

# Educational Technology Implementation in Private Schools in Mosul City

Mohammad Salim Abdulrahman<sup>1</sup>, Togzhan Nurtayeva<sup>2</sup>

<sup>1,2</sup>*Department of Information Technology, Faculty of Applied Science, Tishk International University, Erbil, Iraq*

*E-mail: [mohammad.salim@tiu.edu.iq](mailto:mohammad.salim@tiu.edu.iq), [togzhan.nurtayeva@tiu.edu.iq](mailto:togzhan.nurtayeva@tiu.edu.iq)*

## Abstract

Nowadays, especially after COVID-19, technologies have become more involved in many parts of our life more than ever before. One of the major challenges in working with various technologies is to implement them in a fruitful way to improve life quality. The author chose this field because educational technologies can play a significant role in enhancing both the learning and instructional processes. The purpose of this paper is to investigate the state of educational technology in six private secondary and primary schools within the city of Mosul in order to identify areas for improvement and to devise a survey for that purpose. To fulfill the paper's objective, the authors presented these study findings based on the observations, interviews, and related work to develop an educational technology investment in private schools.

**Keywords:** Education, post-covid19, technology, private schools, classroom technologies.

## 1. INTRODUCTION

The evolution of technology is becoming day after day in our lives, and education is no exception. After COVID-19, most of the schools were closed around the world due to the widespread of pandemic. At that time, there were two options either to keep schools closed or go for e-learning by using technology to deliver knowledge and interact with students. E-learning become much more popular during the pandemic and many educational technology solutions starting to be applied in both local and international levels.

Regarding Iraq, the official platform for e-learning was Newton which is a local system developed during the pandemic to allow school teachers to deliver their lectures online and take attendance. Newton platform also allowed students to watch lectures of some expert teachers selected by the Ministry of Education in Baghdad to deliver lectures in all the courses of 1st grade to 12th grade. However, the Newton platform was suffering from continuous disrupt or interrupts due to the huge number of users accessing and using the platform at the same time. This disruption problem led many schools to find other alternatives such as using Facebook, Viber, Edmodo, and WhatsApp Groups to deliver the lectures and send the assignments. It's worth mentioning that Newton platform of Iraq is free and it works across all kinds of devices and it only requires registration for staff and students to be able to access it (Raed Mathan, 2020).

In Mosul, the situation of education is similar to other parts of Iraq, and one of the big challenges was the Internet slowness and lack of Internet services in many of the rural areas

around the city (Al-Khfaf, 2021). In Iraq and Mosul, there are too many public and private schools and only a few of these schools are offering high-quality education and having a proper environment supported by the latest technologies of education. For example, in Mosul, there are around 4 secondary schools and 2 primary schools considered the best among more than 130 private schools in Mosul city according to Nineveh Education Directorate at the end of 2020.

This paper presents the result of a survey done in six schools in Mosul and asks them 10 questions to see their level of technology implementation. The second section will present a literature review of this paper, then section three will present the methodology and the final section will present the results with conclusion.

## **2. RELATED WORK**

In this section, several papers were explored to show how IT can improve education in schools. In addition, this section aims to discover all the necessary criteria for the successful integration of IT in education.

According to (Razak, Jalil, Krauss & Ahmad, 2018), there are 3 criteria to make IT integration in education succeed, first one is types of IT tools used in the school, second, is instructions and rules of IT in the school, last one is types of staff working in the school. All these 3 criteria were mentioned in this study which was conducted in two schools in Malaysia through interview and document analysis.

Another study (Yamamoto, 2019) conducted in 15% of the primary schools located in five regions of Mongolia, found that inspirational motivation is important for IT use in classroom teaching. Also, there are other factors such as teachers' collaborations to increase innovation levels then funds allocation is needed for IT training. Finally, the study refers to the importance of proper leadership to support IT implementation in schools.

There is another study aims to discover the important factors to support technology integration in schools (Yurtseven Avci, O'Dwyer & Lawson, 2020). The study recommends many factors, first is providing online system for flipped model to offer short videos and face-to-face sessions to allow the teacher to share their classroom materials and assignments. The second factor is to offer a qualified team to follow up with teachers during classroom applications to offer them solutions for technical problems. The third factor is the positive teacher beliefs about technology integration. The last factor refers to the context and culture where teachers are working which is important for successful technology implementation.

To identify positive and negative factors that have an impact on the technology implementation of English courses in public primary schools in Kuwait a study was conducted for this reason (Alghasab, Alfadley & Aladwani, 2020). The study used a questionnaire and semi-structured interviews to find out the related factors. The supportive factors are improving learning and innovation besides schools' encouragement. On the other hand, there are obstructing factors of using technology were an absence of teachers' skills and training, the lack of classroom infrastructures in addition to the time limitation with the workload.

