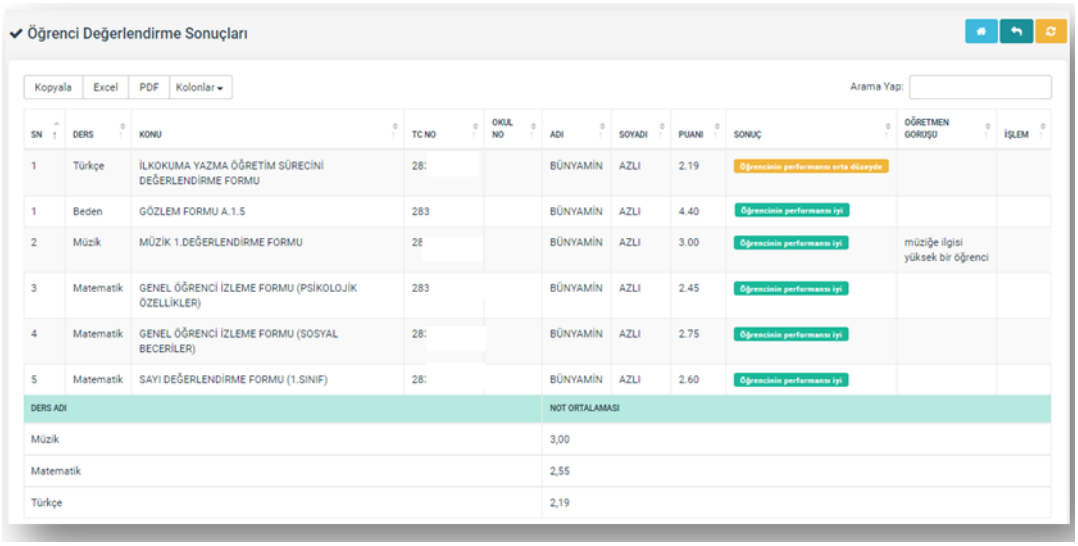

Figure 3. A screenshot of the review section of the teacher's module

Review Section: The review section contains all assessment forms used to evaluate students during the teaching period, averages obtained from assessment forms, results evaluating all averages and teachers' remarks. Figure 16 shows detailed information on the "Review" button. All evaluation forms and teachers' remarks under the review section can be saved in XLS or PDF formats. In addition, the "Search" function was also added to easily find a specific evaluation form.

File Section: By clicking on the file button, the user gets access to the database where all work of students that are made during the education process and that are thought to be a part of the product file is stored. The related interface is shown in Figure 4.Here, teachers can evaluate stored student product files and add notes. Each and every evaluation and registration procedure for every product can be viewed under the student evaluation folder.

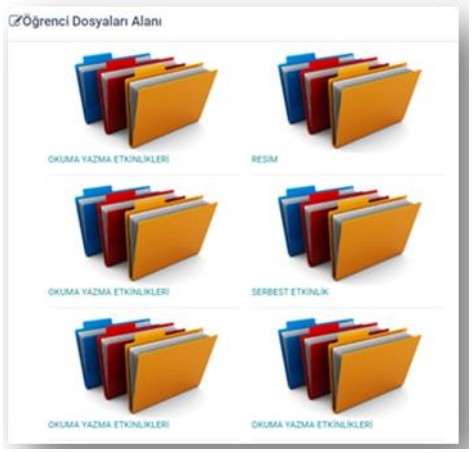

Figure 4. Screenshot of the student filing section in the teacher module

The teachers' module contains these tabs: Homepage, EAF, Student, General Settings, Evaluation, Communication and Content Management. These tabs can also be viewed from the administrator module. Tabs that are available both in the teacher and the administrator modules will be covered in this section. In addition to the tabs in the teacher module, information about the existing tabs is provided in the administrator module section. Here is the intended use of these tabs, which are available both in the teacher and in the administrator modules:

EAF (Evaluation and Assessment Forms): This is the tab where evaluation and assessment forms are designed, criteria for any feature to be evaluated are added and Likert scale type (3- or 5- point) is determined. For this section to become active, a teacher first must type in the title of the evaluation form he/she will be using and save it to the system, enter evaluation criteria and select the type of Likert to be used. Thus, the process of evaluating and assessing gains that teachers aim to teach during class is conducted by means of evaluation and assessment forms developed by teachers taking into consideration environmental factors and individual differences.

