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The Degree Of Employing E-Learning Platforms In Educating Students With Disabilities: An Applied Study In Public Schools In Amman

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Abstract

The current study aims to identify the Degree of Employing E-Learning Platforms in Educating Students with Disabilities: An Applied Study in Public Schools in Amman. This study used the descriptive analytical approach in order to identify the impact of e-learning platforms on students with special needs and the skills they acquire from these platforms. The researcher has developed a questionnaire, which contains (3) demographic variables and (16) questions represent study variables.The results revealed that the degree of employing e-learning platforms in educating students with disabilities in Jordan from the teachers' point of view was moderate. Furthermore, the mean of the fields of study came in order (3.49) Evaluation, (3.49) Social communication, (3.44) Content, (3.46) Interactive side.The results have significance forstudents with special needs in the first place. Therefore, the Ministry of Education should design interactive educational platforms that meet the needs of people with special needs. The study also suggests designing curricula that encourage virtual participation in learning the skills and knowledge necessary for people with special needs, in order to ensure their interaction with them and benefit from them.

Introduction

Since the earliest of the twenty-first century, the Jordanian information education structure has been unremittingly developed (Benta, Bologa&Dzitac, 2014). Multimedia teaching is a significant measure of information education. Many schools across the Kingdom have sought to teach multimedia as an educational method based on technology. Compared to ordinary teaching approaches multimedia education offers great benefits (Ouadoud, Chkouri, Nejjari& El Kadiri, 2016).Xia et al.,(2019) add that these advantages affect many features, such as sharing educational assets, improving students' enthusiasm for learning, and enhencing teaching productivity. The most distinguishing feature of multimedia technology is interaction, which is the fundamental of multimedia technology to improve the role of quality educational outcomes. Interaction is a vital standard for assessing the level of technology teaching resources, and it is a significant manifestation of the strong function of multimedia teaching as well (Puška et al., 2020).

On the Internet, learning platforms are provided to students, where numerous techniques are used to involve students individually and inteamwork learning (Benta, Bologa, Dzitac&Dzitac, 2015). Creating online lessons allows schools to share knowledge and skills with students, both domestically and internationally (Gafni, Achituv, Eidelman&Chatsky, 018). The exclusivity of using the Internet as a means of learning has created the concept of e-learning. E-learning is a popular educational form because it is flexible in its application and meets the needs of all students (Ouadoud, Chkouri&Nejjari, 2018). The key aspects for choosing e-learning and educational platforms were simplicity of use, flexibility, functionality, and feature set (Redondo, Rodríguez, Escobar & Vilas, 2020). The concept of educational platform is very significant because it provides alternative ways to improve students' awareness, skills and behaviors using modern technologies by relying on e-learning (Ouadoud, Chkouri, Nejjari& El Kadiri, 2018). E-learning and educational platforms are growing rapidly during the COVID-19 pandemic, because learning can be conducted anytime, anywhere and students gain superior control over their own learning (Tsankov&Damyanov, 2017).

The main goal of online classes in e-learning platforms is to engage a large number of students in the educational process and to provide them with skills and experiences regardless of their skills, experience and abilities (Al-Mubireek, 2019). Since not all students have the same experience, skills and capabilities. Therefore, it is important to conduct research on how to use educational platforms and learning methods to provide students with the skills and experiences they need, especially students with special needs, which will ensure better results for students who use online training courses in addition to their successful completion of studies (Martins, 2015).

It can be assumed that the new challenges and requirements linked with distance learning through learning platforms spark learning processes and that the success of home-schooling depends heavily on the individual

and family resources of the child (Grubišić, et al., 2020). For example, it is assumed that students with special educational needs (Andajani&Wijiastuti, 2020) and students with low levels of achievement (Ginting, Sembiring&Hutasuhut, 2020) are adversely affected by school closures and distance learning. Consequently, this article seeks to shed light on the role of educational platforms in providing students with special needs at home during school closures, the skills and knowledge they need in a proper and adequate manner (Zongozzi, 2020).

While earlier research focused on creating electronic learning backgrounds to fulfil the needs of some students with special needs, many of these efforts targeted educational platforms to provide learners with disabilities with the skills and knowledge they need without detracting from their rights (Wen, et al., 2020;Naumova, Vytovtova, Mitiukov&Zulfugarzade, 2017; Cinquin, Guitton&Sauzéon, 2019). Consequently, it was imperative to develop interactive platforms that facilitate the distance education process for students with special needs, and enable them to overcome the difficulties they face during the learning process (Rivera, 2017;Policar, Crawford &Alligood, 2017).

The rest of this paper is prepared as follows: In the second section, the literature on educational platforms and their impact on the conduct of the educational process is reviewed. It also discusses learning environments for students with disabilities and the appropriateness of learning platforms during the pandemic. In the third section, the price of the research methodology used in data collection and analysisis discussed. Then the paper discusses the research results. The last sections discuss the implications of our findings for developing a learning platform, looking at study limitations and areas for future research.

In this paper, we raise the main research question:

What is the degree of employing electronic educational platforms in educating students with disabilities in Jordan from the teachers' point of view?

Literature Review

E-learning platforms

Due to the rapid and widespread spread of the Coronavirus, which resulted in a large number of damages affecting all educational, health and economic sectors(Al Lily, Ismail, Abunasser&Alqahtani, 2020). As most countries of the world were forced to impose educational restrictions represented by the closure of schools, universities and institutes to preserve the safety of students from the threat of Corona virus, which is considered as one of the most dangerous challenges facing the human race in the twenty-first century(Onyema et al., 2020).

