Digital Assessment Tools for Special Education Teachers: Challenges and Opportunities

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Abstract: This study was conducted to reveal the views of special education teachers on digital assessment tools. The researcher collected data from 38 special education teachers through focus group interviews. The opinions were coded under two main themes: challenges and opportunities. Under the main theme of challenges, there are sub-themes of knowledge and skills, curriculum, time, integration, collaboration, management and cost. Under the main theme of opportunities, there are sub-themes of virtual classroom, digital bag, new collaborations, paperless classroom, diversity of approaches, individualized exams, active learning and feedback. The themes are discussed within the scope of instructional technologies, current literature on special education and recommendations are included.

Keywords: Focus Group, Digital Assessment, Special Education Teacher, Technology Integration

Özel Eğitim Öğretmenleri İçin Dijital Değerlendirme Araçları: Zorluklar ve Fırsatlar

Öz: Bu çalışma, özel eğitim öğretmenlerinin dijital ölçme araçlarına ilişkin görüşlerini ortaya çıkarmak amacıyla yapılmıştır. Araştırmacı, odak grup görüşmeleri yoluyla 38 özel eğitim öğretmeninden çalışma verilerini toplamıştır. Görüşler zorluklar ve fırsatlar olmak üzere iki ana tema altında kodlanmıştır. Zorluklar ana teması altında bilgi ve beceri, müfredat, zaman, entegrasyon, iş birliği, yönetim ve maliyet alt temaları yer almaktadır. Fırsatlar ana teması altında sanal sınıf, dijital çanta, yeni iş birlikleri, kağıtsız sınıf, yaklaşım çeşitliliği, bireyselleştirilmiş sınavlar, aktif öğrenme ve geri bildirim alt temaları yer almaktadır. Temalar öğretim teknolojileri kapsamında ele alınmış, özel eğitim güncel literatür ve önerilere yer verilmiştir.

Anahtar Sözcükler: Odak Grup, Dijital Değerlendirme, Özel Eğitim Öğretmeni, Teknoloji Entegrasyonu

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No matter which area of life we look at, we see that we are surrounded by evaluation. We are committed to modernism, quality, equality and defensibility; we have become a society of evaluation, where quantitative data is the main mechanism for ensuring transparency, accountability and predictability. Especially when we think about the evaluation process in education, it is as if "unevaluated education has never existed". Whether at the level of the individual, the institution or entire operating systems such as education, data collection has become a fundamental tool of social control (Broadfoot & Black, 2004). However, we tend to always evaluate children. Teachers wanted to know if their interventions and supports helped children change; parents wanted to know if their children progressed; administrators, policy makers and funders wanted to know if their programs made a difference. The evaluation process involves focusing on the role of the "student as learner" rather than the "teacher as teacher" (Chuvieco et al., 2010). It requires a greater emphasis on students' active participation in the process (Harris & Brown, 2018).

The products of educational programs are primarily evaluated on the basis of whether the child has changed. Detecting the child's change from one time to another is the distinctive, critical power of special education. According to the Regulation on Special Education Services of the Ministry of National Education (2018), an individual in need of special education is defined as an individual who shows a significant difference from the level expected from his/her peers in terms of individual and developmental characteristics and educational competencies. In order to prepare the most appropriate education programs for individuals in need of special education, it is necessary to monitor their development, identify those in the risk group, take necessary precautions and make appropriate assessments (Yenioğlu et al., 2019). Assessment is more than testing and is the process of collecting data to make decisions about students in the context of special education. These decisions play a role in planning critical processes for individuals in need of special education. The process of educational evaluation in special education includes two basic stages: determining the performance of the individual and making educational adaptations within the principle of providing education in the least restrictive environment according to the results obtained (Aksoy & Şafak, 2020). Systematic and regular evaluation studies starting from the early period ensure that the needed service is planned correctly or appropriately at every stage. Thanks to the appropriate assessment and the plan prepared for the need, both time is saved and effective intervention is started early (Yenioğlu et al., 2019). When the purpose of the assessment is to design educational intervention plans or to assign a child to a special or regular school, it becomes essential to highlight the child's potential.