### 3. METHOD

The aim of this study is to explore the use of technology in the best private schools in Mosul city in Iraq. A self-administrated survey was designed by the author for the data collection which is important for any comparative study (Salim Abdulrahman, 2019). Moreover, a quantitative methodology is used in this study because it's adequate and acceptable by many researchers (Phillips, 2006). The survey was distributed to the teaching staff of schools to ask them five questions related to e-learning and other five questions about using various technologies in the education process as shown in Figure 1 below. Based on the survey which was conducted in the end of June 2022, the reputation of schools and their students' numbers, six secondary schools were identified as top private schools in Mosul. The six secondary and primary schools are named as Al-Awael, Al-Firdaws, Al-Sharqiaa, and Al-Qadaa, and two primary schools are: Al-Nughbaa, Al-Aibdaa. Therefore, this study focused on interviewing principals or their secretaries to find out their technology implementation level. Furthermore, the author applied the tool to 30 teachers; 5 from each private school. Next, the responses were collected and then processed to obtain the result. Finally, the analysis of the collected data was carried out manually.

Table 1.1: Self-Administered Survey Questions

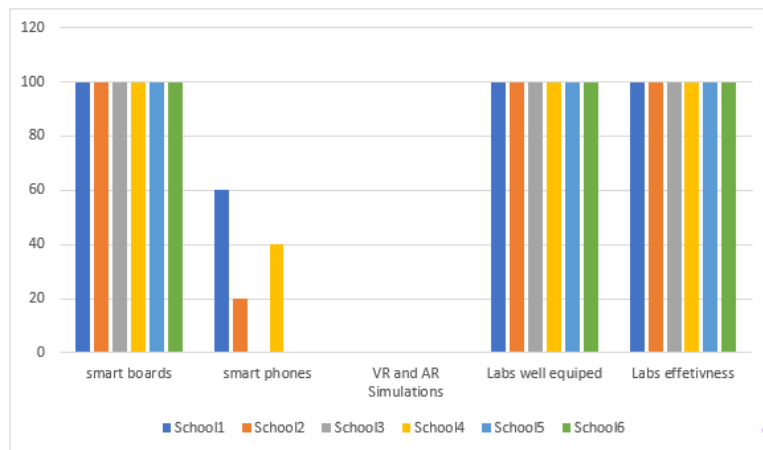
The use of educational technology in learning			
A- The use of e-learning in education		Yes	No
1	Is there any Learning Management System such as (Edmodo, Moodle, Google classroom, etc.) used in your institution?		
2	Are there any e-exam systems used in your institution in conducting exams or quizzes?		
3	Do you employ e-learning in extracurricular activities?		
4	Do you have an electronic application that you employ to calculate your coursework grades?		
5	Is there an e-learning embedded in your classroom activities effectively?		
B- The use of other educational technologies in education			
1	Is the smart board being used at your university?		
2	Is your smart phones or tablets being used in the learning process?		
3	Are new technologies such as Virtual Reality, Augmented reality, or Simulation are embedded in learning process?		
4	Are your lab instruments well equipped and up to date?		
5	Are these labs well utilized in using technology to impart education?		

### 4. Results and Conclusion

The data of the six schools will be presented in this section according to this order: 1-Al-Awael, 2-Al-Firdaws, 3-Al-Sharqiaa, and 4-Al-Qadaa, besides there are two primary schools: 5-Al-

Nughbaa, 6-Al-Aibdaa. According to the survey responses analysis, only 2 of these schools are using an international e-Learning Management System, while only two of these schools developed their own eLearning system to be used for assignments and messages delivery.

On the other hand, all the schools are not using e-exams platforms due to the fact it's not accepted yet by the Ministry of Education and the paper-based one still is the only official exam. Regarding the usage of smartphones and tablets still are not used in most of these schools for education but they are used mostly for accessing students' records and progress to be followed by parents. Fig1. Below show some of the results below.



**Fig. 1. Analytical chart of the 1<sup>st</sup> section of the questionnaire answers**

It's very good that all of these 6 schools are using smart boards in many of their classrooms. However, new technologies such as VR, AR, and Simulations still are not implemented in all of the schools according to the respondents.

Finally, the computer labs are available in all of these schools, some are using laptops while others are using desktop computers, and all are equipped with MS Windows OS. Most of the secondary schools have labs for physics and arts.