As the Corona epidemic was classified as a global epidemic that swept all countries of the world and killed many of people this led to millions of injuries and hundreds of thousands of deaths, which led to the destruction of the health, economic and educational systems in a large number of countries of the world(Onyema et al., 2020). Therefore, it was necessary to put in place the necessary plans and strategies to overcome the disastrous effects of this pandemic that threatened millions of students around the world(Basilaia&Kvavadze, 2020).

Torani et al., (2019) emphasizes that due to the strategic importance that the education sector plays in developing societies and preserving the mental, psychological and physical integrity of children. It was imperative to bring together the world's governments to develop new plans and strategies to ensure the provision of high-quality educational service to students who cannot go to school(Khan, Rabbani, Thalassinos&Atif, 2020). As governments began, a few months after the spread of the Corona pandemic, to employ modern technological means in education, such as the use of distance education methods, which were highly successful due to the great development in means of communication and information technology(Slanetz, Parikh, Chapman &Motuzas, 2020).

Some studies have shown, such as (Krishnan et al., 2020; Ten Hulzen&Fabry, 2020; Garg et al., 2021) the suffering of students with hearing impairment; Because they lost the advantage of lip-reading, as a result of putting masks on everyone's faces, and students with visual disabilities lost the advantage of reading in Braille that distance learning systems may not be able to provide. According to UNICEF, children with disabilities were three to four times more likely to experience violence before the pandemic than their peers, and this risk has now increased even more during the pandemic.

E-learning platforms are one of the most prominent solutions proposed to continue the educational process and preserve students' education from their homes without exposing them to the risk of contracting the virus(Kamenez et al., 2018; Ginting, Sembiring&Hutasuhut, 2020). As a large number of countries around the world used E-learning platforms and modern technological means in the education process(Tarasov et al., 2020). As these platforms were very popular due to their low financial cost, great educational effectiveness and ease of use by students and teachers alike(Fiofanova, Bokova&Morozova, 2020).

Kamenez et al.,(2018) offered a definition of E-learning platforms as an interactive learning environment that employs web technology and combines the advantages of electronic content management systems with social networks Facebook and Twitter. In addition,these platformsenable teachers to publish lessons and goals, set assignments and implement educational activities, and communicate with teachers(Benta, Bologa, Dzitac&Dzitac, 2015) through multiple technologies, dividing students into working groups, and help to

exchange ideas and opinions between teachers and students, and share scientific content, which helps to achieve high-quality educational outcomes(Ustyuzhanina&Evsukov, 2018).

E-learning platforms are numerous and many in the world, and there are many e-learning methods available on the Internet and some of them for free, such as YouTube which can be employed as e-learning platforms by converting lessons into videos that any student can view any time in any place (Puška et al., 2021). Nevertheless, what differentiates the particular platforms in e-learning is the provision of direct and indirect communication possibilities between the student and the teacher, in a way that helps increase the educational process without any defect that leads to the catastrophe to complete the education or teaching system correctly (Almohammadi, Hagras, Alghazzawi&Aldabbagh, 2017). Where the E-learning platforms ensure the provision of excellent educational service to students in their homes without the need to expose them to the risk of contracting the virus (Tsankov&Damyanov, 2017).

Recently, a large number of E-learning platforms have spread to contribute to obtaining open and available self-education resources for all without incurring the high financial costs(Bocevska et al., 2018; Gafni, Achituv, Eidelman&Chatsky, 2018). Abuhlfaia&Quincey, (2018) argue that e E-learning platforms provide free and convenient means for those wishing to develop themselves scientifically and scientifically.In addition, these platforms now include educational courses that most schools and universities are interested. The E-learning platforms are a flexible system for learning that includes any type of self-learning using the Internet and modern means of communication(Alsubhi, Ashaari&Wook, 2019).

According to El Mabrouk, Gaou&Rtili(2017)E-learning platforms are a flexible system of learning that includes any type of self-learning using the Internet from distance learning. As this type of learning gives and opportunity for students who are unable to register and join the traditional classrooms, so the teacher can reach the various students wherever they are. As the E-learning platforms eliminate the spatial and temporal restrictions on the education process(Bocevska et al., 2018).

AbdulRazak& Ali, (2019) believe that the electronic educational platforms have many positives as they contribute to the education of students at any time or time, and give them the opportunity to deepen the understanding of the educational material according to the time that suits them.It also provides an opportunity to educate students residing in remote and isolated areas. The electronic educational platforms help students to review and follow up lessons on the way constant communication between the student and the teacher(Messerschmidt&Pleva, 2019).

Ouadoud, Chkouri&Nejjari, (2018) state that with the increase in the spread of the Coronavirus, the education sector and students with special needs were affected in particular by the precautionary measures represented by the closure of schools and the use of the distance learning system or blended education. This is because students with special needs in most cases need direct education due to the circumstances of their disability where they need special attention from the teacher.Accordingly, students with special needs need special treatment to help them understand what is going on around them (Wang, 2019). Because of their disability, which prevents them from being able to cope with things as well as for healthy people. These students cannot learn in regular schools. Rather, they need special tools and special methods commensurate with their abilities. Students with special needs suffer from impairments, including auditory or visual impairments, delays in mental development that may cause slow learning, behavioral disorders, psychological disabilities, linguistic disorders and others(Lewis, Wheeler & Carter, 2017).

Bryant, Bryant & Smith(2019) add that electronic educational platforms are also considered one of the most important tools that help educate students with special needs, as these students face great difficulties in accessing schools and dealing with traditional education in general. Where a large number of schools lack the appropriate infrastructure to support students with special needs. These students need special care by teachers, as they must be taken care of, to ensure that they understand the lessons and help them to engage and communicate with their classmates(Supruniuk, Andrunyk&Chyrun, 2020).

