

**Research Article****EFFECTIVENESS OF DIGITAL LEARNING PLATFORMS IN PROMOTING SYRIAN STUDENTS' DIGITAL SKILLS AT THE FACULTY OF EDUCATION, DAMASCUS UNIVERSITY****\*Mohammad Shbat**

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**Abstract**

A number of countries are focusing on digital skills to improve the quality of education. The integration of artificial intelligence in the education system has made easier the education system. Digital skills and e-learning opportunities are encouraged in the Syrian educational system that promotes digital skills. The present study aimed to investigate the effectiveness of digital learning platforms in enhancing Syrian students' digital skills at the Faculty of Education. The study used a mixed-method approach employing an online questionnaire and a semi-structured interview for data collection. The sample size consisted of 320 students from the third-year class of the Faculty of Education, Damascus University, and 10 students voluntarily agreed to be interviewed. The findings of the study supported the notion that digital learning platforms play an effective role in promoting e-learning in Syria. Digital platforms were associated with increasing self-learning, better communication, and enhancing the academics of students. The correlation coefficient scores ranged from .0866 and .0537, indicating the effectiveness of digital learning platforms in promoting Syrian students' digital skills, and the total scores are at the levels of 0.01 and 0.05. Future research on the Syrian education system should focus on the application of artificial intelligence, gamified learning platforms, and the influence of mobile learning apps on literacy rates.

**Keywords:** Digital learning platforms, Digital skills, E-learning, Syrian education system.

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**INTRODUCTION**

In The Modern World, The Notion Of E-Learning Has Become A Common Way Of Learning Due To The Rise In Globalization And The Spread Of The Internet. In Light Of The Social, Political And Economic Crisis The World Faces Today, Countries Are More Focused On The Protection Of Their Citizens. The Global Crisis Caused By COVID-19 Demands A Shifting Education System To A Virtual Education System. This Transformation Of The Traditional Educational System To A Virtual Learning System Aimed At Avoiding Any Academic Loss And Keeping The Momentum Of Education (Naqvi & Sahu, 2020). Syrian Students Face Problems In Using Digital Platforms, And Their Digital Skills Are Undeveloped. The Academics Of Syrian Students Are Impacted By Their Lack Of Digital Skills. There are a number of digital techniques and skills that are effective in providing quality education. The application of Artificial intelligence in education has made easier the way the education system works. Artificial intelligence is effective in providing help with teaching styles and content of pedagogy (Alam, 2021). The introduction of gamified learning platforms provides education to pupils and children, and their interest in education increases with techniques like gamified learning sources. The availability of data and information on digital sources positively affects the literacy rate and interest of students. Mobile learning apps are associated with an increasing literacy rate. Many educational institutions in Syria have regarded digital platforms as one of the key solutions that can empower the learning processes and equip students with the needed skills and competencies to cope with the latest challenges of COVID-19 (Almasri *et al.*, 2019). During the COVID-19 pandemic, most institutions have chosen digital learning platforms for teaching tasks (Songkram & Chootongchai, 2022).

The closure of educational institutes and restrictions on movement during the COVID-19 pandemic were major reasons for opting for an online educational system. Digital platforms can have some positive effects on enhancing the processes of learning and teaching in Malaysian educational contexts (Waluyo, 2019). Digital platforms are always accessible and do not need to be physically present. Furthermore, data from digital platforms can be edited easily. The application of virtual education systems and e-learning platforms requires students to become more independent because self-learning is given more consideration in distance learning and E-learning. The Syrian teachers lack basic IT skills and computer skills on how to use these digital platforms. The political instability, developing economy, and past warfare situation in Syria can be attributed to a lack of IT skills and computer skills. There is a strong need to adopt more advanced teaching approaches that are based on student-centeredness and autonomous learning that are largely empowered by digital platforms (Haugsbakken *et al.*, 2019). Digital platforms have emerged as a significant phenomenon in the digital transformation era, enabling cooperation, increasing business process productivity, and accelerating interaction between different subjects. A digital platform system is essential because it involves a number of merits, including database, storage of information, processing and analysis (HARAKI *et al.*, 2023). The storage of data and information on digital platforms is important because these remain accessible to students always access this data and information, and this is helpful in educating students anytime, anywhere. Digital platforms are important tools that can be used in pedagogy to develop teaching skills. They are interactive and flexible technology tools that help deliver socially interactive learning and engage learners to improve their achievement levels (Talaat Fathi Gad, 2023). Several educational institutions (universities) all over the world now encourage digital learning platforms to allow access to

