

# Systematic Review Of Studies On The Employment Of Digital Educational Platforms For Students With Disabilities

Basim Rafi Alsheri<sup>1</sup>, Ahmed I Fallatah<sup>2</sup>, Ali Hassan S Najmi<sup>3</sup>

<sup>1</sup>*Instructional Technology Department, Faculty of Educational Graduate Studies, King Abdulaziz University, Saudi Arabia, E-mail: [balshehry@kau.edu.sa](mailto:balshehry@kau.edu.sa)*

<sup>2</sup>*Instructional Technology Department, Faculty of Educational Graduate Studies, King Abdulaziz University, Saudi Arabia, E-mail: [aflatah@kau.edu.sa](mailto:aflatah@kau.edu.sa)*

<sup>3</sup>*Instructional Technology Department, Faculty of Educational Graduate Studies, King Abdulaziz University, Saudi Arabia, E-mail: [ahnajmi@kau.edu.sa](mailto:ahnajmi@kau.edu.sa)*

*Corresponding author: Basim Rafi Alsheri, E-mail: [balshehry@kau.edu.sa](mailto:balshehry@kau.edu.sa)*

## Abstract

This research aims at reviewing and analyzing the published studies in the globally classified international databases in ScienceDirect, Scopus, during the years 2010-2021. For identifying the digital platforms, employed for students with special needs, and for revealing the key purposes, advantages and challenges, a systematic review methodology has been used. The research sample consists of 40 studies; as well, a symbolic model has been developed for data collection. The main findings are that the most used digital platforms are Moodle and Blackboard, while the variables are performance variables related to skills. The results also indicate low skills in using digital platforms for some persons with disabilities and a lack of social interaction among learners.

**Keywords:** Systematic Review, Digital platforms, People with Disabilities

## Introduction

Digital educational platforms are one of the major sources of E-Learning, due to their features and multiple potentials in managing the learning process and the electronic content [1-2]. These platforms have become more important during Covid 19 pandemic, since they have enabled teachers and educational institutions, at all levels, to make a rapid transition from face-to-face learning in traditional learning environments to distance learning. E-learning platforms come on top of Web 2.0 technologies that provide an interactive learning environment, through which a teacher can design and offer courses to students to interact, participate and engage in course-specific learning tasks and activities in a virtual learning environment [3-8]. E-learning platforms are environments that provide interactive learning services and provide students, parents and teachers access to course content, learning activities and

tools that promote and evaluate learning [9-12]. In addition, these platforms provide an interactive learning environment, employing web technology as features of e-content management systems and networks. It enables teachers to publish lessons and objectives, set assignments, apply educational activities and communicate through multiple techniques, enabling teachers to conduct electronic tests, divide students into working groups and exchange ideas and views [11]. Moreover, they provide access to educational services for learners and teachers as well as officials and include a range of services such as access control, learning content, communication and evaluation tools [13]. The most popular digital educational platforms are Blackboard, Moodle, Canvas and Edmodo. As well, the selection of the appropriate digital educational platforms depends on multiple criteria, including the infrastructure, ease of use and the available test management system of the digital

educational platform [14]. The design of the digital platform system, ease of use and subjective standards also play a role in the demand for and use of these platforms by students in their learning process [15]. Despite the potential and features of the digital platforms, students with special needs may face some difficulties in using them in their learning processes, for they are unable to meet those learners' needs. Those learners, according to World Health Organization (WHO) statistics, represent 15% of the world's population. Similarly, Iglesias, Jiménez, Revuelta and Moreno [16] indicate that learning is a human right, yet not everyone gets it, especially students with disabilities. As a result, digital educational platforms may provide every student access to educational content if adapted to people with disabilities. For instance, it can contain audio-visual content for the lectures, simultaneous translations, and notes with different designs and formats to fit the deaf and hearing-impaired students. Martins, Freitas, Cristina, Pereira and Santos [17] point out the possibility of improving the people with disabilities' health and happiness by using the digital platforms through enabling them of social communication and effective social networking via the digital platforms. Although the improved access of the learning management systems and digital platforms, people with disabilities are still encountering challenges in dealing with them [18].

