Research paper

The Effectiveness of Implementing an Integrated Technology Curriculum in Learning English in the Secondary School

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Abstract

Teaching and learning has changed in many ways over the past two decades. The focus of this study is on analyzing the effectiveness of implementation of an integrated technology curriculum in learning English in the secondary school. As an experimental group, 25 English learners of secondary school in a nonprofit school using a technological curriculum has been considered and 25 English learners of the secondary school from the public school with a traditional curriculum (control group) were purposefully selected. To measure the academic performance of the two groups, the constructive teacher test was administered at the beginning and end of the semester. The reliability of this tool was assessed using Cronbach's alpha (0.87) and its validity was assessed by content validity method. The amount of their non-academic study in the previous year was collected by completing a researcher-made questionnaire by the student and their parents and teacher, and then the amount of students' non-academic study was collected by completing the second researcher-made questionnaire by the student and their parents and teacher. The collected data were analyzed using independent t-test. The results of a survey have been analyzed and compared descriptively. The results demonstrate that following technological curriculum has a significant effect on learning English in secondary school. The results of the present study might provide EFL curriculum developers with guiding principles regarding the development of the curricula of secondary schools in the EFL context if Iran.

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Introduction

One of the most crucial issues of the present era in the field of education is the role of technology on the educational process. That's why technology has become the knowledge transfer highway in most countries. Technology integration nowadays has gone through creation and transformed our societies that has clearly changed the people's outlook .The science and technology producing is essential for the stability of societies, and an advanced state of science production in different countries determines the destiny of each country. Technology is by far an indispensable part in achieving considerable development, economic development and the fight against poverty- stricken. The boom in new technologies in the field of curriculum planning causes principal changes on sundry issues, namely the role of teachers and instructors, educational appliances, classroom, the nature and process of learning and design of tutorial content material. Before discussing this issue in more depth, it is worthy of undertaking a review of recent research on technology-supported language learning (Webb et al., 2017).

Teachers need special methods, techniques, and skills to achieve the goals of education. If raising a perfect human being is the main goal, the variety of teaching methods, techniques, and skills in the curriculum is essential and the need for educational efforts in the classroom (Hew and Tan, 2018).

During the last twenty years, significant theories have been proposed and presented in the field of curriculum. At present, educational systems are faced with a lack of thinking in students. Many educational experts attribute this to the rule of traditional methods and not using the active curriculum in schools (Webb et al., 2017).

Curriculum in the past, according to education experts, meant the transfer of information, but new education experts believe that the teacher should teach the student the method of knowing, not just the transfer of formulas and information, the teacher should be the student to help them experience and learn through their experiences, so paying attention to the quality and method of teaching teachers should be considered very necessary and serious, and planners and officials are obliged to take the necessary opportunities to get to know as much as possible teachers provide new and creative teaching methods and patterns, and prepare the conditions and facilities for the successful implementation of these methods (Martinelli et al., 2018).

One of the issues related to teachers 'awareness of new teaching methods is students' learning styles. Because all the amazing human progress in today's world is the result of learning and the task of teaching and improving it is the focus of all educational institutions. The credibility of an educational system depends on the level of learning of its learners. Learning is a very complex variable that is affected by several factors such as intelligence, motivation, appropriate environment, family factors, community, school quality, and the quality of the instructor. In addition, another factor affecting learners' learning is their learning

styles, which learners, like other abilities, acquire through experience and learning, and each person acquires content appropriate to their learning style (Papanikolaou et al., 2017).

The present age is the age of information. Information that becomes doubles or even multiplies in a very short time and is published all over the world in an instant. With the impact of human life on this phenomenon, it can be said that the world has entered the information society. Many comprehensive information researchers consider society to be a multifaceted and multi-dimensional society that needs all its layers and levels of information. In such a society, access to or lack of access to information plays a crucial role in all areas (Lilly et al., 2015).

The advent of information and communication technology has opened a new window for human beings and has affected various aspects of their personal and social life. Man has tried to increase his knowledge in this field to use it in various ways, including in education (Chen et al., 2019).

The world today is on the verge of a new social revolution called the information revolution, which is as important as the industrial revolution and has transformed the world. The information revolution has affected all aspects of society and, above all, the education system due to its nature (McDonald et al., 2014).

The world today is on the verge of a new social revolution called the information revolution, which is as important as the industrial revolution and has transformed the world. The information revolution has affected all aspects of society and, above all, the education system due to its nature (Uslu, 2018).