education with no geographic barriers. Furthermore, the integration of different modern techniques into the educational system has improved the quality of education. The reliable, flexible and cost-effective nature of cloud-based technology is capable of creating an e-learning environment and cloud-based collaborative tools are globally used for providing quality education (Talaat Fathi Gad, 2023). The application of e-learning platforms in learning and teaching has become widespread in Syrian universities (Sabeeh & Shalash, 2022). The study examines the impact of educational platforms on enhancing digital skills among Syrian students at Damascus University's Faculty of Education. It emphasizes the importance of digital learning environments during the COVID-19 pandemic, aligns with the Ministry of Education's digital vision, assists Syrian researchers in developing their digital skills, and provides information on digital learning platforms' practical use in Syrian educational contexts.

## LITERATURE REVIEW

A number of benefits and advantages are associated with the application of digital platforms and online education, especially in a country that recently got rid of warfare and political, economic and social crises. A main characteristic of such digital platforms is that they encourage self-learning in comparison with the traditional ways of teaching, which are criticized as traditional and inflexible (Tomczyk *et al.*, 2020). They offer an interactive digital environment that aims at bridging the gap between theory and practice. They also have a positive influence on university students' independence when they actively participate in digital learning platforms (Moreno *et al.*, 2017). Digital learning platforms provide students with a choice of having class, and data and information are always accessible at any time (Alrikabi *et al.*, 2022). Digital platforms are highly recommended as they are very flexible and devise a vibrant and vivid community of practice where members share a lot of views, constructive feedback and expertise. It is of interest to note that digital learning skills can be connected with a variety of advantages, with particular reference to tertiary education. These are associated with facilitating communication between university students online, stressing that students are more encouraged to interact with each other and participate in discussing relevant topics. Digital learning platforms are quite helpful in enabling students to communicate with teachers more easily and effectively in virtual classes to answer any raised urgent questions.

Furthermore, these platforms are helping teachers initiate various and novel ways to establish, disseminate and classify information quickly and accessibly (Moreno *et al.*, 2017). Digital transformation can also increase the competitive advantage of the university globally and enhance learners' research experiences and performance. E-learning platforms are effective in training teachers by providing digital learning methods (Chung *et al.*, 2018). Kadrijević, Gutvajin, and Ljubojević (2023) conducted a study to explore the fostering of digital skills using educational platforms in the times of COVID-19. The study found that educational platforms used during the COVID-19 pandemic provided a student-centered approach that promoted diverse competencies, including 21st-century digital skills, through utilizing an online questionnaire to collect data from 667 schoolteachers in Serbia (Kadrijević *et al.*, 2023). Results revealed there were significant differences in the promotion of digital skills among different groups of teachers, with certain groups being more successful.

These differences could be attributed to the greater experience of teachers in using educational platforms and their ability to arrange teamwork within the. In addition to that, promoting digital skills through educational platforms can be effective during times of school lockdowns. Still, it is important to consider the experience and collaboration of teachers to achieve better outcomes. A seminal study conducted by Noor *et al.* (2022) found that digital platforms influence university students' motivation and knowledge development in Lahore. The researchers employed an online questionnaire survey to collect data. The findings of the study suggest that digital learning platforms could have a significant effect on Pakistani university students' learning and their motivation to learn. Digital platforms are associated with increasing learning behavior, motivation and growth in students. It has been reported that the volume of learning opportunities in digital platforms is bigger than in traditional education (Noor *et al.*, 2022).