#### **This research aims at answering the following questions:**

What are the digital platforms used in the previous studies?

What are the variables used in the previous studies?

Who are the people with disabilities studied in the previous studies?

What are the purposes fulfilled in using digital platforms in the previous studies?

What are the advantages of using digital platforms in the previous studies?

What are the challenges faced in using digital platforms in the teaching process?

#### **Literature Review**

In the era of technology, Information and Communication Technology (ICT) plays a

significant role in many aspects of people's life. Education is one domain that has changed dramatically due to the implementation of technology transformation. Kaware and Sain [19] mentioned the role of ICT, and how such technology has improved the quality of education administration and learning processes. It provides vast improvement opportunities for students, teachers, and education systems in general. The pandemic of Covid19 has forced almost all schools and academic institutions all over the globe to stop having students on campus. Therefore, an emergency transformation has been adopted to overcome the difficulty of attending schools, and most educational systems around the world started to practice a wild utilizing of e-learning approaches [20]. As a result of the transformation to e-learning strategies and technologies, most schools and academic institutions have been able to encounter schools' closure and continue the learning process. The Covid-19 pandemic has imposed an adjustment to the form of education, so worldwide educational institutions have had to make more efforts to transfer education and knowledge to learners without interruption in various ways and different types to overcome the emergency conditions imposed by the pandemic [21]. Darkwa and Antwi [22] pointed out that teachers and learners have found themselves forced to adopt the experience of using digital platforms for the educational process and teaching due to the COVID-19 pandemic. After the spread of the Covid-19 virus, governments of most countries ordered the closure of all educational institutions such as schools and universities. Teachers in various countries began teaching their students through distance learning applications and platforms in that period [23]. Therefore, this is the appropriate time to think seriously about re-designing the educational system, which calls for choosing the best technology-based methods and practices in the educational process that focus on the learners in the first place and make them an active element in the educational process [14]. The prevailing belief was that there is no educational intervention to replace traditional education. However, after the Covid-19 pandemic, the situation has changed, since there has been an educational shift from traditional education to e-

learning and from traditional classrooms to virtual classrooms, as one of the future strategic options even after the end of the Covid-19 pandemic [21]. Learning Management System (LMS) is one technology that expands the capabilities of teachers, students, and academic administrators to widen the practices of e-learning during the pandemic of Covid19. In recent years, digital platforms have conceptually evolved from web-based software used to share lectures between teachers and learners to a dynamic learning environment that supports modern learning strategies such as collaborative learning and flexible learning [24]. Sharma and Vatta [25] defined LMS as a cloud service that has a lot of information about teachers, students and learning content where learning processes occur regardless of the matter of place and time. In this definition, the authors pointed out the content of LMS, as one of its characteristics is that it does not follow a specific place or time. Rienties, Giesbers, Lygo-Baker, Ma and Rees [26] reported that LMS is an online learning environment. In this statement, the authors mentioned the nature of LMS as an online environment that includes various learning elements to interact with each other. There is no doubt that education platforms have many advantages that qualify them to play an active role in managing teaching and learning processes. Kats [27] pointed out some advantages of educational platforms including that they help the learning process succeed by giving learners a sense of equality through communication tools that give learners the opportunity to share their opinion at any time, without embarrassment, unlike traditional classrooms. In addition, it allows learners to connect to an environment full of multimedia, and it facilitates the creation of new environments for group thinking, problem-solving and collaborative learning. It is also characterized by taking into account individual differences among learners by diversifying the methods of providing educational content so that each learner can deal with the content in the way that suits them. Condruz-Băcescu [28] pointed out that the main benefits of e-learning platforms are the development of individual and group skills, the development of analytical skills and the gathering of information and the ability to put it into practice.