However, since its inception, technology has changed a lot, both in terms of application and in terms of definition and type of attention, in recent decades; information technology has been associated with almost all aspects of human life. Every individual and every organization attaches special importance to technology and its use. Computers are widely used in all areas such as education, business, entertainment, communications, and daily life. For example, computers in the field of education are used as multimedia tools, the Internet, and computer networks and educational institutions use technological tools to improve the quality of their performance (Day-Black et al., 2015).

Review of the Literature

Information and communication technology is a set of tools, machines, technical knowledge, methods, and skills to use in the production, trade, processing, accumulation, recycling, handling, transmission, and consumption of information from the simplest to the most complex and from it covers the most basic to the most advanced stages of information (Ping, 2016).

Explaining the use of information and communication technology in curriculum planning is tools, cognitive tools, and thought tools to classify them. This type of classification is important when we want to determine the role of information and communication technology in the process of teaching and learning, design, and selection of information and communication technology tools in education (Maguth, 2014).

The use of information and communication technology in the teaching-learning process is to increase the quality of teaching-learning methods. This has a special place in curriculum planning because the use of information and communication technology in schools is a way to understand new goals of education, including the development of continuing education, skills, and ability to engage in creating collaborative knowledge and problem solving with the help of peers and professionals. It is everywhere in the world (Foziah, et.al. 2014).

On the other hand, modern researchers are trying to replace absolute technology with the title of educational design and technology, because the educational design is a systematic process that is used to produce training and internship programs in a sustainable and reliable way. Today we are witnessing the widespread acceptance of educational design in business and industry, government and military environments, and even in universities and schools. Of course, it should not be forgotten that although educational design meets the present and the future, it cannot meet all the needs for improving human performance in today's complex and changing world (Shiboko, 2015).

However, the forthcoming education system will combine information content and technology with the principles of automated teaching and learning to create a bleak informative-lethal learning environment. Informative learning environments will be based on an intelligent education system. Deadly information learning environments will be based on intelligent user interfaces that allow learners to build their own learning experiences using a combination of tools and integrated technologies. These sets of tools have the ability to search and analyze information simultaneously and can quickly create simulated environments to test ideas or facilitate the transfer of knowledge to real-world situations (Tang et al., 2016).

The integration of technology with the teaching-learning process enables the educational system to achieve educational goals at different levels. The integrated curriculum presents the content to learners in a way that shows them social situations by emphasizing their integration. In this way, the basics and principles are defined, the social needs and related issues are explained, and finally, the issue is explained with the aim of improving the quality of life (Tamim et al., 2011).

Traditional type educational design patterns emphasized a specific area of learning, such as cognitive, sensory-motor, or emotional domains (Bloom, 1956), and were almost equivalent to the triplets of knowledge, method, and attitude. A constructive approach to designing a learning environment encourages learners to self-generate insights and build knowledge. In

this approach, motivation does not have a specific domain but is within other concepts. But it should be noted that in our country there are important obstacles to integrating technology and information with the curriculum.

Rahimi Doust et al. (2011) showed that some barriers have a greater impact on teachers not integrating information and communication technology in the curriculum. The results also showed that there is a negative correlation between the ability and skills of people in the use of ICT and barriers to the integration of ICT in the curriculum in their view.

The findings of Malazehi (2014) also indicate that information technology has provided a new approach in the field of design, implementation, and evaluation and by eliminating spatial distances and time constraints as a catalyst to improve the quality of educational experience and It has had a great impact on all parts of education, including the curriculum and the curriculum planning process.

Mirrahimi et al. (2015) examined the necessity of using the integrated approach of information and communication technology in curriculum planning and showed that due to the development of information and communication technology phenomenon, it is necessary to create a special convergence between knowledge and information and communication technology so that people be able to meet the present and future needs of society; what is emphasized in the information society, especially in curriculum planning, is not just the investment and application of hardware and tools of ICT and use it to store information, but an important issue and it is essential to use this technology, which is achieved by combining information and communication technology in curriculum planning.

This is because, the use of technology in education contributes a lot in the pedagogical aspects in which the application of ICT will lead to effective learning with the help and supports from ICT elements and components (Jamieson-Procter et al., 2013). It is right to say that almost all ranges of subjects starts from mathematics, science, languages, arts and humanistic and other major fields can be learned more effectively through technology-based tools and equipment. In addition, ICT provides the help and complementary supports for both teachers and students where it involves effective learning with the help of the computers to serve the purpose of learning aids (Jorge et al., 2003).

On the other hand, students will benefit from ICT integration where they are not bounded to the limited curriculum and resources, instead hands-on activities in a technology-based course is designed to help them to stimulate their understanding about the subject. It also helps teachers to design their lesson plans in an effective, creative and interesting approach that would result in students' active learning. Previous researches proved that use of ICT in teaching will enhance the learning process and maximizes the students' abilities in active learning (Jorge et al., 2003; Jamieson-Procter et al., 2013).