The opportunities and difficulties of teachers and students regarding the use of some of the digital platforms and technologies for daily activities. This study also investigated whether the restricted situation resulting from the pandemic created any hurdles for the application of digital platforms and technologies. In five Portuguese schools, 105 students and 45 teachers were handed questionnaires (Kem, 2022). The findings showed that both teachers and students agreed on the benefits and contributions of integrating digital platforms and technology into regular classroom activities. Both teachers and students in Syria faced difficulty in using digital tools and devices. Regarding the challenges, the instructors identified the primary issues experienced when utilizing digital platforms and technologies as being those related to equipment obsolescence, inadequacy, and internet connectivity. The primary challenge identified by the participants was internet connectivity. The findings during the pandemic helped to clarify the difficulties encountered in distance learning settings and can guide the creation of plans to enhance digital teaching methods. Al-Sharidah investigated the effectiveness of a training program via e-learning platforms at Prince Sattam bin Abdulaziz University. A questionnaire and an observation card were used to collect data on pre-service teachers' technical abilities. The results revealed substantial changes between the pre- and post-measurement mean scores in the cognitive and performance aspects of technological teaching abilities in favor of the posttest when utilizing e-learning platforms, demonstrating the success of the training program. The study concluded with recommendations for the success of distant learning experiences, which can add to the efficacy of pre-service teacher training programs (Al Sharidah & Alkramiti, 2023).

Finally, the study by Josué *et al.* (2023) demonstrated that educational platforms are a revolution in the process of teaching and learning by enabling personalized learning, facilitating assessment and progress tracking, and providing a variety of educational resources. The study employed a bibliographic technique to collect important information from diverse writers and professionals in the field of educational platforms. The authors analyzed and discussed the features and functionalities of Moodle, an educational platform, highlighting its versatility, flexibility, and active user community. Overall, the findings of the study conclude that digital education platforms have changed the education system with the provision of constant access, encouraging interaction

and collaboration, enabling personalization of learning, providing assessment and monitoring of progress, and offering multiple educational resources (Josué *et al.*, 2023). These studies highlight the positive impact of interactive platforms like Mentimeter and Kahoot (online education platform) on students' learning, making the process of creating reports and tests more engaging and non-trivial. The concept of a digital educational environment involves the multifaceted use of well-known services to create a separate virtual space for studying the material to evaluate the effectiveness of digital learning platforms used by faculty members throughout Kuwait University's first-ever online experience related to the COVID-19 pandemic. The focus was mainly on two platforms: Microsoft Teams and Blackboard. 252 Kuwait faculty members completed a questionnaire. The researchers made use of t-tests and analysis of variance (ANOVA) to analyze the data. The results revealed that faculty members valued the implementation of Microsoft Teams and Blackboard to a large extent. However, there was no statistical variation in the total usability between these two digital platforms.

The study done by Rukmiati (2022) aimed to discuss the importance of digital literacy in education, particularly for teachers and students in the digital era. It highlights the impact of technology on education, such as the emergence of e-learning, and emphasizes the need for teachers to possess digital literacy skills. The application of modern digital skills can be effective in increasing the literacy rate of the Syrian population. The availability of mobile learning apps is linked to an increasing literacy rate. Furthermore, gamified learning platforms can be a good source of learning and knowledge for school students.

The application of the Internet of Things is good for establishing smart schools and tracing the performance of children and distance learning for women who discontinued education due to financial and security problems (Bahbouh, 2019). It highlights the impact of technology on education, such as the emergence of e-learning, and emphasizes the need for teachers to possess digital literacy skills.

## RESEARCH METHODOLOGY

### *Method of study*

The researchers relied on the mixed-method approach, where both qualitative and quantitative methods were used. The nature of the study: analysis, statistical values, clarification of the relationship between its values, and processes it consists of motivated the researcher to apply a mixed-method approach. The mixed method allows multiple perspectives to increase to make results more effective and to make research more in-depth and broad.