On the other hand, e-learning platforms were among the most important solutions that could help a large number of students with special needs. Students with special needs need special treatment and educational methods and mechanisms that differ from those used by the teacher with other students. It can be said that electronic educational platforms can help a certain group of students with special needs, but they cannot help everyone to benefit from the available educational service as required (Moorhouse, 2018).

Belgoun (2009) indicated that the importance of using educational and technological aids in the field of educating people with disabilities is that they play an important role in addressing individual differences between students with disabilities. The methods and methods of education vary to suit the abilities of each of them. Andajani&Wijiastuti, (2020) emphasized that educational platforms in particular are useful in teaching students with disabilities the desired behavioral patterns and providing them with complex concepts, and help to overcome the decline in the abstract thinking ability of students with disabilities, by providing appropriate sensory experiences. Educational and technological means play an important role in exciting students with disabilities and increase their motivation and interest in learning, and help to replicate experiences and make

direct and effective contact between students with disabilities and what they learn, which is an educational requirement imposed by the nature of disability (Xia et al.,2019).

Al Lily, Ismail, Abunasser&Alqahtani(2020) believes that educational platforms help increase achievement and form positive attitudes for children with disabilities, and provide them with the academic skills necessary for their adaptation to the surrounding society. Ouadoud, Chkouri, Nejjari& El Kadiri(2018) drew attention to the fact that electronic educational platforms help in the development of all skills (mental, social, linguistic, sensory and kinaesthetic) and reduce the effects of disability, which helps students with disabilities to improve their learning opportunities and increase their creativity. The provision of multimedia in education for people with special needs enables them to participate fully in general educational classes, enrich the curriculum, increase motivation, encourage cooperation and increase independence, enhance self-esteem and self-confidence, and reduce dependence on others, while making these children They integrate with their community and communicate with it by participating in social activities, and developing their life skills (Rivera, 2017;Policar, Crawford &Alligood, 2017).

Bocevska et al. (2018) shows that the students most affected during this stage are those with developmental disabilities (e.g. autism and intellectual disabilities). It is not only because teachers cannot communicate with them directly from a distance as in the school environment, but also because this group specifically needs certain life conditions, the most important of which are: 1) having a clear daily routine that does not change, 2) the presence of guidance activities that address behavioral disorders In this category, 3) attend intensive individualized behavioral therapy sessions.Supruniuk, Andrunyk&Chyrun (2020) add that with the need to keep students with developmental disabilities at home, it has been difficult for teachers and parents to continue to achieve these three things effectively. Thus, these students go through a setback due to the sudden change of life circumstances, and the exacerbation of the lack of experience of their parents in dealing with them in these matters. Exceptional circumstances may generate waves of anger and aggressive behavior in this group of students(Fiofanova, Bokova&Morozova, 2020; Ginting, Sembiring&Hutasuhut, 2020).

Research Methodology

The Research Instrument

The instrument measuring degree of employing e-learning platforms in educating students with disabilities: An applied study in public schools inAmman . The questionnaire was distributed via email and social media platforms.

The questionnaire contains (3) demographic variables and (16) questions represent study variables.

Study Sample:

The population of the study consisted of random sample from (377) as random sample from the teachers in public schools in Amman. As it is organised into its demographic characteristics in the tables (1):

Table 1

Demographic characteristics for the study sample(Gender)

Gender	**Sample**	
	Frequency	**Percentage**
Male	195	51.7
Female	182	48.3
Total	377	100%

the table (1) shows that the percent of males from the Sample was (51.7%) meanwhile it was for females (48.3%).

Table 2

Demographic Characteristics of the Sample (Academic Level))

Job Description		
	Frequency	**Percentage %**
Bachelor's Degree	191	50.7
Master's Degree	127	33.7
Doctorate Degree	59	15.6
Total	377	100.0

Table (2) shows that the (Bachelor's Degree) achieved (50.7 %), (Master's Degree) achieved (33.7%), and (Doctorate Degree) achieved (15.6%).

Table (3

Demographic Characteristics of the Sample (Years of Experience)

Years of Experience	**Sample**

	Frequency	Percentage %
Less than 1 year	28	7.4
1-3 years	58	15.4
3-5 years	188	49.9
More than 5 years	103	27.3
Total	377	100.0%

Table (3) illuminate that the (Less than 1 year) rank achieved (7.4 %), and (1 –3 years) rank achieved (15.4 %) and (3 –5 years) rank achieved (49.9 %) and finally (More than 5 years) rank achieved (27.3 %).

Validity and reliability of the instruments

The test handed to experts to evaluate the extent to which the test is valid and reliable. For this reason, the test would be designed to meet such requirements of the validity of the test. The experts will be choosing according to their broad experiences in the field.

To reach a degree of reliability of the test, the researcher used test and re-test to different group of students. The test and retest had the same characteristics, in order to compare if the students achieve stability.

Table 4

Cronbach's alpha for the study fields

Field number	Field	Value of (α)
	Questionnaire Variables	
1	**Content**	**0.849**
2	**Evaluation**	**0.816**
3	**Interactive side**	**0.789**
4	**Social communication**	**0.876**

Table (4) discuss the total Cronbach's alpha for the study fields was above than (0.60) which will leads to the stability of the results for this study

RESEARCH RESULTS

To analyse the data and questions, to explore degree of employing e-learning platforms in educating students with disabilities: An applied study in public schools in Amman as it shown as follow:

What is the degree of employing e-learning platforms in educating students with disabilities in Jordan from the teachers' point of view?

