



ENRICHING CLASSROOMS WITH TECHNOLOGY IN THE BASIC SCHOOLS

Karzan Wakil^{1,2,3,*1}

Nsar Qaisar³

Chra Mohammed³

¹University of Human Development, Iraq

²Sulaimani Polytechnic University, Iraq

³Institute of Training and Educational Development in Sulaimani, Iraq

Abstract:

Teachers play a significant role in integrating technology in schools, and motivated teachers reflect higher levels of technology use in their classroom. Learning students, especially in basic schools, become a new direction of research. The problem is some education systems for improving teaching process less use technology in the classes. In this paper, we present role of technology in the classroom for a learning process. We proposed two classes one of them enriched with technology another one without technology, after teaching the same subject for both students we take a test. The result shows that Average of students GPA in classroom technology is 83.3%, but in the classroom without technology decrease to 60.4%, the result of shows the learning increased 22.9% by using technology. Besides all students enjoyed in classroom technology and most of them learned more material with technology. The result of our paper shows that the classroom technology is more efficient to learn basic school students.

Keywords: classroom technology, basic schools, educational technology

1. Introduction

Technology developers, school leaders, and reward providers have supported the rapid progression of technology mixture in schools. A total focus on technology integration

¹ Correspondence: email karzanwakil@gmail.com, karzan.wakil@uhd.edu.iq

required schools to reshape their objectives for educating students and providing effective professional development for teachers[1].

Allocations for funding technology action have increased due to anecdotal and research-based findings that support the use of technology in the classroom [2]. Hernández, 2005 highlighted a number of new challenges facing leaders trying to implement professional development for combining technology. Although there has been a successful shift toward increased technology integration in schools, not all educational leaders are convinced about the value of these new tools for instructional objectives[3]. Fullan, 2011 a well-respected researcher in the field of educational reform, stated: *“ever since the first laptop emerged almost 40 years ago technology has been getting the race over pedagogy”*. He suggested that technology had its place in the classroom; however, he explained that owning a laptop for all students would not make them more intelligent or even more knowledgeable. Regardless of the conflicting perspectives that exist among educational leaders, technology is still a major part of today’s K-12 classrooms [4].

In the past, teachers provided instruction to students without concern for technology integration. They now encounter ever-changing expectations about their responsibility to improve and increase their practices with technology integration. Guzman and Nussbaum, 2009 stated that a primary necessity for training teachers must include professional development activities that produce knowledgeable instructors skilled in technology competencies. Although expectations from stakeholders are high, key barriers often inhibit the successful integration of technology in the classroom [5].

The primary goal of federal education legislation is to improve student academic achievement, measured primarily by student performance on state standardized tests. Secondary goals include the expectation that every student become technologically literate, that research-based technology-enhanced instructional methods and best practices be established, and those teachers be encouraged and trained to effectively integrate technology into the instruction they provide. The directive to integrate instructional technology into the teaching and learning equation results from the following fundamental beliefs: (1) that learning can be enhanced through the use of technology and (2) that students need to develop technology skills in order to become productive members of society in a competitive global economy [6-7].

Kurdistan Region and Iraq still now not used technology for improving the classroom, only a few basic schools used technology for learning, this the reason why Iraqi education system not powerful especially after evolving technology. For solving this problem, we proposed a scenario for showing performance of classroom technology in learning in Kurdistan Region.

The paper is organized as follows: Section 2 explains the background work on effectiveness learning in classroom technology. The Section 3 prepared research process for solving issues. In section 4 presents the result of implementation research process. Section 5 presents concluding remarks and points to future works.

2. Related Work

There are some papers exist for finding the role of technology for learning and enrich classroom. B. J. Griffiths, 2015 considers a new panorama by seeking the views of current and former exchange students from the USA and the UK. Data was collected by interviewing 12 students representing eight universities in the two countries, and an investigation was conducted using phenomenological principles. While attitudes varied, the general feeling appeared to be that using technology to teach a class offered diminishing revenues, to the point where participants were almost uniformly against the notion of completely online courses [8].

Levy, 2015 argues that classroom practices informed by an understanding of how the brain learns will always be more advantageous than approaches based on observations about students' changing technology habits. Technology and forms of media are always changing, but the fundamentals of teaching students to be great critical thinkers have not changed much at all over time. Whether writing an appellate brief, synthesizing a line of cases, or solving a complex issue for a client, it will always demand an ability to shut out distractions and focus strongly on that task at hand [9].