The primary task of teachers in special education is to introduce students to different intellectual aspects of the world around them and to help them adjust to it (Nam et al., 2013). The environment that children interact with is constantly changing and differentiating. Therefore, it is essential for special education teachers and specialists to follow current developments and be familiar with technological approaches. In order to integrate technology into lessons effectively and successfully, teachers need to know about and use technology appropriate for individuals with disabilities (Flanagan et al., 2013). Technological initiatives, interventions, etc. for teaching and learning have also affected the way teachers assess students' learning performance. Digital technologies offer teachers the opportunity to improve and diversify their assessments of students in areas such as written communication skills, collaboration, teamwork and reflective thinking (Eyal, 2012). Moreover, technology allows teachers to see the diversity of students in the classroom assessment process (Alderson, 2000). In addition, technological assessment tools provide teachers with technical support in creating tests, presenting students' responses to test items, and automatic scoring and reporting (Llamas-Nistal et al., 2013). However, it is noteworthy that the use of technology in the field of special education and especially in the assessment process is quite limited. The literature emphasizes the benefits and necessity of using technology in special education. Digital tools have great potential for teaching efficiency, supporting student motivation and engagement, individualized/differentiated instruction, presenting content in different formats, formative assessment, and examining the effectiveness of instruction (Anderson & Putman, 2020; Ciampa, 2017; Courduff et al., 2016). Especially during the pandemic process, it was reported that special education teachers could not use technology (Rice, 2022). Among the reasons why special education teachers do not or cannot use technology are both lack of technological knowledge and concerns (An et al., 2021; Cardullo et al., 2021; Parmigiani et al., 2020). Contrary to these findings, the findings are also striking. It has

been reported that special education teachers use the instructional management system quite effectively (Kim & Fienup, 2021) and similar activities in face-to-face environments are easily implemented in digital environments (Myers et al., 2021).

Digital learning environments have become more recognized, especially in recent years during the pandemic. The demand for e-learning has increased, which has led to the whole learning process becoming "e" (United Nations Educational, Scientific and Cultural Organization, 2020). Educators and students have no choice but to use the digital environment. Especially in the COVID era, both teachers and students learned, used, struggled, had fun and gained experience in digital environments. Students learned, shared, had fun and were assessed digitally. Assessment continued to be important digitally. Teachers managed the evaluation process, but none of us could have foreseen what we would encounter in the digital environment. It is possible to come across both those who survived this process with difficulty and those who completed it with pleasure. In the distance education process, the assessment process was also conducted remotely (Senel & Senel, 2021). Educators used digital assessment tools (e.g. Google forms, interactive videos, KHAAOT) to observe, test and even provide feedback on students' performances. However, not all of us were so lucky. Those who used these tools for the first time faced obstacles in the process and the learning process became uncomfortable for them. Especially for students who use digital tools less than their peers and are busy with pen and paper in their individual education processes, this process may have been more challenging. Teachers need to gain knowledge and skills in this area, and they need to be encouraged and supported to bring digital into the classroom. Knowing and using these tools offers many advantages for both teachers and students. By mastering digital assessment tools, we have the opportunity to change the content of the assessment process. With these tools, we are not conducting an individual assessment process. We have the possibilities of communication and collaboration, time and cost savings, an exciting process and even the possibility of watching different performances.

"Digital assessment", which can be defined as the assessment of students using technology, brings up the necessity of basic digital literacy skills for teachers, students and teachers. Digital tools, digital communication and digital materials are being incorporated into the learning process, while "paper" and physical storage are being eliminated. The teacher can conduct an instant question-and-answer activity using Google forms. Or the teacher can present the course content prepared by the teacher in the form of interactive videos, keeping the student active and integrating the evaluation process into the content presentation. They can organize interactive activities by organizing in-class competitions using KAHOOT. However, the digitization of the assessment process may be incomplete if it is defined only as a change in format. The teacher plays an important role in this process. Which tool, how, where and when will it be used? Answering these questions requires a good thought process. Only at the end of this process is an effective assessment process that integrates assessment into learning and supports students (Vrasidas & Glass, 2010). The assessment process is a need for students because it is not an end, a conclusion or a closure. Instead, it is a living structure that supports continuous learning. When assessment is not understood or intended to be understood in this way, the desire for an ineffective, score-driven end will come to the fore, whether we assess on paper or digitally. The digital environment offers teachers the opportunity to assess with different tools. With digital assessment tools, assessment does not stay in the classroom, it can become exciting, and its structure, which goes along with the learning process, can come to the fore. Perhaps even more dynamic, more contextualized assessments will become widespread in this way. Teachers' experience with digital assessment tools is also essential for an effective and efficient assessment process. Unfortunately, "emergency distance education", which created a shock effect during the pandemic period, was not very applicable for every field. Especially the field of "special education" had the most difficulties in this process. Although more intense with the pandemic, the inclusion of technology in special education classrooms is one of the critical practices that have attracted attention in recent years (Deepika et al., 2021; Ok & Rao, 2019; Parmigiani et al., 2021; Steed & Leech, 2021). It has become necessary for teachers to support and even inform both students and parents about distance education and digital tools. We can guess that most teachers have problems adapting to distance education. It has been documented that teachers are struggling to teach in the early stages of the pandemic (Cardullo et al., 2021). Teachers did not know what to do during the pandemic and how to use which

environment, application or software.