In addition, the evaluation and assessment forms in the teacher's guide books were added to the system for teachers' use. Sub tabs for the related tab can be seen in Figure 5.

Figure 5. Sub tabs of the evaluation and assessment form tab

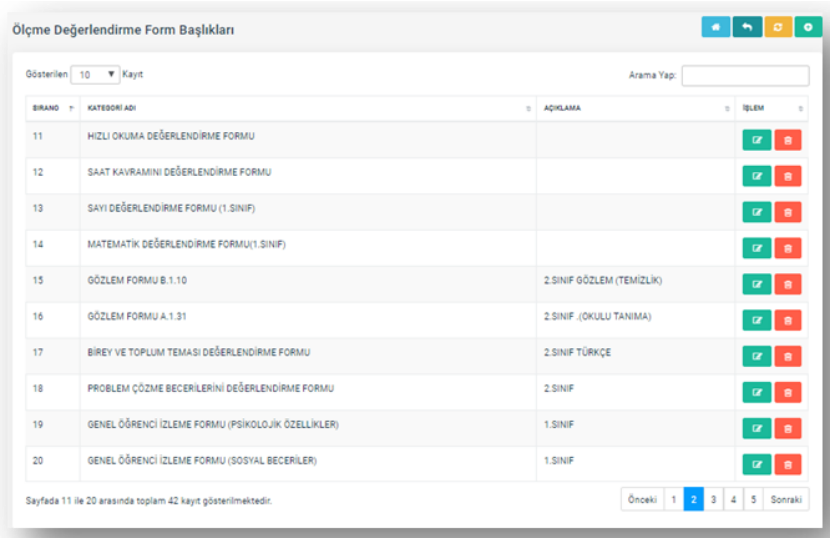

Figure 6. Screen shot of the evaluation and assessment form titles

Clicking on this tab will open up the sub tabs of form titles, evaluation criteria, 3-point Likert type form, 3-point Likert type project form and 5-point Likert type form. The intended use of these sub tabs is as follows:

Form Titles: This sub tab contains a list of evaluation and assessment forms previously saved in the system. Each new evaluation and assessment form that is prepared by implementers in the role of teachers is saved in this section of the system. The related interface is shown in Figure 19. From the form title sub tab, new forms and new categories can be added by clicking on the 'add' button and new evaluation and assessment forms can be saved.

The form adding page opens up after clicking the add new category button. Information on the type of the evaluation and assessment form to be used, its category and remarks can also be added in this section. This would provide information on the title, type (check list, project evaluation form, attitude scale) and purpose of the evaluation and assessment form to be used and in which course this form is going to be used. Self, peer and group evaluation and such forms that allow students to take active part in the evaluation and assessment process can be displayed and used from the student module after checking the *Do You Want the Student to View This Form?* field and saving it.

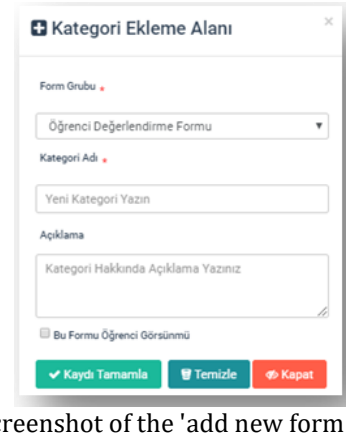

Figure 7. Screenshot of the 'add new form title' section

Evaluation Criteria: The criteria that will serve the purpose of evaluation assessment forms saved under the form title are saved to the system in this section.