Martin, 2014 in the results of a survey given to 48 elementary schools in the biggest school district in a Southeastern USA, conducted by university faculty to assess the use of SMART Boards and hands-on experiences, the objectives of which were to identify preparedness of elementary classroom teachers in teaching elementary science, in using SMART Boards and in using manipulative for teaching in the elementary Science classroom, as well as to identify frequency with which primary classroom instructors use SMART Boards or manipulative and reasons for using or not using SMART Boards and/or manipulative in the elementary Science classroom. This result helps us how improving classroom by using technology [10].

In [11] determined the usefulness of the printed textbook in the science classroom as opposed to the e-text that is becoming the norm in many classrooms. While technology continues to improve and develop, students may struggle to be more successful in the academic classroom without teacher guidance in the use of this technology. Further research is needed to determine how to educate students using best practices when the use of an e-text is required. With more time and practice, there is the

possibility that students may be successful using the e-text, just as they are now with the printed textbook.

The majority of the studied California elementary school classrooms in this study provided their students with less outdoor air ventilation than specified in current State guidelines. Higher VRs in classrooms were associated consistently with decreased illness absence, although small sample sizes made this association somewhat less certain in some school districts. Keeping VRs below recommended levels in classrooms saves energy and money but, if the associations seen here are causal, has unrecognized but much larger costs from increased health difficulties and illness absence among students. Growing VRs above the recommended minimum levels, even up to 15 L/sec-person or higher, may additionally decrease illness absence. It may be advantageous to students, their families, and school districts, and also highly cost effective, for VRs in elementary school classrooms to substantially better current recommended ventilation guidelines [12].

McDowell, 2013 was to compare differences and similarities between how teachers in the 21st CMC program and non-participants acquired and applied new knowledge and skills for integrating technology in the classroom environment. This study also examined how participants described their use of professional development activities and their beliefs about integrating technology in the classroom environment [13].

In another work, Rehm and Smith in their research provide ABSEL as a key location and central repository for information on ways to enhance student learning through the proper integration of technology. Unfortunately, this provides an incomplete view of the potential for technology uses in student learning as it ignores the possibility of using technology as a means for enhanced communication within the classroom. This paper evaluates the current state of research regarding technology enhanced learning with a focus on filling in the apparent gap in in-class technology enhanced communication [14]. Two years later Uluyol and Şahin used semi structured interviews to review elementary school teachers' ICT use and their motivators for doing so. The participants consisted of 101 elementary school teachers from 24 elementary schools located in the Turkish capital. They discuss and analyze our findings to understand the current state of teachers' ICT use and their motivations for using ICT. An overall conclusion from the results is that more concrete encouragement, support, and opportunities must be developed to increase teachers' motivation to improve the level and quality of ICT use in classrooms [15].

Effective technology for teaching explained in our previous experience, in [16] we presented that studying and learning ICT subject in basic schools is more affection for the education system, and helps students to improve their knowledge in other

subjects. Future more the students that studied ICT subject more intelligent compared to the students that did not. But showed be aware using technology for a long time without parents control especially for playing electronic game return negative affection as shown in [17].

3. Methodology

For finding the role of technology during enriching classroom, we define a scenario then we make a test, and we give them the questionnaires form. In our scenario we prepared two group of students for teaching the same subject, the subject is Biology, first group students will be studied in classic classroom without technology, second group students will be studied in the classroom with technology. Then we take a test for both groups then we will compare the marks, then we create a questionnaires form (see table 1), then we conclude the result of tests and student answers as shown in Figure 1:

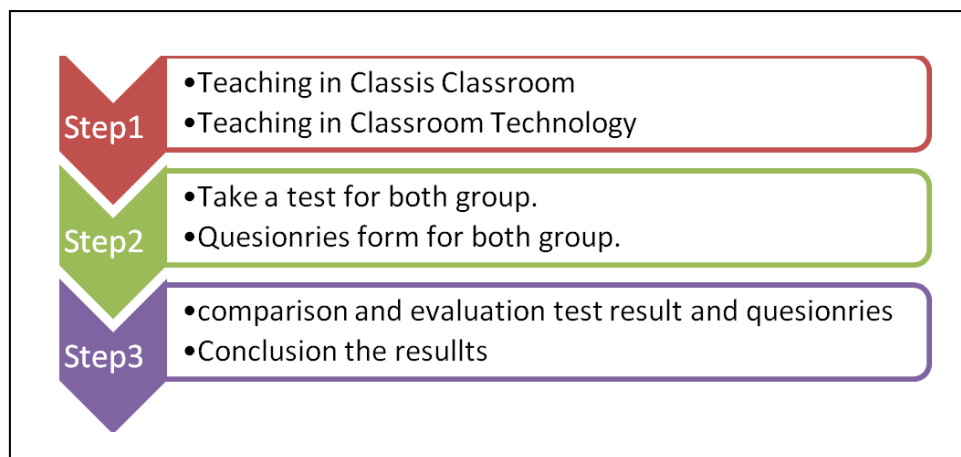


Figure 1: Research Process

4. Result and Discussion

After implementing our methodology in the Boskani basic school in Slemani City, Iraq, we propose two classes one of them classic class without technology another one classroom technology that enriched by technology hardware and software such as data show, laptop, smart board and so on. Each class consists of 16 students in the same level. We teach Biology subject for both types then we take a test, we get the different result from each class as shown in Table 1.

Table 1: Test result from both classes technology and classis

Class	Classroom Technology	Classic Classroom
Number of students	16	16
Number of pass in test	14	10
Number of fail in test	2	6
Average of GPA	83.3%	60.4%
Average of GPA for pass students	90.5%	83.3%
Average of GPA for fail students	33.3%	22.2%
Percentage of pass students	87.5%	62.5%
Percentage of fail students	12.5%	37.5%

Table 1 presents that the student's classroom technology better learned in student's classic classroom, in classroom technology rate of pass students 87.5% but the rate of pass students in classic classroom 62.5%. Average GPA in classroom technology is 83.3% but GPA in classic classroom 60.4%. The result shows that the classroom technology more useful compared with the classic classroom. For more explain we present the result both classes by Bar Chart as shown in Figure 2 and Figure 3.

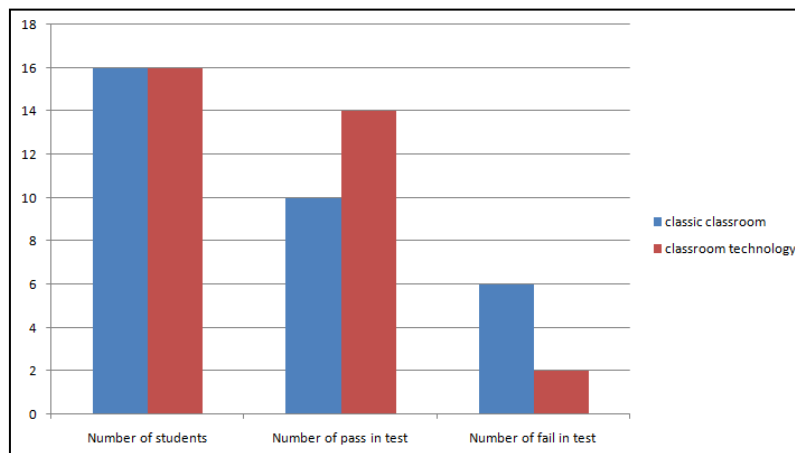


Figure 2: Test result by number

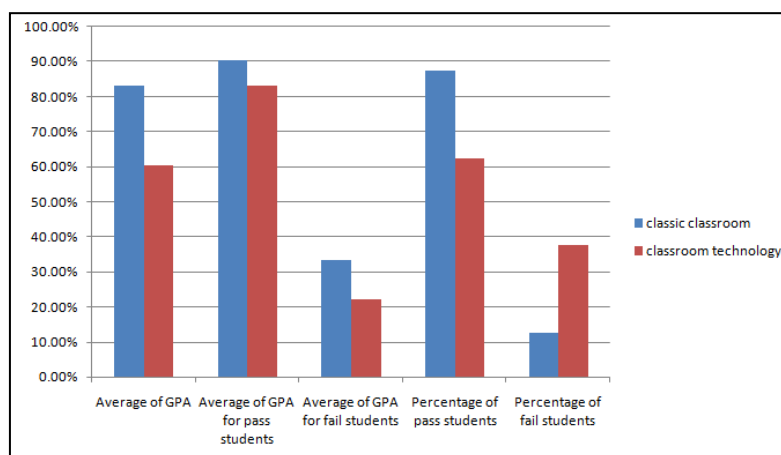


Figure 3: Test result by percentage

After the test we prepared questionnaires form for students that studied in both class, they answered the question by using “Yes” or “No”, the result of answer questions presented in Table 2.

Table 2: Result of Questionnaires form

No.	Questions	Yes	No
Q.1	Do you better understand in classroom technology?	29	3
Q.2	Do you enjoy in classroom technology?	32	0
Q.3	Is it useful for practice, when you study in classroom technology?	30	2
Q.4	Do you remember information for a long time, after studying in classroom technology?	29	3
Q.5	Do you like study in classroom technology always?	24	8

Table 2 explained that the students could learn strongly and information better imaged by students mind, also the students enjoyed in classroom technology compared with classic classroom, however, few number of students liked classic classroom but most of them interested in classroom technology, the result presented in Figure 4.