1. What are the views of special education teachers about the challenges of digital assessment tools?

2. What are the views of special education teachers about the opportunities of digital assessment tools?

Methodology

This study will be conducted within the framework of qualitative research. This type of research aims to collect detailed opinions and information from the participants (Bader & Rossi, 2002). In this study, a questionnaire survey was not preferred because the participants had limitations in expressing their views. Therefore, there is a high risk that some experiences may be overlooked. Therefore, the data for this study was collected through focus group interviews to collect in-depth data. Data could be collected in a more relaxed, flexible and reliable environment. Focus group discussions facilitate a dynamic exchange of views and create a natural environment of acceptance for participants to agree, criticize and limit the views of other participants (Wilkinson, 2004). This technique creates a favorable environment for more profound insights to emerge. In a focus group discussion, a moderator facilitates discussion with participants and allows for elaboration of the issues raised (Huth et al., 2014). This technique involves more than a process where participants come together to talk. In a focus group discussion, a specific group is formed in terms of purpose, size, composition and procedures to collect and discuss information to understand what participants think and feel about a topic (Krueger & Casey, 2014). The data from a focus group interview can provide basic and essential data that deepen the data obtained from quantitative study designs (Huth et al., 2014). A focus group interview is structured through four stages: (1) defining a problem, (2) achieving a set of goals, (3) planning the details of the implementation of a study, and (4) making an evaluation to guide future studies (Morgan & Krueger, 1998). Within the scope of this study, a focus group interview was conducted to examine in depth the experiences of special education teachers regarding digital assessment tools. A semi-structured discussion format was determined. In this way, it was possible to examine and report the experiences related to digital assessment tools in depth. After the data were obtained from the focus group interviews, a thematic analysis approach was used to facilitate the emergence of themes.

Participants

The number of participants in a qualitative study is related to the purpose of the study and the size/number of the subject to be addressed (Hennink, 2007). In studies based on qualitative techniques, it is stated that a sample group of 20 to 30 participants is sufficient (Creswell & Poth, 2016). A total of 38 special education teachers voluntarily participated in this study. All of the participants are actively teaching in a special education and rehabilitation center. The ages of the special education teachers participating in the study ranged between 27 and 46. 64.2% of the teachers were female and 35.8% were male. In terms of branch distribution, 36% were special education teachers, 44% were classroom teachers, 12% were speech and language therapists and 8% were physiotherapists. Participants had a minimum of five and a maximum of 17 years of special education teaching experience. Special education teachers who wanted to participate in the study were contacted with special education institutions in the province where the researcher was located and given a contact card. Focus group planning was made with 38 special education teachers who indicated to the researcher that they wanted to participate in the study.

Procedure

Ethical approval for this study was obtained from the Social and Human Sciences Research Ethics Committee of Fırat University. Participants gave their express informed consent before starting the study. You can examine the applied protocol in Figure 1.

Figure 1. Focus group protocol

First, the focus group meeting was conducted online due to pandemic conditions. According to the focus group interview procedure visualized in Figure 1, some information about the participants was collected via e-form in the first stage. Seven different groups were randomly formed for the focus group interviews. Participants were asked about their compliance with the focus group interview duration, and those who did not comply were replaced with another participant in a different group. Each focus group interview started with a 5-minute introductory presentation by the moderator (researcher) to warm up the topic and elicit experiences with the digital evaluation tools to be explored in depth. Participants were then asked to express their general views on the digital evaluation process. The participants' views were simply listened to and recorded without any right or wrong assessment. The moderator took note of the critical comments made by the participants and the third phase of the protocol began. At this stage, the participants' views on the challenges and opportunities of digital assessment tools in the special education process were taken. The researcher used a list of opening questions to initiate and guide the conversation on the topic to be explored and to encourage participants to think and discuss. With the semi-structured form, the conversation went beyond the naturally given questions and additional topics that might arise were not restricted (Huth et al., 2014). The conversation was terminated when it was ensured that the information provided by the participants adequately represented the views held. That is, when data saturation was reached (when it was determined that newly added views did not change the coding pool). On average, a focus group discussion procedure lasted 44 minutes.

Data Collection Tools

In this study, a semi-structured discussion format was adopted for the focus groups to be conducted to reveal the phenomenon under investigation. The focus group interview was decided based on the fact that special education teachers have presuppositions and experiences regarding the use of digital assessment tools in the assessment process of students in need of special education. Seven focus group interviews were planned with a total of 5-5-5-5-5-5-6-6 teachers. The focus group interviews were conducted on an online platform and lasted an average of 44 minutes. While planning the focus group interviews in this study, the researcher conducted a literature review on "digital assessment" and prepared draft interview questions. The interview questions were presented according to the opinions of two field experts working on "digital evaluation". The questions were restructured in line with the experts' suggestions. Before starting the interviews, the participants were informed that the principle of confidentiality would be observed and the focus group meeting would be recorded with a camera at the end of the meeting and their permission was obtained. In the questions in the focus group interview form, it was tried to get the opinions of each teacher about the question. In the interview, they were asked whether they use digital tools in their teaching processes, which tools they use (how often, in which contents, for how long, etc.), whether they use new tools in the COVID process, whether they use digital tools in the evaluation process. Afterwards, questions about the challenges and advantages of using digital tools in the evaluation process initiated the discussion. They were guided to discuss concepts or topics and the importance of expressing their own views rather than general opinions was emphasized. It was made clear that no opinion would be judged so that teachers could express their views freely. In cases where teachers wanted to express their views, their opinions were taken; thus, different aspects of the subject were discussed. The researcher then transcribed the data by examining the camera recordings.