### *Population and Sample Size of the Research*

The present research population included 600 students from the third year of the Faculty of Education, Damascus University, in 2022-2023, whereas the final study sample consists of 320 students from the same class. The age of the population ranges between 22-23, and 80% of the population was female, while 20% consisted of males and population is shown in Table 1.

**Table 1 Population 80 percent of the population is female, and 20% is male**

Category	Per cent	Number
Male	20	120
Female	80	480
total	100	600

A questionnaire was developed (see Appendix A) after reviving the educational literature on the Syrian educational system and the role of digital platforms in promoting the skills of Syrian students. The questionnaire was survey-based and was the same for both quantitative and qualitative methods. The research was based on two methods for its verification of the validity:

### *Face validity*

The initial version of the questionnaire was first administered to five experienced and competent jury members specialized in the field of Curricula and Teaching Technologies at the Faculty of Education, Damascus University. The experienced and competent members gave feedback and advised the addition, deletion, and modification of questionnaire statements regarding their relevancy and accuracy. Their constructive feedback was handled in the final version of the questionnaire (See Appendix A).

### *Construct validity*

To check the construct validity of the questionnaire, the researcher depended on internal consistency by calculating the Correlation Coefficient between the statements and the total score of the instrument (see Table 2). The initial version of the questionnaire was piloted by 15 participants from the Faculty of Education, Damascus University, chosen from outside of the original sample.

**Table 2. Correlation coefficient**

Theme 1: Digital Platforms		Theme 2: Digital Skills	
Item Number	Correlation Coefficient	Item Number	Correlation Coefficient
1	0.588	10	0.721
2	0.644	11	0.832
3	0.651	12	0.573
4	0.560	13	0.722
5	0.853	14	0.537
6	0.577	15	0.673
7	0.739	16	0.604
8	0.696	17	0.762
9	0.866	18	0.755
		19	0.782
		20	0.775
		21	0.637
		22	0.804
		23	0.780

Table 2 reveals the correlation coefficient scores to indicate the effectiveness of digital learning platforms in promoting Syrian students' digital skills and the total score at the levels of 0.01 and 0.05. Such scores ranged from .0866 and .0537. It can be established that internal consistency reflects the quality of the questionnaire construct validity.

### *Questionnaire Reliability*

The study used Cronbach's Alpha Reliability Co-efficient and calculated the consistency factor by employing Cronbach's Alpha Reliability Co-efficient as indicated in Table 3.

**Table 3. Cronbach's Alpha Reliability Co-efficient**

Theme	Reliability Co-efficient
Theme 1: Digital Platforms	0.815
Theme 2: Digital Skills	0.819

Table 3 shows that Cronbach's alpha scores of both themes reached 0.815 and 0.819, respectively, a high score revealing that the questionnaire is reliable.

### Data Collection

After ensuring the validity and reliability of the questionnaire, it was distributed to a large number of third-year students at the Faculty of Education, Damascus University. Participants were contacted individually by emailing them. Fortunately, the researcher received 320 completed questionnaires (40 Males and 280 females). Finally, it was important to ensure that such ethical issues as confidentiality, anonymity and privacy could be achieved effectively. When distributing the questionnaires, it was stressed to participants: "Your responses will be confidential, private and anonymous, and ONLY used for research purposes when writing up this study". The return time of the self-completion questionnaire was within a month. The following section discussed how semi-structured interviews could be a complementary data collection tool to questionnaires in the mixed methods paradigm.

The improved semi-structured interview guide (see Appendix B) was employed to investigate third-year students' views of Syrian third-year students' use of digital learning platforms in enhancing digital skills at the Faculty of Education. Ten students (8 Females and 2 Males) were interviewed. The following three reasons encouraged the researcher to choose the participants:

1. They were available and accessible.
2. They showed motivation to participate in the current study because they believed that the research topic could help them handle their virtual classes.
3. They are Syrian students who study at the Faculty of Education.