Also, the platforms support the exchange of information and communication between literate learners whether synchronous or asynchronous. Also, it allows students to collaborate with other students in integrated learning activities to achieve a specific goal. Moreover, it helps teachers plan and organize learning activities, manage files, assess and understand learners' progress in the learning process, and allows the teacher to design learning activities by identifying learning objectives, lesson plans, and assigning appropriate learning elements to support educational activities [29]. Alhalafawy and Zaki [30] believes that technology has played a key role in the educational process and has made a considerable change in the lives of individuals and societies in various fields and in such difficult times, especially in the field of education. Teachers have used digital platforms in e-learning to transfer education to students via various educational applications on the internet, which provided a suitable space for teaching and learning processes. As a result, teachers have been forced to change their pedagogical methods and enhance learning procedures to enhance their teaching skills through innovative ways based on digital platforms. The current change in distance learning and during the COVID-19 pandemic has become a measure of organizational capacity with many academic institutions as they focus primarily on bringing educational content to the digital world [31]. Alanzi and Alhalafawy [32] indicated that e-learning platforms are at the forefront of technologies that are witnessing an increasing demand for their employment by those concerned with the educational process due to the rapid spread of the Covid-19 pandemic, which disrupted life and paralyzed all movements. Including students with disabilities is one of the most dominant values, supported as a result of the integration of ICT in schools and academic institutions. The applications of ICT as e-learning and distance education have facilitated the chance to study and continue their education for categories of students who were unable to be involved in schools or universities due to their disabilities issues [33]. For instance, some students with physical disabilities shouldn't have concerns regarding the difficulty of attending school because they can have their courses online. There are many concerns regarding the

implementation of e-learning and ICTs for students with disabilities, especially when the "reasonable accommodations" are not taken into consideration, and when accessibility is not well considered. However, the emergency transformation to e-learning has raised many issues regarding the inclusion of students with disabilities in e-learning applications. The adoption of e-learning has been harder and more intense for such students [34]. There was a shortage in providing the equipment, resources and digital content to support the teaching process of students with disabilities and their teachers [34, 35]. In addition, a remarkably vast number of academic institutions have encountered other problems with offering alternative ways of learning, constructing content that ensures the majority of students are involved and providing explicit instructions to students on how to adapt and keep going [36]. Moreover, Nikou and Maslov [37] mentioned one of the main challenges raised due to the transformation of e-learning is to increase the teachers' competencies "to acquire Internet-driven competencies in planning, implementing and evaluating the performance of their students." Numerous gaps or complete failures in providing quality education have been a source of stress for teachers, parents and students [36].

### Methodology

The methodology of systematic literature review and post-analysis of previous studies related to the employment of digital educational platforms for people with special needs has been adopted. It is an objective and quantitative methodology aimed at providing researchers with an overview of the realities and trends of scientific research on the subject, as well as identifying research gaps that require further research and study. It also aims to summarize and synthesize the most important findings and recommendations. To conduct the research, three phases were adopted as follows:

compilation of research-related studies based on the following: using the following keywords (digital platforms, educational digital platforms for people with special needs, online educational platforms, students with disabilities, distance education, database research) (Google scholar, Scopus, Scien indirect), restriction of research in studies published in the time period 2010 to 2022, research with studies published in English, PhD theses, masters and books were excluded, and all age groups and different types of students with special needs were included. For instance, a set of 90 primary research was determined based on the title; 50 of them were excluded because they did not meet the required criteria. Later on, the previous relevant research using digital educational platforms for students with special needs were classified by a range of elements such as type of disability, independent and dependent variables, research methodology, educational design, and effect size. Moreover, a symbolic model containing these elements has been developed to help in classification; finally, previously classified studies have been analyzed to answer research questions. As well, a data mining model has been introduced and included the following: the title of the study, the platform used, the target-dependent variables, the category with special needs, the purpose of using the platform, and the advantages of using the platform, and the challenges in use.

### The Results of the Study

The answer to the research's first question: What are the digital platforms used in the previous studies?