To Answerthis question means and standard deviation were considered for each field in the study instrument and Table (5) shows the results:

Table 5

Descriptive Statistics for degree of employing e-learning platforms in educating students with disabilities in Jordan

field number	Field	Mean	Std. Deviation	Level
F1	**Content**	3.44	0.87	Moderate
F2	**Evaluation**	3.49	0.91	Moderate
F3	**Interactive side**	3.46	0.86	Moderate
F4	**Social communication**	3.49	0.85	Moderate
	Degree of employing e-learning platforms	3.47	0.82	Moderate

As it seen from the above table that Content field accomplished mean (3.44) and a standard deviation (0.87), and Evaluation field accomplished mean (3.49) and a standard deviation (0.91), and Interactive side field accomplished mean (3.46), and a standard deviation (0.86) and Social communication field accomplished mean (3.49), and a standard deviation (0.85) so degree of employing e-learning platforms accomplished mean (3.47), and a standard deviation (0.82) with a moderate degree.

Content Field

Means and standard deviation were provided for each item in the Content Fieldand Table (6) shows the results:

Table 6

Descriptive Statistics for Content Field

Question number	Question	Mean	Std. Deviation	Level	Rank
1	The contents selected in the learning platform are relevant to an in-depth knowledge of the subject	3.58	0.95	Moderate	1
2	The platforms provide educational tools (audio, video, pictures, shapes and maps, static and animation graphics, graphics, and stereoscopes)	3.46	1.24	Moderate	2
3	The learning platform facilitates the availability of course materials.	3.26	0.89	Moderate	4
4	The learning platform allows deepening the mastery of the contents.	3.45	1.16	Moderate	3
	Content Field	3.44	0.87	Moderate	

The table (6) shows the total mean of this field which was (3.44) with a standard deviation (0.87). The question (1) which is "The contents selected in the learning platform are relevant to an in-depth knowledge of the subject." ranked first with a mean (3.58) and standard deviation (0.95) and the question (3) which is "The learning platform facilitates the availability of course materials. " with mean (3.26) and standard deviation (0.89) came in the final rank.

Evaluation Field

Means and standard deviation were calculated for each item in the Evaluation Fieldand Table (7) shows the results:

Table 7

Descriptive Statistics for Evaluation Field

Question number	Question	Mean	Std. Deviation	Level	Rank
5	The platform uses specific criteria to evaluate students	3.53	1.11	Moderate	1
6	The platform provides multiple mechanisms for evaluating students	3.47	1.24	Moderate	3
7	The platform provides various tests to measure students' performance	3.44	1.04	Moderate	4
8	Self-assessment activities in the learning platform enhance the acquisition of topic knowledge.	3.52	0.99	Moderate	2
	Evaluation Field	3.49	0.91	Moderate	

Table (7) illustrates the total mean of this field which was (3.49) and with a standard deviation (0.91). The question (5) which is "The platform uses specific criteria to evaluate students" ranked first with a mean (3.53) and standard deviation (1.11) and the question (7) which is "The platform provides various tests to measure students' performance" with mean (3.44) and standard deviation (1.04) came in the final rank.

Interactive side Field

Means and standard deviation were calculated for each item in the Interactive side Fieldand Table (8) shows the results:

Table 8

Descriptive Statistics for Interactive side Field

Question number	Question	Mean	Std. Deviation	Level	Rank
9	The platform's students' forum provides a space for collaborative learning.	3.34	1.03	Moderate	4
10	The learning platform prefers creating a scenario for peer-to-peer collaboration possibilities.	3.51	1.22	Moderate	2

11	The learning platform fosters an atmosphere of educational interaction between teachers and students.	3.55	0.95	Moderate	1
12	The learning platform enables the creation of learning communities among students.	3.44	0.99	Moderate	3
	Interactive side Field	3.46	0.86	Moderate	

Table (8) classify the total mean of this field which was (3.46) and with a standard deviation (0.86). The question (11) which is " The learning platform fosters an atmosphere of educational interaction between teachers and students." ranked first with a mean (3.55) and standard deviation (0.95) and the question (9) which is "The platform's students' forum provides a space for collaborative learning." with mean (3.34) and standard deviation (1.03) came in the final rank.

Social communication Field

Means and standard deviation were calculated for each item in the Social communication Fieldand Table (9) shows the results:

Table 9

Descriptive Statistics for Social communication Field

Question number	Question	Mean	Std. Deviation	Level	Rank
13	The learning platform enables a fruitful dialogue with teachers for professional practice.	3.59	1.17	Moderate	2
14	Through the learning platform, strong connections with other students for future projects are encouraged.	3.34	0.90	Moderate	4
15	The learning platform promotes the collaborative learning style that sparks interest in your professional practice.	3.61	1.04	Moderate	1
16	The learning platform takes into account individual differences between students	3.42	0.99	Moderate	3
	Social communication Field	3.49	0.85	Moderate	

Table (9) discusses the total mean of this field was (3.49) and with a standard deviation (0.85). The question (15) which is "The learning platform promotes the collaborative learning style that sparks interest in your professional practice." ranked first with a mean (3.61) and standard deviation(1.04) and the question (14) which is "Through the learning platform, strong connections with other students for future projects are encouraged." with mean (3.34) and standard deviation (0.90) came in the final rank.

DISCUSSION AND CONCLUSION

Discussion

Recently, the world has been through the repercussions of the emerging corona virus, COVID-19. It has affected all fields, especially the educational field in particular. It has become evident in educational institutions that there are alternatives to traditional direct institutional education; this is what prompted many educational institutions around the world in general and in the Middle East in particular to adopt multiple educational platforms so that they can perform the education service relentlessly, benefiting from the e-learning system.