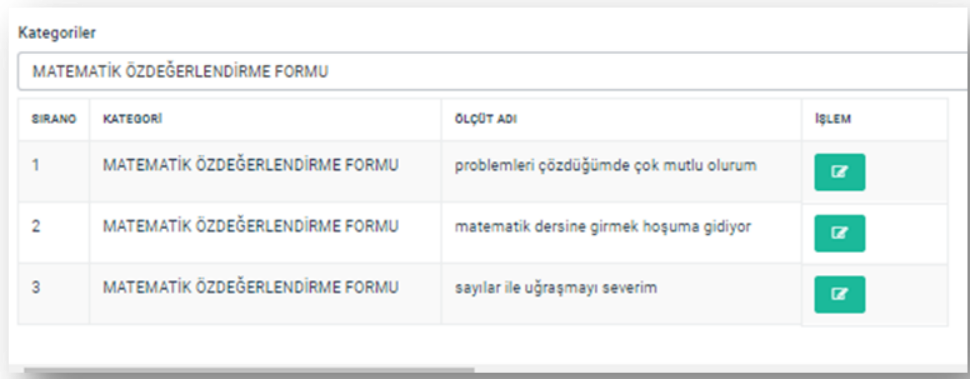

Figure 8. Screenshot of Evaluation and Assessment Form Criteria

This section allows users to view, change and delete, if necessary, criteria of all evaluation and assessment forms available in the evaluation and assessment system. In order for newly-prepared evaluation and assessment forms to be applicable in the system, the user clicks on the 'add new category' button. Then, the user selects the category among evaluation and assessment forms previously saved under the form title tab. Then, the user adds the criteria that will serve this form. After adding a criterion, the user can add another one by clicking on the (+) symbol or delete one by clicking on the (-) symbol. The number of criteria to be used in this section is not restricted. The number of criteria to be used is left to the discretion of the teacher who will use this form.

Likert-Type Forms: Sub tabs for all Likert-type forms in the evaluation and assessment forms tabs serve a similar purpose. For this reason, information on the features of sub tabs are provided under a single title. Tabs that contain Likert-type forms are where forms that are developed and uploaded to the system by teachers or that are provided to teachers by the administrator are stored and student evaluation is conducted.

Figure 9. Screenshot of the criteria adding field

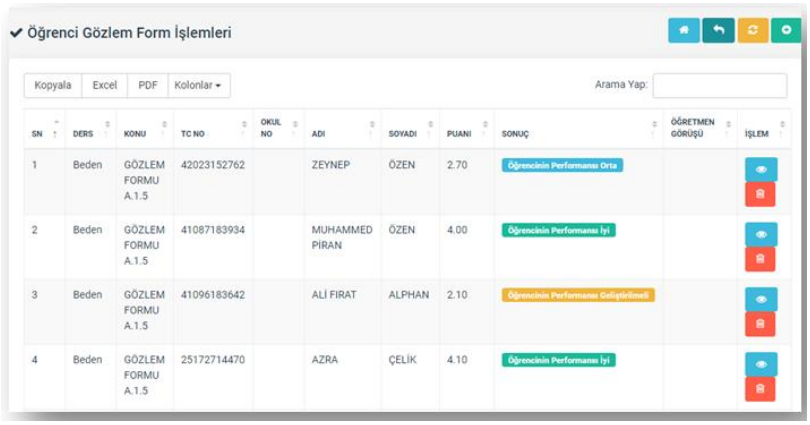

Figure 10. Screenshot of the section with evaluation and assessment forms

By clicking on the Likert-type form tabs, the user can view all forms applied by teachers on students and scores and results of these forms by student. A 'view registration' button was added to allow each form to be examined in more detail.

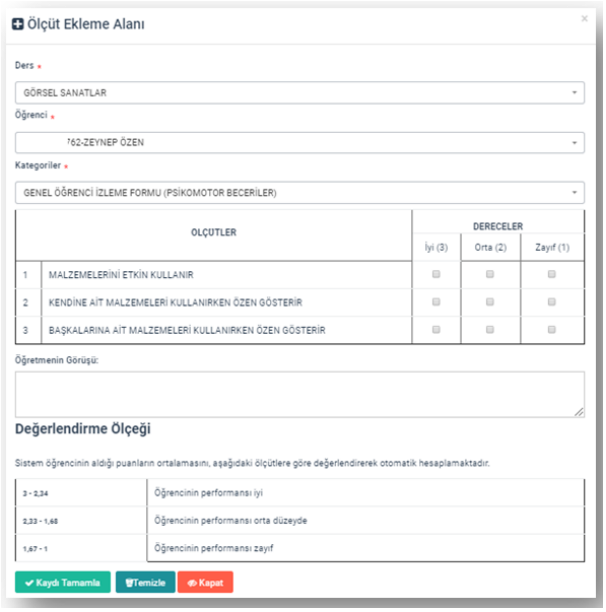

Figure 11. Screenshot of an evaluation and assessment form

During student evaluation, the user clicks on the 'add new category' button. After clicking this button, the user chooses the form to be used in the evaluation process. After the evaluation form is selected, sub criteria on the evaluation form appear and will be ready for use. In addition, a teacher can also write down an important note in the teacher's remarks field and save it in the evaluation form.