The first question has been answered by applying a symbolic model to the studies, according to selection and exclusion criteria. The analysis shows that there is a difference in the number of employed digital platforms in each study, as shown in table (1).

Table (1): The number of employed digital platforms in each study

| Platform Name | Repetition |
|---------------|------------|
| Moodle        | 9          |
| Blackboard    | 7          |

|  |   |
|--|---|
| AMIC Platform for social communication for people with mental disabilities | 2 |
| Canvas LMS   | 1 |
| APEINTA web learning platform  | 1 |
| STOMP  | 1 |
| Innovative Learning Platform for Deaf, Hearing-Impaired Students           | 1 |
| Eliademy   | 1 |
| Docebo   | 1 |
| Sakai  | 1 |
| A Tutor  | 1 |
| Adaptive Electronic Learning System Platform                               | 1 |
| KazNPU   | 1 |
| Asistranto   | 1 |
| Math   | 1 |
| Kinems   | 1 |
| RFID   | 1 |
| Microsoft Teams Platform   | 1 |
| ML Platform for Virtual Reality  | 1 |
| Udemy  | 1 |
| Coursera   | 1 |
| edX  | 1 |
| Developed Platform for Autistic Children                                   | 1 |
| Facebook   | 1 |
| Davee  | 1 |
| Classroom Performance System (cps) with Blackboard                         | 1 |

Regarding table (1), the number of digital platforms covered in previous studies is 26, as follows: Moodle, Blackboard, AMIC Platform for social communication for people with mental disabilities, APEINTA web learning platform, STOMP platform, Innovative Learning Platform for Deaf, Hearing-Impaired Students, Eliademy Platform, Docebo Platform, Sakai Platform, A Tutor Platform, Adaptive Electronic Learning System Platform, KazNPU platform, Asistranto platform, Math platform, Kinems platform, RFID platform, Microsoft Teams Platform, ML Virtual Reality Platform, Udemy Platform, Coursera Platform, and edX Platform. Consequently, Moodle comes on top of the platforms listed in the table by nine repetitions, while Blackboard comes the second by seven repetitions, followed by AMIC Platform for social communication for people with mental disabilities by two repetitions. Then, many other platforms follow by one repetition in the

covered studies as follows: APEINTA web learning platform, STOMP platform, Innovative Learning Platform for Deaf, Hearing-Impaired Students, Eliademy platform, Docebo platform, Sakai platform, A Tutor platform, Adaptive Electronic Learning System platform, KazNPU platform, Asistranto platform, Math platform, Kinems platform, RFID platform, Microsoft Teams platform, ML platform for Virtual Reality, Udemy platform, Coursera platform, and edX platform. This also shows a difference in the number of employed digital platforms in previous studies, since some studies have adopted developing these platforms to easily access the content, and enhance distance learning as in Moodle and Blackboard Platforms. On the other hand, other studies have adopted these platforms to strengthen social relationships as AMIC platform. Similarly, some studies have adopted different platforms as Bocevaska, Savoska, Ristevski and

Blazheska-Tabakovska [18] study, while others have adopted only one platform as Batanero, de-Marcos, Holvikivi, Hilera and Otón [38] study and Mohd Hashim and Tasir [39] study. Moreover, some studies have only proposed development for any platform as Schimmelpfeng and Ulbricht [40] study, using open-source platforms like Moodle, Udemy, Coursera, and Edx, while others used the closed-source platform like Blackboard. Some studies have only developed educational platforms or a proposal for a platform that meets the study's objectives.

**The answer to the research's second question: What are the variables used in the previous studies?**

The second question has been answered by applying a symbolic model to the studies, according to selection and exclusion criteria. The analysis shows that there is a difference in the number of employed digital platforms in each study, as shown in table (2).