This study was conductedto resolve the research gap that was discovered, along with the author's experience as an academic, with the purpose of understanding the necessity to measure the role of educational platforms in improving the quality of education for students with special needs. Students with special needs tend to have difficulty accessing teaching resources during classroom learning and on the regular Moodle system. Therefore, the research had such a goal because students find it difficult to participate in teaching activities while studying from home. This is also a global concern of the Special Education and Training Foundation, as expressed by others. This resultis consistent with those of(Benta, Bologa, Dzitac&Dzitac, 2015; Gafni, Achituv, Eidelman&Chatsky, 018; Ouadoud, Chkouri, Nejjari& El Kadiri, 2018)

The results show that the degree of employing e-learning platforms in educating students with disabilities in Jordan from the teachers 'point of view was moderate. This indicates that the technological infrastructure remains fragile. The training and education of students with special needs interactive tools and simultaneous and asynchronous teaching in the educational platform, which is still weak and not polished ((Basilaia&Kvavadze, 2020; Khan, Rabbani, Thalassinos&Atif, 2020). On the other hand, the curriculum content in educational platforms is still insufficient. In addition, the methods of evaluating students need to be developed and improved

in a way that takes into account individual differences among students. This resultis consistent with those of(AbdulRazak& Ali, 2019; Lewis, Wheeler & Carter, 2017; Supruniuk, Andrunyk&Chyrun, 2020)

These results are consistent with most previous studies and together provide strong support for the view that educational platforms improve the quality of education for students with special needs. For example, Ionescuet al., (2020) concluded that employing interactive educational platforms is positively and statistically closely related to improving the skills and knowledge of students with special needs.ElSaheli-Elhage&Sawilowsky(2016) found that the use of assessment tools and quality content in educational platforms is positively and statistically significant to improving the performance of students with special needs.

Conclusion

This article offered the main characteristics about developing the learning and adaptive process based on the educational needs of the student, through the adoption of an educational platform concerned with identifying and meeting the educational needs of people with special needs. Educational platforms must contain interactive tools, and flexibility in introducing new knowledge and concepts in order to propose a synchronized electronic learning environment and recover the learning experience of students with special needs.

The results show that a virtual technology-based multimedia teaching platform plays an important role in influencing the learning drive for people with special needs. Through this platform, students can get rid of the individual output of teachers in the traditional teaching process, and students engage in the educational process in a positive way. Then it can be converted into active learning for students with some difficulties and achieve better results. The aspects proposed in this paper are practical and good reference, and provide a good reference for improving the quality of education for students with special needs, and providing them with skills and knowledge regardless of the circumstances that the educational system is going through during the Covid-19 pandemic. However, the research on the teaching system in this paper is based on simulating the ideal situation. If we want to ensure that the platform has a better impact on practicality, we need to further improve the comfort of the platform's operation and the intelligence of the platform technology.

According to the results of the case study, we were able to verify the role and potential of the educational platform in teaching students with special needs. As in the related contributions, we also concluded that the sustainability of educational platforms still lacks many factors that enable students with special needs to acquire the skills and knowledge required in a dynamic and synchronized learning environment. The case study enabled us to prove that the educational platform recovers the student learning experience and achievement relatively, thus offering an Applicable communication (where students feel more happy working among their pear students); More visible student participation; and improving socialization and role models because students are able to form an identity with their adult classmates.

The psychological problems caused by some hearing or physical disabilities may prevent the continuity of learners from this category in traditional education and negatively affect the provision of appropriate educational opportunities for them (Baroni&Lazzari, 2020). Some people with mobility disabilities also find it difficult to reach school, institute or university. Especially in developing countries that do not provide appropriate services for them. We find that distance education is the most appropriate because it enables this group and others to learn according to their own circumstances (Garg et al, 2021).

Many studies indicate that the effects of the Corona pandemic on students with special needs are different. While the study (Rivera, 2017;Policar, Crawford &Alligood, 2017) indicates an improvement in the cases of some students with special needs who were suffering from bullying and social anxiety, as well as who had difficulty responding to the instructions of teachers to write with pen and paper.

In contrast, most students with special needs have been deprived of the face-to-face education system, which their conditions and disabilities require. This has affected their educational levels; because they lose direct education that stimulates their energies, develops their skills, and takes into account their circumstances and their cognitive and skill abilities. As the education of people with special needs depends in most cases on individual sessions and small groups according to the type and condition of the disability.

Zongozzi(2020) illustrate, It is certain that distance education or hybrid learning through educational platforms imposes limitations on traditional learning methods, but at the same time it gives teachers more accurate and more accessible alternatives. For example, although the performance assessment of students with special needs is better in face-to-face education, distance learning provides more accurate and more comprehensive tools for assessing student performance (Wen et al., 2020). Distance learning gives teachers new tools - such as the digital survey tool - that can be used with ease and ease to gain a deep understanding of students' needs, and also facilitates tracking of students who need additional support. It also gives teachers the ability to record lessons, keep guides, and tutorials designed to support students based on their individual needs and abilities (Ginting, Sembiring&Hutasuhut, 2020).

Recommendation

The researchers came up with a set of recommendations and practices that teachers can work on and implement during distance learning to support students with special needs and create an effective and safe environment capable of reaching and serving all learners.