Data Analysis

The data obtained from the focus group interviews were analyzed within the protocol framework specified by Braun and Clarke (2006) (See Figure 2).

Figure 2. Data analysis protocol

The researcher who conducted the study has experience in qualitative research. In order to ensure the internal validity of the research, the personal information form and focus group interview form were checked by an academic with qualitative research and research experience and the researcher made the necessary arrangements. This academic also recoded the data voluntarily and independently of the researcher. The academic who coded for data reliability completed her PhD in Special Education and has many studies on qualitative research. The coding of the academic who coded all the data in about four days was compared with the researcher's coding. To calculate the coding reliability of the study, the reliability formula "Percentage of Agreement = Agreement/ (Agreement + Disagreement) x 100" proposed by Miles and Huberman (1984) was used. A consensus percentage of 95% was calculated over the codes. In addition, the research process was reported in detail, thus ensuring external validity (Yıldırım & Şimşek, 2006). The contexts in the research questions formed the main themes of the research data: Challenges and opportunities. Each opinion was then coded and processed in a word processing program. After all the opinions were coded, the common points of the coding were identified and sub-themes were formed.

Results

Opinions obtained from the participants were presented under two main headings as "challenges" and "opportunities".

Challenges

As a result of the focus group discussions with 38 participants, the opinions coded under the main theme of "Challenges" were grouped under seven sub-themes. This theme included knowledge and skill, curriculum, time, integration, cooperation, management, and cost sub-themes. A total of 238 views and 16 codes were obtained under this main theme. You can see the sub-themes, codes, and frequencies that I have obtained under the main theme of "Challenges".

Table 1. *Subthemes, Codes and Frequencies of Challenges*

Subtheme	Code	n
Knowledge, skill	Lack of knowledge about software	22
	Lack of knowledge about using technological devices	18
	Lack of knowledge about current technologies	13
	Lack of experience	12
Curriculum	Inability to adapt to the curriculum	19
	Inability to relate to curriculum content	17
Time	Time requirement for learning digital assessment tools	18
	Length of digital assessment tool preparation time	18
	Long duration of digital assessment	16
Technology integration	Inability to associate technology with content	21
Cooperation	Incomplete communication between disciplines	11
	Lack of technology guidance service	10
Management	Management is not open to new applications.	14
	Management's negative attitude towards digitalization	11
Cost	Expensiveness	10
	Lack of budget support	8
Total		238

The codes under the knowledge/skills sub-theme can be analyzed in Table 1. This sub-theme includes codes related to not knowing the purpose and features of technology tools and different technology tools. Special education teachers do not know the types of software, technological tools, current technologies, their purposes, whether they are paid or free, and how to use them. Therefore, they lack experience. This situation

is more specifically related to digital assessment tools, and lack of sufficient knowledge about these tools causes them not to be preferred in assessment processes. The codes under the sub-theme of curriculum can be analyzed in Table 1. There is a lack of knowledge among special education teachers about associating any technology with the curriculum. At this point, they cannot integrate technology and curriculum because they do not have experience or good examples. At this point, it becomes more difficult to digitize the evaluation process. The codes under the time sub-theme can be analyzed in Table 1. Special education teachers stated that learning digital assessment tools takes time and that this time is both long and challenging. They also stated that preparing materials with digital assessment tools would also take time. When using a digital assessment tool in the classroom, they are concerned that it will take time and interfere with teaching. The codes under the integration sub-theme can be analyzed in Table 1. Special education teachers are not sure in which part of the course content digital assessment tools can be used. The codes under the collaboration sub-theme can be examined in Table 1. Special education teachers stated that they need instructional technologies and content knowledge. At this point, they stated that branch teachers are needed to provide instructional design and technology integration support. The codes under the administration sub-theme can be analyzed in Table 1. Special education teachers are concerned about how the administration will respond to such practices. It was stated that some administrations do not approach any application that is contrary to the traditional teaching process positively. The codes under the cost sub-theme can be examined in Table 1. Since special education teachers think that almost all digital assessment tools are paid, they express this as a problem. They associate this problem with not being interested in technology and not having basic knowledge and skills about technology. They also stated that they could not find any financial support to access paid software or materials.

Opportunities

As a result of the focus group discussions with 38 participants, the opinions coded under the main theme of "opportunities" were grouped under seven sub-themes. The "Opportunities" theme includes virtual classroom, digital bag, new collaborations, paperless classroom, diversity of approaches, individualized exam, active learning, and feedback sub-themes. A total of 317 views and 18 codes were obtained under this main theme. You can see the sub-themes, codes, and frequencies that I have obtained under the main theme of "opportunities".