Table (2): The number of employed variables in each study

| Variables   | Repetition |
|---|------------|
| Deaf students' performance in using the developed e-learning platform                     | 3          |
| Achievement   | 2          |
| Assessment of the relevance of employment and the satisfaction of deaf students           | 2          |
| Promotion of mental health, social relations of persons with mental disabilities          | 1          |
| Support and facilitation persons with disabilities' learning                              | 1          |
| Access and use of Canvas platform by the teaching staff                                   | 1          |
| Enhancing writing and reading skills of hearing-impaired students                         | 1          |
| Active social and physical participation  | 1          |
| Creative and emotional thinking   | 1          |
| Acquisition of musical knowledge  | 1          |
| Development of communication and interaction skills                                       | 1          |
| Promoting social interaction  | 1          |
| Development of digital design skills  | 1          |
| Development of academic and cognitive skills  | 1          |
| Students' and Teachers' Perceptions of Platform Use                                       | 1          |
| Improving learning and social skills  | 1          |
| Educational outputs in engineering for several subjects                                   | 1          |
| Learning outputs on basic concepts of communication and computer engineering              | 1          |
| Scientific concepts - Problem-solving skills  | 1          |
| Adaptation and smooth transition to university education                                  | 1          |
| Adapting user interfaces for educational platforms for people with different disabilities | 1          |
| Database search skills  | 1          |
| Interaction and Communication System for Children with Autism                             | 1          |

From the results shown in table (2), the number of variables employed in previous studies is 23, as follows: the variables for student performance come on top of the list by three repetitions; whereas variables of the relevance of employment and the satisfaction and variables for achievement follow by two repetitions to each. Then, the rest of the variables follow by one repetition for each variable, noting the similarity of the titles of some types of variables, but differing in terms of the entry for each variable and the way it is used in the study.

**The answer to the research's third question: Who are the people with disabilities studied in the previous studies?**

The third question has been answered by applying a symbolic model to the studies, according to selection and exclusion criteria. The analysis shows that there is a difference in the number of employed digital platforms in each study, as shown in table (3).

Table (3): Categories studied in each study

| People with Special Needs | Repetition |
|---------------------------|------------|
| Hearing Disability        | 13         |
| Visual Disability         | 10         |
| Mental Disability         | 5          |
| Autism Spectrum Disorders | 4          |
| Physical Disability       | 2          |

Regarding table (3), there are 5 categories covered in previous studies. The categories have been reclassified according to the type of disability in each study, as follows: the categories that studied the category of hearing disabilities come first, by 13 repetitions of this category, followed by visual disabilities and visual impairment, by 10 repetitions of this category. Further, intellectual disabilities follow by 5 repetitions, and then comes autism by 4 repetitions; finally, physical disabilities follow by 2 repetitions.

**The answer to the research's fourth question: What are the purposes fulfilled in using digital platforms in the previous studies?**

To answer this question, studies have been analyzed for digital platform employment purposes. Results have shown that there is a difference in the purpose of using such platforms. Most studies use the Moodle platform, aimed at supporting, developing and raising the academic performance of students as [39, 41-43] studies suggest. On the other hand, there has been a similarity in the use of some educational platforms, such as Blackboard, AMIC and ML Virtual Reality, and the purpose of their use is to promote distance learning and social interaction. Other studies have developed educational platforms aimed at enhancing students' thinking skills and emotional status, such as Assistranto, KazNPU, and RFID platforms. In addition, some studies aimed at establishing adaptive platforms to design an adaptive electronic learning system for the purpose of enhancing the writing and reading skills of the students as [44, 45] studies state.

**The answer to the research's fifth question: What are the advantages of using digital platforms in the previous studies?**

This question has been answered by studying and analyzing the advantages of using digital platforms. The findings declare that there are special advantages for each platform, shared with other platforms' advantages. Using digital platforms has advantages as follows: easy access to knowledge and increased collective participation, improved achievement and skills, access to internet services, development of educational programs, involvement of learners in educational content, diversity and enrichment of sources such as communication and content building, creating a safe psychological atmosphere, containing virtual classes for learners, social interaction through participation in activities, the adaptation of electronic educational platforms to the needs of different students, and acquisition of technical expertise by learners.