To conclude this paper, Mosul private schools should spend more effort to improve the e-learning part in their everyday education process. It's also important to start using new technologies such as VR, AR, and simulations to enhance the teaching process and add more interactivity to the offered courses. Last, but not least, tablets and interactive books could be applied gradually to replace traditional books.

## REFERENCES:

1. Al-Khfaf, A. M. (2021). The Effect of Covid-19 Pandemic on the educational process in Mosul and the most Important Ways to Contain its Negative Effects "Analytical study ". *Dirasat Mosiliya*, (59).

2. Alghasab, M. B., Alfadley, A., & Aladwani, A. M. (2020). Factors Affecting Technology Integration in EFL Classrooms: The Case of Kuwaiti Government Primary Schools. *Journal of Education and Learning*, 9(4), 10-27.
3. Kormos, E. (2022). Technology as a facilitator in the learning process in urban high-needs schools: Challenges and opportunities. *Education and Urban Society*, 54(2), 146-163.
4. Razak, N. A., Jalil, H. A., Krauss, S. E., & Ahmad, N. A. (2018). Successful implementation of information and communication technology integration in Malaysian public schools: An activity systems analysis approach. *Studies in Educational Evaluation*, 58, 17-29.
5. Phillips, D. (2006). Comparative Education: Method. *Research In Comparative And International Education*, 1(4), 304-319. doi: 10.2304/rcie.2006.1.4.304
6. Salim Abdulrahman, M. (2019). Educational technology implementation in private universities in Erbil city. *International Journal of Social Sciences & Educational Studies*, 5(3), 303–310.
7. Yamamoto, Y., & Yamaguchi, S. (2019). Relationships between ICT Implementation at Schools and Factors Related to Transformational Leadership: A Case of Primary School in Mongolia. *International Journal of Education and Development using Information and Communication Technology*, 15(2), 45-61.
8. Yurtseven Avci, Z., O'Dwyer, L. M., & Lawson, J. (2020). Designing effective professional development for technology integration in schools. *Journal of Computer Assisted Learning*, 36(2), 160-177.
9. Karaduman Er, I., Nurtayeva, T., Sbeta, M. *et al.* Carbon monoxide gas sensing performance of ZnO:Al thin films prepared using different solvent–stabilizer combinations. *J Mater Sci: Mater Electron* **30**, 10560–10570 (2019). <https://doi.org/10.1007/s10854-019-01400-2>.
10. Nurtayeva, Togzhan and Muhammed Al-Kassab, Mowafaq (2022) *Access to and Utilization of Information and Communication Technology by the Teaching Staff at Tishk International University*. Eurasian Journal of Science and Engineering, 8 (1).
11. T. B. Taha, T. Nurtayeva, S. A. Arif and A. S. Jamal, "Partial Differential Equations and Digital Image Processing : A Review," *2022 8th International Engineering Conference on Sustainable Technology and Development (IEC)*, Erbil, Iraq, 2022, pp. 235-240, doi: 10.1109/IEC54822.2022.9807553.
12. Nurtayeva, Togzhan and Salim, Mohammad and Basheer Taha, Taha and Omar, Yasmin (2021) *A Proposed IoT-Based Bike Sharing System in Erbil City*. Eurasian Journal of Science and Engineering, 7 (1). pp. 97-105. ISSN 24145629.
13. Nurtayeva, T., Salim, M., Hamdoon, W.M., Taha, T.B., & Omar, Y. (2021). A Proposed IoT-Based Bike Sharing System in Erbil City. Eurasian Journal of Science & Engineering, 7(1), 97-105.
14. B. Soltabayev *Et Al.* , "Enhanced Gas Sensing Properties of Indium Doped ZnO Thin Films by Fabricated Silar Method," *2ND INTERNATIONAL CONGRESS ON ENGINEERING AND LIFE SCIENCE* , 2019.

15. B. Soltabayev *Et Al.* , "TEMPERATURE DEPENDENCE COMPLEX IMPEDANCE ANALYZES OF AL DOPED ZNO," *1st International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018)* , 2018
16. M. Sbeta *Et Al.* , "STUDY OF THE SOLVENT INFLUENCE ON THE STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF ZNO THIN FILMS COATED SOL-GEL METHOD," *1st International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018)* , 2018.
17. T. Nurtayeva *Et Al.* , "Investigation of Electrical Properties of Al-Doped ZnO Thin Films with Different Solvents," *INTERNATIONAL CONGRESS ON ENGINEERING AND LIFE SCIENCE (ICELIS 2019)* , Kastamonu, Turkey, 2019