1- providing clear guidance to educational institutions about what should be implemented, with the need to diversify the resources and materials available when teaching these students outside school.
2- Ensuring the availability of the Internet for the implementation of distance education, and ensuring the availability of distance education programs and platforms for people with special needs.
3- Providing assistive devices, providing guidance, training and support to teachers in order to implement distance learning efficiently.
4- Good coordination with parents, caregivers and early intervention services for children with special needs, and provision of remote guidance and support to parents and caregivers to help implement and support educational programs for their children with special needs.
5- Develop accessible and adapted materials for students with special needs to support distance learning, develop accessible audio-visual educational materials and disseminate them through various educational platforms.
6- Developing remedial plans for post-Corona education for people with special needs; To reduce the educational gap caused by this pandemic.
7- Work to avoid the effects of distance education through direct interactive teaching at a distance between teachers and students, under the auspices and supervision of parents.
8- Use of braille language prosthetic programs or by making the face mask transparent in cases of students with hearing impairments.
9- Using the blended education system (hybrid) until the end of the Corona crisis.

Implications

The empirical results of this study express the government's need for interactive educational platforms that meet the needs of people with special needs. The study also proposes designing curricula that encourage virtual participation in learning the skills and knowledge necessary for people with special needs in a way that ensures their interaction with them and benefit from them. Since students with special needs may prefer to mix social media with traditional learning in the classroom, designing educational platforms on mobile phones may be a vigorous step for students to acquire the skills they need (Benta, Bologa&Dzitac, 2014). In this scenario, what is traditionally done in the classroom can now be done at home and vice versa (Onyema, Eucheria, Obafemi, Sen, Atonye, Sharma &Alsayed, 2020). When educational platforms, social media and traditional learning are integrated into curriculum design - students are appreciated as well as reflected in appropriate learning outcomes.

Training students with disabilities on various educational technology means, such as computers and (iPad) and others, has contributed tonumber of the positives that accrue to them, whether psychologically, academically, socially or economically. Many studies have proven that the use of educational aids such as the computer, for example, has a significant role in reducing stress. Where there are many entertaining programs and beautiful games that bring joy and pleasure in the hearts of these students, and thus relieve a lot of tension and psychological anxiety for them, and thus many teachers use this method as a positive reinforce in modifying their behaviour.

Limitation and Future Research

The educational platform (and future researches) is a comprehensive and methodical way to implement classes at different stages of the education scheme to include students with special needs. However, it has some of limitations. In order to risecomfort of use for teachers who do not have technical knowledge by activating the educational platform as required, the system must be simple enough to fulfil the needs of students with disabilities easily. Any change in teaching methods requires a change in the thinking of both teachers and students; Consequently, the successful acceptance of a system depends on many factors, not just the system only. Many researchers have already included a set of literature as a basis for the importance of educational platforms, but most of them included ordinary students and did not shed light on students with special needs. However, more investigations must be conducted to focus on the role of educational platforms in providing students with special needs with the skills and knowledge required to evaluate its effectiveness and generalizability. Future research should include, but not limited to, implementing interactive platforms in providing students with special needs with specific skills, studying their effectiveness on students' performance, evaluation methods and their suitability in Arab countries, etc.

References

AbdulRazak, N. S., & Ali, M. A. (2019). Challenges of Implementation E-Learning Platforms in Iraqi Universities. *Engineering and Technology Journal*, *37*(4C), 400-406.http://dx.doi.org/10.30684/etj.37.4C.3.

Abuhlfaia, K., &Quincey, E. D. (2018, July). The usability of E-learning platforms in higher education: a systematic mapping study. In *Proceedings of the 32nd International BCS Human Computer Interaction Conference 32* (pp. 1-13).

Al Lily, A. E., Ismail, A. F., Abunasser, F. M., &Alqahtani, R. H. A. (2020). Distance education as a response to pandemics: Coronavirus and Arab culture. *Technology in society*, *63*, 101317.https://dx.doi.org/10.1016%2Fj.techsoc.2020.101317.

Almohammadi, K., Hagras, H., Alghazzawi, D., &Aldabbagh, G. (2017). A survey of artificial intelligence techniques employed for adaptive educational systems within e-learning platforms. *Journal of Artificial Intelligence and Soft Computing Research*, *7*(1), 47-64.

Al-Mubireek, S. (2019). E-learning in the english classroom: Comparing two e-learning platforms impacting preparatory year students' language learning. *CALL-EJ*, *20*(2), 19-37.

Alsubhi, M. A., Ashaari, N. S., &Wook, T. S. M. T. (2019, July). The Challenge of Increasing Student Engagement in E-Learning Platforms. In *2019 International Conference on Electrical Engineering and Informatics (ICEEI)* (pp. 266-271). IEEE.

Andajani, S., &Wijiastuti, A. (2020). E-Learning Development for Special Education Postgraduate Students. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(14), 269-293.https://doi.org/10.3991/ijet.v15i14.13893.

Baroni, F., &Lazzari, M. (2020). Remote teaching for deaf pupils during the covid-19 emergency. In *Proceedings of the IADIS Conference on e-Learning* (pp. 170-174).

Basilaia, G., &Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, *5*(4).https://doi.org/10.29333/pr/7937.

Benta, D., Bologa, G., &Dzitac, I. (2014). E-learning platforms in higher education. Case study. *Procedia Computer Science*, *31*, 1170-1176.https://doi.org/10.1016/j.procs.2014.05.373.

Benta, D., Bologa, G., Dzitac, S., &Dzitac, I. (2015). University level learning and teaching via e-learning platforms. *Procedia Computer Science*, *55*, 1366-1373.https://doi.org/10.1016/j.procs.2015.07.123.

Bocevska, A., Savoska, S., Ristevski, B., &Tabakovska-Blazheska, N. (2018). Analysis of Accessibility of the e-Learning Platforms According to the WCAG 2.0 Standard Compliance.https://doi.org/10.20544/AIIT2018.P06.