Table 2. *Subthemes, Codes and Frequencies of Opportunities*

Subtheme	Code	n
	No obligation to be in the physical environment	21
Virtual classroom	Continuous learning	18
	Learning without time limit	15
Digital bag	E-portfolio	19
	Virtual storage	17
New collaborations	Unlimited interaction resources	18
	Communication with the group	18
Paperless classroom	Paper saving	22
	Digital notebook	17
Diversity of approaches	Practice different approaches	19
	Moving the traditional to digital	15
Individualized exam	Adaptability for every learner	16
Active learning	Student participation	22
	Learning together	18
	Continuity	13
Feedback	Feedback	20
	Recordable feedback	17
	Verbal, written, visual feedback	12
Total		317

The codes under the virtual classroom sub-theme can be examined in Table 2. Special education teachers stated that when using digital assessment tools, the obligation to be present in the classroom was eliminated and a more flexible environment and time was created for assessment. The codes under the digital bag sub-theme can be examined in Table 2. Thanks to digital assessment tools and digital possibilities, all kinds of data

of students are recorded quickly in digital environment. In this way, the difficulty of storing it in a physical environment is eliminated, student data can be easily accessed and shared with students and parents. The codes under the sub-theme of new collaborations can be seen in Table 2. Thanks to digital assessment tools, students can participate in assessment activities with different students they have never met. In this way, they have an opportunity that they cannot find in the traditional environment. The codes under the paperless classroom sub-theme can be analyzed in Table 2. Special education teachers stated that it would make sense to prefer digital environments and digital assessment tools, especially to save paper. Both teachers and students have a digital notebook and this notebook is unlimited. The codes under the sub-theme of diversity of approaches can be analyzed in Table 2. Thanks to these tools, special education teachers stated that many different approaches can be applied. They also stated that the digitalization of most traditional practices attracted students' attention. The codes under the individualized exam sub-theme can be seen in Table 2. One of the most remarkable possibilities of digital assessment tools is the ease of adapting the exam to each student. The codes under the active learning sub-theme can be analyzed in Table 2. With the use of these tools, the learning process is not limited to the classroom and learning continues outside the classroom. In addition, active learning is supported by the continuity of students' participation and learning together. The codes under the sub-theme of Feedback can be seen in Table 2. Special education teachers stated that they were faster when giving feedback with digital assessment tools. In addition, after feedback is given to students, it can be reviewed by the teacher, student and parents.

Conclusion and Discussion

This study aimed to examine in depth the experiences and opinions of special education teachers regarding digital assessment tools. The researcher collected the study data from 38 special education teachers through focus group interviews. The opinions were coded under two main themes: challenges and opportunities. Under the main theme of challenges, there are sub-themes of knowledge and skills, curriculum, time, technology integration, collaboration, management and cost. Under the main theme of opportunities, there are sub-themes of virtual classroom, digital bag, new collaborations, paperless classroom, diversity of approaches, individualized exams, active learning and feedback. Special education teachers generally associated the barriers of digital assessment tools with the theme of knowledge and skills. Teachers have difficulty in using any technological tool, software or environment. They stated that they lacked experience because they did not receive help from these tools during the education process. Unfortunately, teachers' basic technology knowledge is quite limited. During the critical and urgent distance education process, teachers experienced serious difficulties (Cardullo et al., 2021) and did not know which digital tools to use and how (An et al., 2021; Parmigiani et al., 2020). However, teachers should closely follow technological developments to keep education alive in today's conditions. Teacher competencies should be considered as an important issue in the field of special education as in all areas of general education (Karabulut et al., 2019). When using instructional technologies in the teaching process, teachers should have a basic command of technology and be competent enough to improve the quality of the learning process (Yılmaz et al., 2021). Flanagan et al. (2013) and Kışla (2008) stated that teachers have difficulty in using assistive technology and lack of experience in the process of assistive technology, and emphasized that in-service training should be provided to teachers in these processes, and courses on technology use should be emphasized in undergraduate education. Kutlu et al. (2018) also stated in their study that special education teachers lacked knowledge about the use of assistive technologies and needed technical support when using technological tools. Thanks to the active guidance of the Department of Computer Education and Instructional Technology (CEIT) in this training, prospective teachers in every field will be equipped with basic technological knowledge. At this point, the employability of CEIT teachers as information technology guidance teachers in special education and rehabilitation centers should also be evaluated. It is also essential that special education teachers promote technology by taking part in special education projects as scholars or researchers. In addition, teachers' acceptance of technology is also necessary for their success in education (Şahin et al., 2019). The role of the CEIT teachers is excellent and important in strengthening teachers' ties with technology.