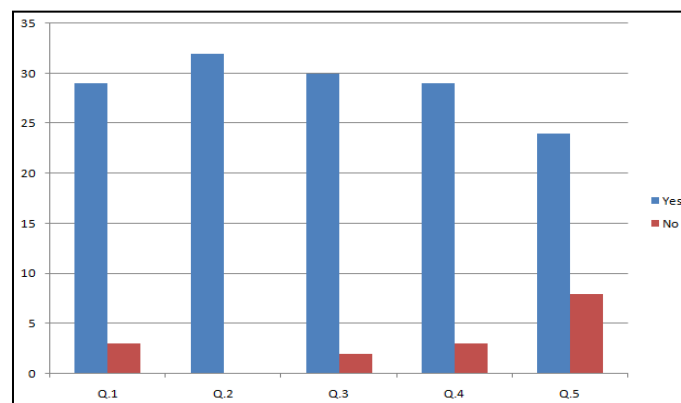


Figure 4: Bar Chart for Result of Questionnaires

5. Conclusion and Future Work

In this paper, we present role of technology in the classroom for the learning process. We designed two classes, one of them with technology another one without technology, after teaching the same subject for both groups, we took a test. The result shows that the average of GPA in the classic classroom is 60.4% but in the classroom technology become to 83.3%, the result of shows the learning increased 22.9% by using technology. Moreover, all students enjoyed in classroom technology and most of them learned more about classroom technology. We recommend for researcher enrich classroom with a different design with technology; they find the role of technology for test, exam, and assignments.

References

- [1] M. D. S. Cortes, et al., "Effects of Computer Gaming on High School Students' Performance in Los Baños, Laguna, Philippines," 2012.
- [2] F. F. MEHRABI, et al., "Reviewing The Types Of Computer Games And The Time Spent On Them And Their Relationship With The Students' educational Achievement In Kerman's High Schools (2009-2010)," 2012.
- [3] M. M., "Guidelines for educational games selection," 2005.
- [4] M. Fullan, "Choosing the wrong drivers," in Center for Strategic Education, Seminar for Studies in Education, University of Toronto, Toronto, Canada. Series Paper, 2011, p. 5.
- [5] A. Guzman and M. Nussbaum, "Teaching competencies for technology integration in the classroom," *Journal of computer Assisted learning*, vol. 25, pp. 453-469, 2009.
- [6] K. M. Culp, et al., "A retrospective on twenty years of education technology policy," *Journal of Educational Computing Research*, vol. 32, pp. 279-307, 2005.
- [7] U. S. D. o. E. O. o. E. Technology, "Transforming American education: learning powered by technology," 2010.
- [8] B. J. Griffiths, "Perspectives of Exchange Students on the Role of Classroom Technology: A Law of Diminishing Returns?," 2015.
- [9] J. B. Levy, "Teaching the Digital Caveman: Rethinking the Use of Classroom Technology in Law School," 2015.
- [10] S. F. Martin, et al., "Using smart boards and manipulatives in the elementary science classroom," *TechTrends*, vol. 58, p. 90, 2014.
- [11] C. T. Weiss, *Effectiveness of 1: 1 technology in the science classroom: Rowan University*, 2016.
- [12] M. J. Mendell, et al., "Association of classroom ventilation with reduced illness absence: a prospective study in California elementary schools," *Indoor air*, vol. 23, pp. 515-528, 2013.
- [13] D. G. McDowell, *Classroom technology integration: A comparative study of participants and non-participants in the 21st Century Model Classroom program: Western Carolina University*, 2013.
- [14] A. Rehm and J. A. Smith, "Interactive Classroom Technology: Adding a Benefit to the Traditional Classroom," *Developments in Business Simulation and Experiential Learning*, vol. 37, 2014.
- [15] Ç. Uluyol and S. Şahin, "Elementary school teachers' ICT use in the classroom and their motivators for using ICT," *British Journal of Educational Technology*, vol. 47, pp. 65-75, 2016.

- [16] K. Wakil, et al., "The Impact of Teaching ICT for Developing Education Systems," *Int. J. of Adv. Res*, vol. 5, pp. 873-879, 2017.
- [17] K. Wakil, et al., "Impact of Computer Games on Students GPA," *European Journal of Education Studies*, 2017.

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