**The answer to the research's sixth question: What are the challenges faced in using digital platforms in the teaching process?**

Studies and analyses of challenges in using digital platforms show that challenges vary from one platform to another. Among the challenges faced

by researchers is that there is insufficient information on standards for using educational platforms for certain types of disabilities, particularly for physical disabilities. Moreover, there have been technical problems, including the stating and uploading of data on educational objectives. Additionally, some studies have been applied in a realistic educational context, and researchers did not have full control over participants' behaviors and associated circumstances. As a challenge, digital platforms are more suitable for theoretical lectures and difficult to apply in practical lectures. On the other hand, some platforms have a learning management system and basic features that are difficult to adjust and adapt to the requirements and accessibility of persons with disabilities. Traditional beliefs have also had a negative impact on the use of platforms such as traditional content delivery and failure to take into account individual differences between learners. There were challenges in skills, such as the lack of knowledge of teachers and learners about how to use digital platforms, which led to poor application of digital platforms in the educational process. Some studies have pointed out that the cost of money spent on digital platforms and the cost of problem-solving need to be expensive. In addition, there have been challenges in the privacy of platforms, such as the existence of multi-meaning words that are difficult to understand, the ethics of using the Internet, and the language used on the platform.

### **Discussion**

The results in the first question, which indicates what digital platforms were employed, showed that the most common platform was Moodle. This is evidence that studies focused on that platform because most students used it in order to enjoy, and interact through learning. Costa, Alvelos and Teixeira [46] has confirmed that the Moodle platform has got the highest percentage in the results; it attracts students, for it is a rich environment of information, interactive tools and user-friendly components, all of which allow students to participate effectively and communicate easily. This platform also features many advantages referred to by Gogan, Sirbu and Draghici [47]. For example, it has a free open-

source system that supports SCORM standards. Moreover, its educational foundations help teachers to provide a digital learning environment, and ease of use in educational institutions. As well, it supports multilingualism, educational design potential, record management potential for students, evaluation potential for student activities and performance, student-teacher communication potential, control potential and system management, all of which justify why Moodle comes on top among the most widely used platforms. This does not mean that one platform is better than another, as Blackboard is also one of the most popular platforms. Blackboard comes second, for it is popular especially at the academic level among universities, globally, as indicated by [48]. Blackboard has many potentials in terms of providing an application for smartphones, effectiveness in the educational field, high degree of security and confidentiality, system strength and stability, flexibility and scalability, and providing many possibilities for managing the educational process. This has been confirmed by Alzain [49] study; students had more positive perceptions of the Blackboard platform before COVID 19 in 2019, and it became more positive during the pandemic. Although the rest of the platforms in previous studies did not have the same reception as Moodle and Blackboard due to their common use, the most important factor in choosing the appropriate system is the extent to which the system serves the objectives, sample, variables and benefits of the study. As well as, what system is used before in the educational entity justifies the use of different platforms by the rest of the studies. The results of the second question indicated what variables had been used in the covered studies and what different variables were used. The variable of measuring student performance using developed e-learning platforms and achievement variables has taken up considerable space in the studies. They were more frequent variables in the studies due to their importance in measuring the output of the educational process. Most students use educational platforms such as Moodle, Blackboard and other educational platforms to increase their educational achievement in their educational majors. In short, academic achievement is important in raising the student's level during academic life [38, 45].