While special education teachers express that they have difficulty in linking technology with the

curriculum, they think that if they incorporate technology into their teaching processes, they will lose time and experience delays in completing the curriculum. While they state that the assessment process will take a long time when it is conducted digitally, they think that they will spend a long time to learn the digital assessment tool beforehand for the digital assessment process. The majority of teachers do not know how this integration will take place in the process of technology integration. At this point, the Technological Pedagogical Content Knowledge (TPACK) model can be accepted as a guide. For special education teachers, the TPACK model is a guide for making instructional decisions to integrate technology with content (Anderson et al., 2017). Technology acceptance is a prerequisite for special education teachers to use technology and integrate technology into education (Gümüs et al., 2021). In addition, a teacher needs to have basic competencies in instructional technology for the success of the teaching process (Safa, 2019). In the literature, the lack of technological knowledge of special education teachers has been focused on and stated as the reason for inadequate use of technology in the process (An et al., 2021; Cardullo et al., 2021; Parmigani et al., 2020). They stated that an expert in the field of information technologies is needed when using technology in teaching processes, especially when conducting assessments. In particular, it is essential to inform teachers by organizing seminars and workshops on how special education can be associated with technology. The importance of continuous cooperation between special education and educational technologies came to the fore under this theme. In addition, teachers are not sure how the administration will react when they want to use a digital assessment process. Finally, they think that digital assessment tools will be costly and that free software is not reliable, which pushes them away from the integration process. Special education teachers expressed very different opinions about the opportunities offered by digital assessment tools. They stated that digital assessment tools do not offer a static process, on the contrary, they offer a very dynamic structure. In this way, they stated that students have the opportunity to learn at the same time as they are evaluating and that there is a continuous learning process. In this context, it was concluded that digital assessment tools support active learning. As Costely (2014) states, teachers can increase student engagement and support learning by incorporating digital assessment tools into their teaching processes. Special education involves a complex structure that requires individuality rather than the continuation of a general and standardized process. Thanks to digital assessment tools, individual exams can be conducted. Special education teachers also mention this feature. Thanks to digital assessment tools, more contextual, action and needs-based alternative assessments can be realized (Pameijer, 2006). Digital tools have great potential for teaching efficiency, supporting student motivation and engagement, individualized/differentiated instruction, presenting content in different formats, formative assessment, and examining the effectiveness of instruction (Anderson & Putman, 2020; Ciampa, 2017; Courduff et al., 2016).

A classroom where digital assessment is incorporated continues to host the learning process both physically and virtually. This is important for continuity of learning and has been noted by special education teachers. Furthermore, digital assessment tools can be used to store students' assessment products and help create a shareable e-portfolio. With this feature, teachers likened digital assessment tools to a bag and expressed it as a virtual space where students store the materials they need during the learning process. Another advantage of digital is that it supports communication and collaboration with peers or adults outside the classroom. With these assessment tools, students can be involved in assessment activities with other students and the individual assessment process can be supported by group assessment. Moreover, teachers need to be proactive in the learning process as they are in the most vital position when interacting with students (Rice & Ortiz, 2021). Since children and adolescents with special educational needs do not receive adequate social, emotional and academic support from their parents (Whitson & Kaufman, 2017), the academic success of these students is largely related to the adapted and appropriate implementation of digital learning (Börnert-Ringleb et al., 2021). The definition of a paperless classroom with digital assessment tools is also an opportunity often emphasized by special education teachers. At this point, digital materials offer teachers opportunities in terms of both savings and ease of storage. In addition to standardized tests, digital assessment tools offer a wide range of assessment materials. In this way, assessment materials can be used at the end of the learning process and throughout the process. Special education teachers can use digital assessment tools to record written or audio feedback to students about the material. Thus, the student will be able to find the

feedback again in an accessible form.

Declarations

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References

Aksoy, V., & Şafak, P. (2020). 573 sayılı KHK'dan günümüze özel eğitimde eğitsel tanılama ve değerlendirme: Neredeyiz, nereye gitmeliyiz? *Turkish Journal of Special Education Research and Practice*, *2*(1), 47-67. https://doi.org/10.37233/TRSPED.2020.0108

Alderson, J. C. (2000). Technology in testing: The present and the future. *System*, *28*(4), 593-603.

An, Y., Kaplan-Rakowski, R., Yang, J., Conan, J., Kinard, W., & Daughrity, L. (2021). Examining K-12 teachers' feelings, experiences, and perspectives regarding online teaching during the early stage of the COVID-19 pandemic. *Educational Technology Research and Development*, *69*(5), 2589–2613. https://doi.org/10.1007/s11423-021-10008-5

Anderson, S. E., & Putman, R. S. (2020). Special education teachers' experience, confidence, beliefs, and knowledge about integrating technology. *Journal of Special Education Technology*, *35*(1), 37-50. https://doi.org/10.1177/0162643419836409

Anderson, S., Griffith, R., & Crawford, L. (2017). TPACK in special education: Preservice teacher decision making while integrating iPads into instruction. *Contemporary Issues in Technology and Teacher Education*, *17*(1), 97-127.