The average obtained after the evaluation is automatically added to the average of the course, which is the subject of the evaluation. Score and results obtained from the evaluation form can be viewed from the student module, in which the evaluation takes place, the 'review' section in the teacher module and the parent module. Data can also be entered to the system by conducting the same procedures for 5-point Likert type form and 3-point Likert type project form, which are under evaluation and assessment forms.

Student Product File: This is the tab where product compilation files are added. In this section, online records of products that are made by the students and believed should be in product files. Information or verbal evaluation can also be added with regards to products stored in the file section and their formation process. Remarks and details of stored product files can be seen in Figure 12.

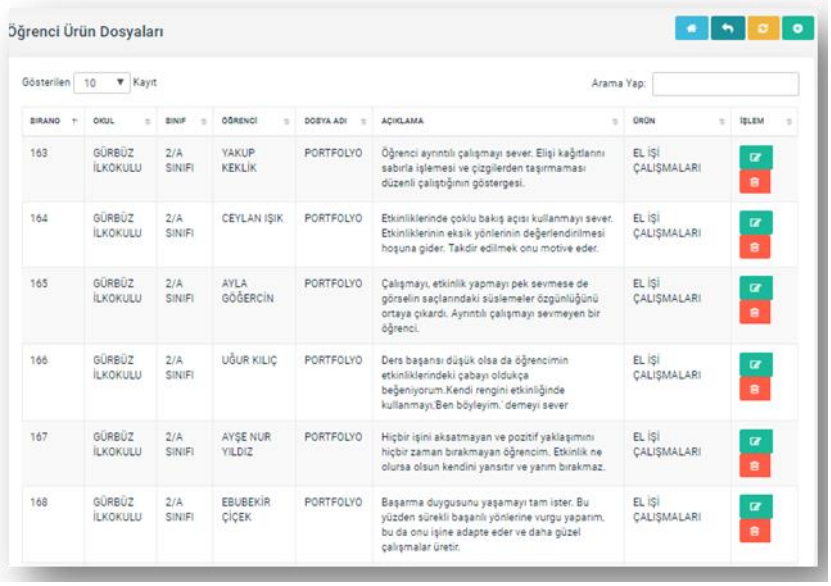

Figure 12. Screenshot of the tab where student product files are added and stored

Products saved in the student product file can be viewed on the 'file' sub tab on teachers' home page, which is specially prepared for each student. In addition, a product that is wished to be reviewed or updated can be easily accessed by typing in the product's name on the 'Search' section.

For adding a new product to the system, the user clicks the 'add new category' button. After clicking this button, the student product file adding sub tab opens. School, class, and details of the student, who is the owner of the product, are entered in the related fields in the interface. Then the names of the file and the product are entered into the system. After clicking on the select

file section in the image section, the image of the related product is uploaded to the system. During the file adding process, products can also be saved using mobile phones, tablets or computers. Turning on the device's camera enables the user to upload an image instantly. Fields indicated with a red asterisk must be filled out and cannot be left blank. In the “file description” section, any necessary remark about the product file can be typed into the system, but this field is not obligatory.