Regarding the results of the third question, which states what category of special needs has been studied, studies have focused more on people with visual disabilities, since they have a key role in searching for methods and platforms appropriate to this category. Diversity is observed in the study of categories within each of the previous studies. However, some studies have included more than one category with special needs, such as Kent, Ellis and Giles [50] study, which covered four types of categories with special needs: mental, health, visual, hearing, to include more people with special needs in higher education. On the other hand, some studies have dealt with a specific category, such as the study of Csapó, Wersényi, Nagy and Stockman [33], which only focused on the category of blind persons. This aims at examining the potential of getting access to the educational platform used and promoting distance learning for blind students. Moreover, the most frequent studies include hearing disabilities, followed by visual disabilities, intellectual and mental disabilities, autism spectrum disabilities, physical and health disabilities, and finally, persons with special needs. Similarly, the results of the fourth question "What are the purposes fulfilled in using digital platforms?" found that the overall objective of using digital platforms was to analyze the characteristics of deaf and hearing-impaired students and their preferred learning methods. This meant to design innovative learning platforms suitable for them, as well as to analyze the most appropriate way to deliver information and content for better learning [51]. The fifth question, stating the advantages of using digital platforms in the educational process, declares that there are special advantages and disadvantages of each platform. The digital platforms discussed in the studies have many attractive advantages for the educational process as they go along with scientific and technological developments. Thus, several studies pointed out the advantages of digital platforms as the [46]. Digital platforms also aim to reduce the burden of traditional education and find information easily to save effort and time. Rather, they are suitable for persons with special needs, making it easier to get an education anytime and anywhere. In addition, they aim at enhancing social interaction by participating in activities as they are

adapted to students' different needs to seek technical experiences. Similarly, the results of the sixth question, which states what are the challenges during the employment of digital platforms in the educational process, show that there have been challenges during the employment of digital platforms in the educational process. Perhaps, the most major challenges are the poor skills in using digital platforms for some persons with disabilities and the lack of social interaction among learners. Additionally, digital platforms are more suitable for theoretical lectures and hard to apply in practical lectures. There are also technical challenges such as the basic features of each learning management system. Those systems could not be modified to adapt to the accessibility requirements of persons with disabilities. Studies have shown that, despite developments in social media techniques, the effectiveness of restating them for educational purposes has not yet been assessed as an educational approach in the classroom of traditional art as the Di Gangi, Goh and Lewis [52] suggests.

### **Limitations and Future Guidelines**

This research has dealt with studies of special needs, yet it is limited to analyzing the mental characteristics of deaf and hearing-impaired students and their preferred learning methods to design innovative learning platforms suitable for them. Concerning future guidelines, the sample study must be taken into consideration, since most of the samples to which the study was applied are considered too small and the success of those platforms cannot be judged. In addition, it is preferable to establish training courses on how to use educational platforms before applying the study to assure students' knowledge of using the platforms. It is necessary to standardize the use of a system of educational platforms for all students in colleges and universities, as it is important for the student to adapt to the platform and the scientific content. Thus, research has examined many variables of people with special needs; however, it would have been better to focus on developing students' thinking skills such as critical thinking skills, creative thinking and other skills. Future research also includes studying the different levels of disability in e-learning, studying the

criteria for using educational platforms for certain types of disabilities, studying the educational design targeted at educational platforms for people with disabilities, studying the trends of teachers with disabilities towards their use of e-platforms and developing helping training programs, and studying the social and psychological impact of people with disabilities in learning about disability during the pandemic.

### Conclusion

Needless to say, this research aims at analyzing the mental characteristics of deaf and hearing-impaired students and their preferred learning methods to design innovative learning platforms suitable for them, as well as analyzing the best way to deliver information for better education. Furthermore, 26 digital educational platforms have contributed to the development of students with special needs to facilitate their educational process. There has undoubtedly been a contrast in the numbers of digital platforms used as some studies developed them for easy access to content and enhancing distance learning such as Moodle and Blackboard. On the contrary, other platforms have been used to enhance social relationships as AMIK platform. For instance, participants prefer continuous-content e-learning sections, which include understanding questions and exercises. Moreover, participants have positive attitudes toward using platforms like Moodle, since it is an innovative learning method imposed by technological developments in the world today. Diversity in digital platforms in studies has led to a variety of results compared to future research, as well as getting the best and most appropriate for persons with special needs platforms. As a result, the traditional teaching methods are fading away because of having digital platforms that meet students' needs anytime and anywhere. In short, digital platforms have advantages that aim at reducing traditional learning burden, acquiring knowledge easily, and saving time and effort. More importantly, they have been suitable for people with special needs, making it easier to seek learning anytime, anywhere.

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