Bader, G. E., & Rossi, C. A. (2002). *Focus groups: A step-by-step guide* (3rd ed.). Bader Group.

Börnert-Ringleb, M., Casale, G., & Hillenbrand, C. (2021). What predicts teachers' use of digital learning in Germany? Examining the obstacles and conditions of digital learning in special education. *European Journal of Special Needs Education*, *36*(1), 80-97. https://doi.org/10.1080/08856257.2021.1872847s

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Broadfoot, P., & Black, P. (2004). Redefining assessment? The first ten years of assessment in education. *Assessment in Education: Principles, Policy & Practice*, *11*(1), 7-26. https://doi.org/10.1080/0969594042000208976

Cardullo, V., Wang, C. H., Burton, M., & Dong, J. (2021). K-12 teachers' remote teaching self-efcacy during the pandemic. *Journal of Research in Innovative Teaching & Learning*, *14*(1), 32–45. http://dx.doi.org/10.1108/JRIT-10-2020-0055

Chuvieco, E., Aguado, I., Yebra, M., Nieto, H., Salas, J., Martín, M. P., ... & Zamora, R. (2010). Development of a framework for fire risk assessment using remote sensing and geographic information system technologies. *Ecological Modelling*, *221*(1), 46-58. https://doi.org/10.1016/j.ecolmodel.2008.11.017

Ciampa, K. (2017). Building bridges between technology and content literacy in special education: Lessons learned from special educators' use of integrated technology and perceived benefits for students. *Literacy Research and Instruction, 56*, 85–113. https://doi.org/10.1080/19388071.2017.1280863

Costely, K. C. (2014). *The positive effects of technology on teaching and student learning.* https://files.eric.ed.gov/fulltext/ED554557.pdf

Courduff, J., Szapkiw, A., & Wendt, J. L. (2016). Grounded in what works: Exemplary practice in special education teachers' technology integration. *Journal of Special Education Technology, 31*, 26–38.

https://doi.org/10.1177/0162643416633333

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.

Deepika, V., Soundariya, K., Karthikeyan, K., & Kalaiselvan, G. (2021). 'Learning from home': role of e-learning methodologies and tools during novel coronavirus pandemic outbreak. *Postgraduate Medical Journal*, *97*(1151), 590-597. https://doi.org/10.1136/postgradmedj-2020-137989

Eyal, L. (2012). Digital assessment literacy—The core role of the teacher in a digital environment. *Journal of Educational Technology & Society*, *15*(2), 37-49.

Flanagan, S., Bouck, E. C., & Richardson, J. (2013). Middle school special education teachers' perceptions and use of assistive technology in literacy instruction. *Assistive Technology*, *25*(1), 24-30. https://doi.org/10.1080/10400435.2012.682697

Gümüs, M. M., Çakir, R., Korkmaz, Ö., & Ugur Erdogmus, F. (2021). Analysis of IT acceptance levels, ICT attitudes, and individual innovation levels of special education teachers and their opinions. *International Journal of Technology in Education*, *4*(3), 553-588. https://doi.org/10.46328/ijte.87

Harris, L. R., & Brown, G. T. (2018). *Using self-assessment to improve student learning*. Routledge.

Hennink, M. M. (2007). *International focus group research: A handbook for the health and social sciences*. Cambridge University Press.

Huth, V., Füssl, E., & Risser, R. (2014). Motorcycle riders' perceptions, attitudes and strategies: Findings from a focus group study. *Transportation Research Part F: Traffic Psychology and Behaviour*, *25*, 74-85. https://doi.org/10.1016/j.trf.2014.05.004

Karabulut, A., Yandı, A., & Kaya, A. (2019). Determination of self-efficacy beliefs of teacher candidates studying in special education department. *The Journal of Turkish Social Research. 23*(2), 555-574. https://doi.org/10.11114/jets.v6i12.3661

Kim, J. Y., & Fienup, D. M. (2021). Increasing access to online learning for students with disabilities during the COVID-19 pandemic. *The Journal of Special Education, 55*(4), 213-221. https://doi.org/10.1177/00224 66921998067

Kışla, T. (2008). Özel eğitim öğretmenlerinin bilgisayar tutumlarının incelenmesi. *Ege Eğitim Dergisi*, *9*(2), 127-153.

Krueger, R. A. (2014). *Focus groups: A practical guide for applied research*. Sage publications.