Bryant, D. P., Bryant, B. R., & Smith, D. D. (2019). *Teaching students with special needs in inclusive classrooms*. Sage Publications.

Cinquin, P. A., Guitton, P., &Sauzéon, H. (2019). Online e-learning and cognitive disabilities: A systematic review. *Computers & Education*, *130*, 152-167.

El Mabrouk, M., Gaou, S., &Rtili, M. K. (2017). Towards an Intelligent Hybrid Recommendation System for E-Learning Platforms Using Data Mining. *International Journal of Emerging Technologies in Learning*, *12*(6).https://doi.org/10.3991/ijet.v12i06.6610.

ElSaheli-Elhage, R., &Sawilowsky, S. (2016). Assessment practices for students with learning disabilities in Lebanese private schools: A national survey. *Cogent Education*, *3*(1), 1261568.

Fiofanova, O. A., Bokova, T. N., &Morozova, V. I. (2020). International comparative analysis of national state electronic educational platforms for schoolchildren. *RevistaInclusiones: Revista de Humanidades y CienciasSociales*, *7*(7), 51-61.

Gafni, R., Achituv, D. B., Eidelman, S., &Chatsky, T. (2018). The effects of gamification elements in e-learning platforms. *Online Journal of Applied Knowledge Management (OJAKM)*, *6*(2), 37-53.

Garg, S., Deshmukh, C. P., Singh, M. M., Borle, A., & Wilson, B. S. (2021). Challenges of the Deaf and Hearing Impaired in the Masked World of COVID-19. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, *46*(1), 11.https://dx.doi.org/10.4103%2Fijcm.IJCM_581_20.

Ginting, R. L., Sembiring, P., &Hutasuhut, E. (2020, February). Development of Learning Materials Based on E-Learning and Website as Learning Media in the Subject of Coaching Children with Special Needs for Students of Guidance and Counseling Department State University of Medan-Indonesia. In *Proceeding International Conference of Science Education in Industrial Revolution 4.0* (pp. 1-10).

Ionescu, C. A., Paschia, L., GudanescuNicolau, N. L., Stanescu, S. G., NeacsuStancescu, V. M., Coman, M. D., &Uzlau, M. C. (2020). Sustainability Analysis of the E-Learning Education System during Pandemic Period—COVID-19 in Romania. *Sustainability*, *12*(21), 9030.http://dx.doi.org/10.3390/su12219030.

Kamenez, N. V., Vaganova, O. I., Smirnova, Z. V., Bulayeva, M. N., Kuznetsova, E. A., &Maseleno, A. (2018). Experience of the use of electronic training in the educational process of the Russian higher educational institution. *International Journal of Engineering and Technology (UAE)*, *7*(4), 4085-4089.

Khan, S., Rabbani, R. M., Thalassinos, I. E., &Atif, M. (2020). Corona virus pandemic paving ways to next generation of learning and teaching: Futuristic cloud based educational model. *Available at SSRN 3669832*.

Krishnan, I. A., De Mello, G., Kok, S. A., Sabapathy, S. K., Munian, S., Ching, H. S., ... &Kanan, V. N. (2020). Challenges Faced by Hearing Impairment Students During COVID-19. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, *5*(8), 106-116.

Lewis, R. B., Wheeler, J. J., & Carter, S. L. (2017). *Teaching students with special needs in general education classrooms*. Pearson.

Martins, P., Rodrigues, H., Rocha, T., Francisco, M., &Morgado, L. (2015). Accessible options for deaf people in e-learning platforms: technology solutions for sign language translation. *Procedia Computer Science*, *67*, 263-272.https://doi.org/10.1016/j.procs.2015.09.270.

Messerschmidt, M., &Pleva, M. (2019, November). Biometric systems utilizing neural networks in the authentication for e-learning platforms. In *2019 17th International Conference on Emerging eLearning Technologies and Applications (ICETA)* (pp. 518-523). IEEE.

Moorhouse, B. (2018). Adopting e-learning to cater for students with special educational needs in the junior secondary English classroom. *URL: https://www. edb. gov. hk/attachment/en/curriculumdevelopment/kla/eng-edu/professional-development-programmes/JS_SEN_20180202. pdf*.

Naumova, T. A., Vytovtova, N. I., Mitiukov, N. W., &Zulfugarzade, T. E. (2017). Model of Distant Learning Educational Methods for the Students with Disabilities. *European Journal of Contemporary Education*, *6*(3), 565-573.https://doi.org/10.13187/ejced.2017.3.565.

Nganji, J. T., &Brayshaw, M. (2015, July). Personalizing learning materials for students with multiple disabilities in virtual learning environments. In *2015 Science and Information Conference (SAI)* (pp. 69-76). IEEE.

Nusser, L. (2021). Learning at home during COVID-19 school closures–How do German students with and without special educational needs manage?. *European Journal of Special Needs Education*, *36*(1), 51-64.https://doi.org/10.1080/08856257.2021.1872845.

Onyema, E. M., Eucheria, N. C., Obafemi, F. A., Sen, S., Atonye, F. G., Sharma, A., &Alsayed, A. O. (2020). Impact of Coronavirus pandemic on education. *Journal of Education and Practice*, *11*(13), 108-121.https://doi.org/10.7176/JEP/11-13-12.

Ouadoud, M., Chkouri, M. Y., &Nejjari, A. (2018). LeaderTICE: A Platforms Recommendation System Based on a Comparative and Evaluative Study of Free E-learning Platforms. *International Journal of Online Engineering*, *14*(1).https://doi.org/10.3991/ijoe.v14i01.7865.