### Data Analysis

The analysis of quantitative data was done through SPSS version 24, and Pearson's correlation coefficient was used to verify the validity of the data. The reliability of the questionnaire was assessed through Cronbach's alpha, and mean scores and standard deviations were used to answer the research questions. The analysis of the qualitative data was done through content analysis and thematic analysis. The qualitative data were read for labeling and coding for themes and sub-themes. The data was analyzed and categorized thematically.

## FINDINGS AND DISCUSSION

The results of the present study are significant in answering the two research questions, which explored the effectiveness of digital platforms in promoting Syrian students' digital skills at the Faculty of Education, Damascus University. The findings of this study are critically discussed by comparing and contrasting them with those considered in previous literature

on the topic. The results of the research study were interpreted analytically and thematically. Two main themes are drawn from the findings of the research study.

The role of educational platforms in improving third-year students' e-learning at the Faculty of Education

The findings of the research found that educational platforms are associated with improving e-learning and digital skills among Syrian students. To determine the degree of agreement and the order of the first theme, the law of class length was used  $Set\ length = \frac{range}{\sqrt{n}}$  (the highest value of the score and lowest value of the t score)  $\div$  the number of sets.

$$SL = (1-3) \div 3 = 0.66$$

After adding the set length to the lowest value of the score, three levels were identified to deal with the degrees, as clearly shown in Table 4:

**Table 4. Mean Value Sets and Degree of Agreement**

Degree of Agreement	Value Sets
1.66 - 1	Very low
2.33 - 1.67	Low
3.00 - 2.34	Medium

The researcher determined the mean scores, standard deviations, and median of the study sample's replies, as well as the degree of agreement on the role of digital learning platforms in increasing students' e-learning at Damascus University's Faculty of Education, as shown in Table 5:

It can be analyzed from Table 5 that the degree of agreement with reference to the first theme as a whole was medium with a mean of (2.24). Item 5 (Digital platforms cater to my immediate e-learning needs.) got the highest mean score of (2.70). However, item 2 (Digital platforms help me download virtual classes.) got the lowest mean score with (1.58). The responses from interviews with third-year students indicated that nearly all participants have positive attitudes towards digital learning platforms because the virtual and online educational system was effective in achieving their goals and aims. Some evidence can be gained from Rami's interview. He regarded virtual platforms as more workable than traditional ways of learning because they "encourage students to communicate with their teachers online and fulfill such key requirements as saving and managing learning materials effectively". This finding matches well with previous studies.

Similar results were found in the study conducted that who revealed that digital platforms motivate students to communicate with teachers more easily and effectively in virtual classes to answer any raised urgent questions. In the current study, Sandra also had positive attitudes toward this digital tool because it "enhances continuous learning, depending on learners' needs and interests. Digital platforms offer disabled students with special needs to further their education anytime, anywhere". The researcher calculated the mean scores, standard deviations, and median of the responses of the study sample as well as the degree of agreement on the digital skills obtained from digital learning platforms at the Faculty of Education, Damascus University, as revealed in Table 6:

**Table 5. Mean scores, standard deviations, degree of agreement and median of the digital learning platforms**

Number	Item: Digital learning platforms help me to	Mean	Standard Deviation	Degree of Agreement	Median
1	benefit from the digital content	2.50	.636	high	3
2	download virtual sessions	1.58	.591	low	9
3	ensure that e-learning materials are accurate	2.63	.537	high	2
4	get more access to digital content	2.46	.502	high	4
5	Cater to immediate e-learning needs.	2.70	.461	high	1
6	become more familiar with online study timetables, deadlines	2.24	.680	medium	6
7	communicate with colleagues and teachers via the discussion icon	2.36	.484	medium	5
8	acquire the skills of dealing with the Internet	1.71	.620	medium	8
9	Communicate with others via email.	2.03	.616	medium	7