Kutlu, M., Schreglmann, S., & Cinisli, N. (2018). The views of special education teachers on the use of assistive technologies in special education. *Yuzuncu Yıl University Journal of Education Faculty, 15*(1), 1540-1569. https://doi.org/10.23891/efdyyu.2018.115

Llamas-Nistal, M., Fernández-Iglesias, M. J., González-Tato, J., & Mikic-Fonte, F. A. (2013). Blended e-assessment: Migrating classical exams to the digital world. *Computers & Education*, *62*, 72-87. https://doi.org/10.1016/j.compedu.2012.10.021

Miles, M. B., & Huberman, A. M. (1984). Drawing valid meaning from qualitative data: Toward a shared craft. *Educational researcher*, *13*(5), 20-30. https://doi.org/10.3102/0013189X013005020

Morgan, D. L., & Krueger, R. A. (1998). *The focus group guidebook*. Sage.

Myers, J., Witzel, B., Bouck, E., & Mathis, J. (2021). Middle school math teachers' perceptions of their classroom practices among students with disabilities before and during the pandemic: A pilot study. *Journal of Online Learning Research, 7*(3), 209–231.

Nam, C. S., Bahn, S., & Lee, R. (2013). Acceptance of assistive technology by special education teachers: A structural equation model approach. *International Journal of Human-Computer Interaction*, *29*(5), 365-377.

https://doi.org/10.1080/10447318.2012.711990

Ok, M. W., & Rao, K. (2019). Digital tools for the inclusive classroom: Google chrome as assistive and instructional technology. *Journal of Special Education Technology*, *34*(3), 204-211. https://doi.org/10.1177/0162643419841546

Pameijer, N. (2006). Towards needs-based assessment: Bridging the gap between assessment and practice. *Educational and Child Psychology*, *23*(3), 12-24.

Parmigiani, D., Benigno, V., Giusto, M., Silvaggio, C., & Sperandio, S. (2020). E-inclusion: online special education in Italy during the COVID-19 pandemic. *Technology, Pedagogy and Education, 30*(1), 111–124. https://doi.org/10.1007/s11423-021-10008-5

Regulation on Special Education Services of the Ministry of National Education (2018). https://www.resmigazete.gov.tr/eskiler/2018/07/20180707-8.htm

Rice, M. F. (2022). Special education teachers' use of technologies during the COVID-19 era (Spring 2020 — Fall 2021). *TechTrends*, *66*(2), 310-326. https://doi.org/10.1007/s11528-022-00700-5

Rice, M., & Ortiz, K. (2021). Evaluating digital instructional materials for K-12 online and blended learning. *Tech Trends*, *65*(6), 977-992. https://doi.org/10.1007/s11528-021-00671-z

Safa, B. S. (2019). *Class teachers' usage levels of educational technologies in terms of individual innovation features* [Unpublished master's thesis]. Aydin Adnan Menderes University.

Şahin, M., & Arslan Namlı, N. (2019). Investigation of preservice teachers' attitudes to use technology in education. *Turkish Journal of Social Research, 23*(1), 95-112.

Senel, S., & Senel, H. C. (2021). Remote assessment in higher education during COVID-19 pandemic. *International Journal of Assessment Tools in Education*, *8*(2), 181-199. https://doi.org/10.21449/ijate.820140

Steed, E. A., & Leech, N. (2021). Shifting to remote learning during COVID-19: Differences for early childhood and early childhood special education teachers. *Early Childhood Education Journal*, *49*(5), 789-798. https://doi.org/10.1007/s10643-021-01218-w

United Nations Educational, Scientific and Cultural Organization (2020). *COVID-19 impact on education*. https://en.unesco.org/covid19/educationresponse

Vrasidas, C., Pattis, I., Panaou, P., Antonaki, M., Aravi, C., Avraamidou, L., ... & Zembylas, M. (2010, May 3-4). *Teacher use of ICT: Challenges and opportunities*. 7th International Conference on Networked Learning, Denmark. *https://www.lancaster.ac.uk/fss/organisations/netlc/past/nlc2010/abstracts/PDFs/Vrasidas.pdf*

Whitson, M. L., & Kaufman, J. S. (2017). Parenting stress as a mediator of trauma exposure and mental health outcomes in young children. *American Journal of Orthopsychiatry 87*(5), 531–539. https://doi.org/10.1037/ort0000271

Wilkinson, S. (2004). Focus group research. *Qualitative Research: Theory, Method, and Practice*, *2*, 177-199.

Yenioğlu, S., Sayar, K., Köse, H., & Yıldız, N. G. (2019). Türkiye'de özel eğitim alanında değerlendirme süreci. *Kastamonu Eğitim Dergisi*, *27*(6), 2729-2746. https://doi.org/10.24106/kefdergi.3100

Yıldırım, A. & Şimşek H. (2006). *Sosyal Bilimlerde Nitel Araştırma Yöntemleri*. Seçkin Yayıncılık.

Yilmaz, Y., Karabulut, H. A., Uçar, A. S., & Uçar, K. (2021). Determination of the Education Technology Competencies of Special Education Teachers. *European Journal of Special Education Research, 7*(2), 71-83. http://dx.doi.org/10.46827/ejse.v7i2.3734