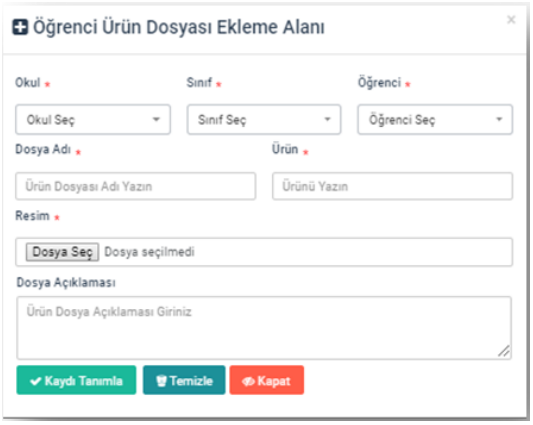

Figure 13. Screenshot of the student product file adding field

Users: This is the field where implementers, who will take active roles in the evaluation and assessment system, are registered to the system. With the authorization they receive from implementers with administrator roles, teachers can register students in their class and their parents to the system. The details of students and parents, which are added by teachers, can be viewed from this tab. In this section, user password change or registration information update can be made by clicking on the registration editing button. A user can have a passive status in the system due to transfer, habitual absence, illness, etc. To change a user's status to passive, click on the "Deactivate Registration" button. Statuses of active and passive users can be viewed from the system.

To add a new user to the system, click on the add new user button. The user selects from the tab the group (student group, parent group) in which the user will be included. ID information, first and last name and e-mail address information are entered and the password is identified at this stage. Due to its uniqueness, the Turkish ID number of each user is assigned as user name in user account details. The goal here is to prevent any confusion that may arise from similarities in names.

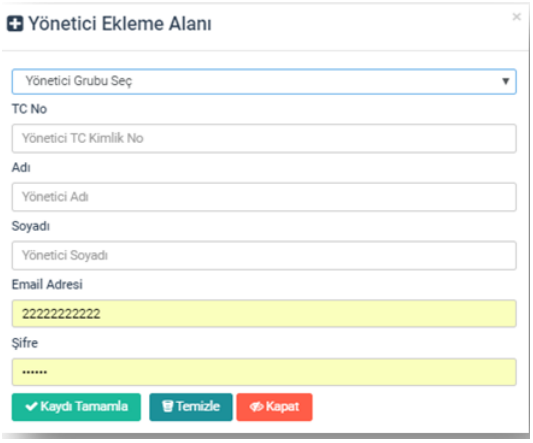

Figure 14. Screenshot of the "add new user" field

User Operations: This is the tab that is used to link together users. Registered students and their parents are linked. In this way, parents, who would like to work on the parent module, can only view their own children’s details.

Student Page: This is the section where the student details are registered.

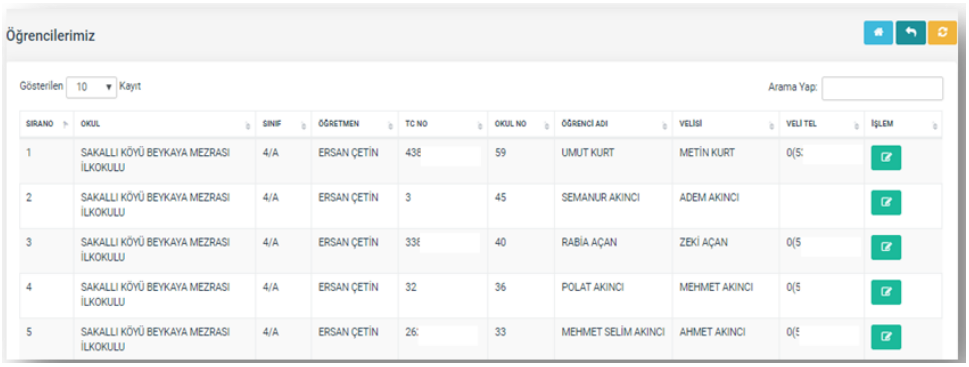

Figure 15. Screen shot of the tab where user information is uploaded and updated

Student tab shows information such as the ID number, enrolled school and class, name of parents and contact number. In order to upload student information to the system, the information in the tab that opens up after clicking the “procedure editing field" shown in Figure 15 must be filled in. This tab automatically shows student information such as ID number, enrolled school, class information and teacher in charge since this information is uploaded to the system while registering a user. Information such as the student's date of birth, place of birth, school number, sex, residential address, phone number, if available, e-mail address, details of parents such as phone number and the student's photo, if desired, can be uploaded onto the system in this section. Any special issue (special need, family-related issues, health issues, etc.) with regards to the student is also recorded in this section.