Ouadoud, M., Chkouri, M. Y., Nejjari, A., & El Kadiri, K. E. (2016, October). Studying and comparing the free e-learning platforms. In *2016 4th IEEE International Colloquium on Information Science and Technology (CiSt)* (pp. 581-586). IEEE.

Ouadoud, M., Chkouri, M. Y., Nejjari, A., & El Kadiri, K. E. (2016). Studying and Analyzing the Evaluation Dimensions of E-learning Platforms Relying on a Software Engineering Approach. *International Journal of Emerging Technologies in Learning*, *11*(1).http://dx.doi.org/10.3991/ijet.v11i01.4924.

Pirani, Z., &Sasikumar, M. (2013, August). Building E-content for learning disabled students in an e-learning environment. In *2013 IEEE Global Humanitarian Technology Conference: South Asia Satellite (GHTC-SAS)* (pp. 249-253). IEEE.

Policar, L., Crawford, T., &Alligood, V. (2017). Accessibility Benefits of E-Learning for Students with Disabilities.

Puška, A., Puška, E., Dragić, L., Maksimović, A., &Osmanović, N. (2021). Students' satisfaction with E-learning platforms in Bosnia and Herzegovina. *Technology, Knowledge and Learning*, *26*(1), 173-191.

Puška, A., Puška, E., Dragić, L., Maksimović, A., &Osmanović, N. (2020). Students' Satisfaction with E-learning Platforms in Bosnia and Herzegovina. *Technology, Knowledge and Learning*, 1-19.https://doi.org/10.1007/s10758-020-09446-6.

Puška, A., Puška, E., Dragić, L., Maksimović, A., &Osmanović, N. (2021). Students' satisfaction with E-learning platforms in Bosnia and Herzegovina. *Technology, Knowledge and Learning*, *26*(1), 173-191.

Redondo, R. P. D., Rodríguez, M. C., Escobar, J. J. L., & Vilas, A. F. (2020). Integrating micro-learning content in traditional e-learning platforms. *Multimedia Tools and Applications*, 1-31.

Rivera, J. H. (2017). The blended learning environment: A viable alternative for special needs students. *Journal of Education and Training Studies*, *5*(2), 79-84.

Saleh, A. F. M. (2013, May). Students with Disabilities' Attitudes towards E-Learning Courses in Developing Countries. In *2013 Fourth International Conference on e-Learning" Best Practices in Management, Design and Development of e-Courses: Standards of Excellence and Creativity"* (pp. 253-257). IEEE.

Slanetz, P. J., Parikh, U., Chapman, T., &Motuzas, C. L. (2020). Coronavirus disease 2019 (COVID-19) and radiology education—strategies for survival. *Journal of the American College of Radiology*, *17*(6), 743.https://dx.doi.org/10.1016%2Fj.jacr.2020.03.034.

Supruniuk, K., Andrunyk, V., &Chyrun, L. (2020). AR Interface for Teaching Students with Special Needs. In *COLINS* (pp. 1295-1308).

Tarasov, A. F., Getman, I. A., Turlakova, S. S., Stashkevych, I. I., &Kozmenko, S. M. (2020). Methodological aspects of preparation of educational content on the basis of distance education platforms.

Ten Hulzen, R. D., &Fabry, D. A. (2020, October). Impact of hearing loss and universal face masking in the COVID-19 era. In *Mayo clinic proceedings* (Vol. 95, No. 10, pp. 2069-2072). Elsevier.https://doi.org/10.1016/j.mayocp.2020.07.027.

Torani, S., Majd, P. M., Maroufi, S. S., Dowlati, M., &Sheikhi, R. A. (2019). The importance of education on disasters and emergencies: A review article. *Journal of education and health promotion*, *8*.https://dx.doi.org/10.4103%2Fjehp.jehp_262_18.

Tsankov, N., &Damyanov, I. (2017). Education Majors' Preferences on the Functionalities of E-Learning Platforms in the Context of Blended Learning. *International Journal of Emerging Technologies in Learning*, *12*(5).

Ustyuzhanina, E. V., &Evsukov, S. G. (2018). Digitalization of the educational environment: opportunities and threats. *Vestnik of the Plekhanov Russian University of Economics*, (1), 3-12.https://doi.org/10.21686/2413-2829-2018-1-3-12.

Wang, L. (2019). Perspectives of students with special needs on inclusion in general physical education: A social-relational model of disability. *Adapted Physical Activity Quarterly*, *36*(2), 242-263.https://doi.org/10.1123/apaq.2018-0068.

Wen, Z. A., Silverstein, E., Zhao, Y., Amog, A. L., Garnett, K., &Azenkot, S. (2020, October). Teacher Views of Math E-learning Tools for Students with Specific Learning Disabilities. In *The 22nd International ACM SIGACCESS Conference on Computers and Accessibility* (pp. 1-13).

Wijiastuti, A., Roesminingsih, M. V., Ardianingsih, F., Masithoh, S., Riyanto, E., &Andajani, S. J. (2019, October). Design Science Education for Student with Special Needs Use Learning Management System Platform Moodle. In *2019 5th International Conference on Education and Technology (ICET)* (pp. 94-97). IEEE.

Xia, M., Wei, H., Xu, M., Lo, L. Y. H., Wang, Y., Zhang, R., & Qu, H. (2019). Visual analytics of student learning behaviors on K-12 mathematics e-learning platforms. *arXiv preprint arXiv:1909.04749*.

Zongozzi, J. N. (2020). Accessible Quality Higher Education for Students with Disabilities in a South African Open Distance and e-Learning Institution: Challenges. *International Journal of Disability, Development and Education*, 1-13.https://doi.org/10.1080/1034912X.2020.1822518.

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