**Table 6. Mean scores, standard deviations, degree of agreement and median of the digital skills**

Number	Item: Digital learning platforms helped researchers to get such digital skills as	Mean	Standard Deviation	Degree of Agreement	Median
10	dealing with Microsoft Word	2.34	.476	high	6
11	using the keyboard, touch screen and free learning applications	2.30	.513	medium	8
12	using PowerPoint	2.20	.513	medium	9
13	dealing with audio-visual programs (Google Meet)	2.11	.595	medium	11
14	using the scanner	2.35	.553	high	5
15	dealing with Excel	2.35	.506	high	4
16	using online search engines	1.71	.640	medium	13
17	searching digital databases	1.51	.551	low	14
18	designing digital data collection tools	2.16	.561	medium	10
19	surfing e-books	2.45	.501	high	2
20	creating an email account	2.86	.347	high	1
21	sending email messages	2.33	.546	medium	7
22	uploading key programs (pictures, files (pdf, word)	2.36	.484	high	3
23	responding to emails successfully	.484	1.98	medium	12
	Second Theme: Digital Skills	2.22	.143	medium	

Table 6 shows that the degree of agreement with reference to the second theme as a whole was medium with a mean of (2.22). Item 20 (creating an email account.) got the highest mean score of (2.86). However, item 17 (searching digital databases) got the lowest mean score with (1.51). The findings obtained from analyzing the interviews showed that some participants agreed on the importance of third-year students' digital skills enhanced by digital platforms at the Faculty of Education, Damascus University. Both Nagam and Sandra viewed "creating an email account" as the main digital skill developed by digital platforms. Interestingly, Aya pointed out that "digital skills are very significant because they help learners keep up to date with latest high-tech technologies, resulting in increasing the productivity of learning. They pave the way for learning other skills in real-life contexts, especially when it comes to digital shift". Nagam also highlighted the value of digital skills in e-learning because "they help students achieve more creativity in learning technologies and get more innovative in their study". These findings are supported by Gad et al.'s (2023) insights that such digital skills as "browsing, uploading files, doing activities and performing tests". The results of the research study suggest that digital learning platform has positive impacts on the digital skills of Syrian students and it can be deduced from the interviews and questionnaires that educational platforms in Syria enhance digital skills. In order to encourage and enhance the interest of students, the state, government and other responsible organizations in Syria should work on the development of a national e-learning center.

### Limitations

The limitations of the study were the sample size, which was 320 and a large sample size is required for a better result. Research on the topic is rare, and less research is found previously on the topic. Furthermore, time constraint was another limitation of the study. The results of the study may not be representative of other universities, educational institutes and student populations.

### Conclusion

The study concludes that digital learning platforms have been regarded as an effective and workable tool not only for students but also for faculty members. Such platforms have had a positive impact on e-learning because they have a number of advantages. In particular, their main merit is that they facilitate the process of communication and interaction between students and teachers. The findings of the current study also revealed that digital platforms could play a key role in enhancing education students' digital skills, such as creating an email account, surfing e-books, uploading key programs (pictures, files (PDF, word) and dealing with Excel. Because such digital skills can facilitate the processes of learning and teaching effectively, it is recommended that the Ministry of Education devise a local digital platform that is available for all students and teachers to help them interact on a regular basis and share constructive information online.

### Recommendations

- Some funding should be given for training programs that highlight the importance of digital learning platforms in improving digital skills at the Faculty of Education, Damascus University. However, a main limitation inherent in the present study was related to some third-year students' process of participating in the data collection process genuinely.
- A study with students at the Faculty of Education from other Syrian universities could be undertaken to generalize the findings nationwide.
- More data collection tools (observations and documents) could be employed to gather more valid and credible data. Due to warfare and the low economy of the country, the basic educational technologies in Syria are emerging; the Syrian government and universities should spend on the integration of artificial intelligence in the education system, gamified learning platforms and other digital skills. Furthermore, distance learning can be helpful for women who cannot attend university.

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