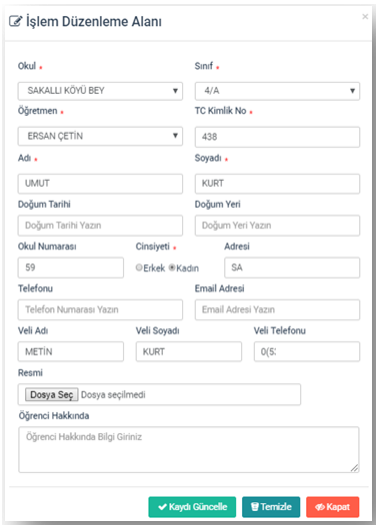

Figure 16. Student information editing field

Parent Page: This is the section where information with regards to parents is registered.

Figure 17. Screenshot of the page where parent details can be viewed and updated

This tab includes details such as the address, phone number and e-mail address of the parent, related students and the school they are enrolled in. Same as in the student system, to upload parent information onto the system, the user clicks on the *procedure editing field* and fills out the information on the page that opens up. From the opened page, the parent's information such as first and last name, phone number, address, e-mail address, his/her child who is the student, the school he/she is enrolled in are entered in the system. Any special information (divorced, convicted, special needs, etc.) with regards to the parent can also be saved in this field.

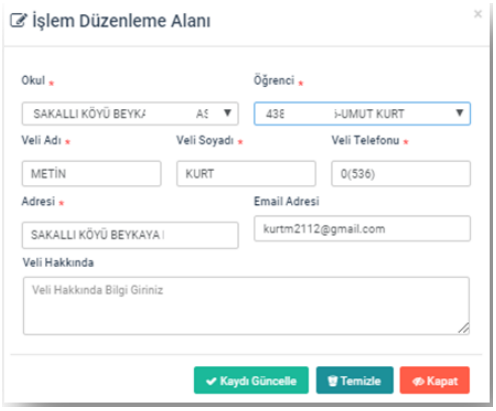

Figure 18. Parent information editing field

Contact: This is the tab with contact information of the institution the researcher, who developed the evaluation and measurement system, is affiliated with.

Content Management: This is the tab where teachers and administrators can exchange information, if they desire so. Through the content management tab, teachers can share form templates, official letters and comments and video links on current topics.

The student module

The interface that the student is authorized to view opens up when the student logs into the system using the username and password provided by the teacher. This interface is shown in Figure 19. The student module consists of three sections.

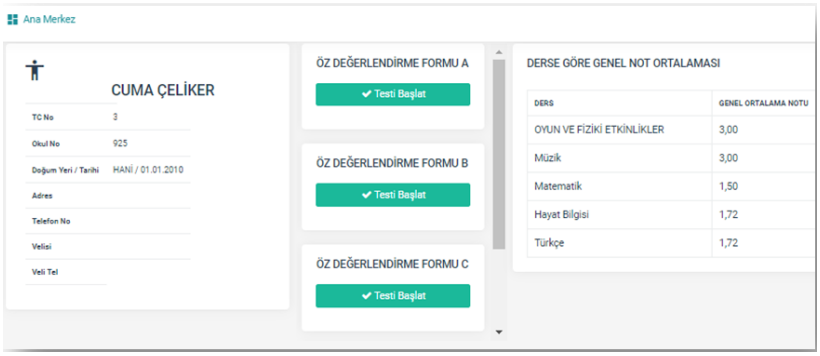

Figure 19. Screenshot of the student module

The first section contains the student's school and parent information. The second section contains evaluation forms developed by teachers that allow students to conduct self, peer and group evaluations. The third and final section contains average figures collected from a student's evaluations in the evaluation and assessment center for each course. Student implementers are only authorized to fill out the evaluation forms that are specified by teachers. Other information about students is entered by the teacher.

Grade point averages that can be viewed in teacher, student and parent modules are calculated based on the 3-point system in order to be compatible with the e-school system. Due to traditional exams conducted in fourth grade, evaluation of fourth graders are shaped in line with the 5-point system.

Parent module

Parents are able to get detailed information about students via the parent module in the system. After logging in using the username and password provided by teachers to parents, parents can view the interface that they are authorized to display (Figure 20).

Figure 20. Screenshot of the parent module