It is possible to take advantage of technology during the process of curriculum development using diverse software including the applications which are utilized on smartphones and the programs that are installed on computers. Furthermore, the Internet constitutes the most prominent means of technology-based curriculum development. Moreover, the syllabus designers and curriculum developers have strived to include specific activities in the relevant syllabi and curricula which rely on digital communication platforms. The students who major in the fields of medicine and nursing are inclined to avail themselves of the above-mentioned technology-oriented curricula due largely to their utility in their pertinent fields of study. The related studies on the aforementioned students' curricula have highlighted the fact that the use of technology in these curricula can ameliorate the patients' condition in healthcare centers (Day-Black et al., 2015).

Mafuraga and Moremi (2017) carried out a study in order to determine the impact of the use of information and communication technology on EFL teachers' instruction of the target language in school settings. The results of the study underlined the fact that, most of the EFL teachers were cognizant of the utility of technology in the instruction of the diverse aspects of the second language including its phonological aspects. Moreover, based on the results, these teachers were inclined to take advantage of technology in their classrooms.

Ogola et al., (2016) investigate the factors that influence the effective implementation of the integrated English language syllabus among teachers and students in Mumias Sub County, Kenya. Discoveries from the think about appeared that there are issues related to instructing strategy, accessibility and appropriateness of learning assets, the school environment, compelling integration of English and writing, understudies and teachers' demeanors, and other socio-economic variables which account for moo understudy accomplishment in English.

The novel technologies in the field of curriculum planning lead to main changes in different fields, including the role of teachers and instructors, educational tools, classroom, the nature and concept of learning, and the design of educational content. So, this study's aim is to investigate the effectiveness of implementing an integrated technology curriculum in learning English in secondary school.

The close scrutiny of the relevant literature highlights the fact that, the researchers have focused on certain aspects of technology-based curriculum development and have ignored the other pertinent aspects of this field. First, a number of studies (e.g. Majidi et al., 2011; Mardomi, 2014) have investigated the utility of technology in certain educational fields including the field of librarianship and have not dealt with the other fields such as second language acquisition. Second, certain studies (e.g. Fatemi, 2015) have made an effort to determine the teachers' attitudes towards the use of technology and have disregarded the learners. Third, a group of studies (e.g. Malazehi, 2014; Rahimi Doust et al., 2011) have focused on the efficacy of the use of different technological devices and platforms in curricula and have not examined the normal classes in academic settings. The present study strived to

deal with the above-mentioned inadequacies of research in the EFL context of Iran. That is, the study tried to determine the impact of technology-integrated curriculum on Iranian EFL learners' English learning in the secondary school settings. More specifically, this study made an endeavor to answer the following research questions:

RQ1: Is there is a relationship between the traditional curriculum and English language learning in secondary schools?

RQ2: Is there a relationship between the technology-integrated curriculum and English language learning in secondary schools?

Considering the above-mentioned research questions, the researcher formulated the following null hypotheses:

H01: There is not a relationship between the traditional curriculum and English language learning in secondary schools.

H02: There is not a relationship between technology-integrated curriculum and English language learning in secondary schools.

Research Methods

Design

The present study is a descriptive and causal-comparative study that was conducted as a survey. For the present study, a private school and a public school, both of which are among the best schools in the district, were selected from all high school English class students, and secondary school was selected from each school. In this study, through parents, an attempt was made to make both classes almost homogeneous in terms of non-textbook reading. It should be noted that the traditional public school curriculum system and the non-public school curriculum system were a combination of technology and information.

Participants

Based on the objectives of the study, 25 students from the English language class of the secondary school from the private school whose curriculum was integrated with technology (experimental group) and 25 people from the English language class of the secondary school from the public school whose curriculum was traditional (control group) were purposefully selected.

Procedure

In the experimental group, a technology-integrated curriculum was implemented and the control group was trained in the usual way. To measure the academic performance of the two groups, the constructive teacher test was administered at the beginning and end of the semester. Students' extracurricular reading was assessed by completing a researcher-made questionnaire by students, teachers, and student's parents. The validity of this questionnaire was confirmed by experts in curriculum planning and educational management. Also, the reliability of this tool was evaluated using Cronbach's alpha (0.87) and its validity was evaluated by the content validity method. An Independent t-test was used for the inferential analysis of data. It should

be noted that for data analysis, SPSS software version 23 was used, and hypotheses were tested at the level of 0.05.

Findings

Descriptive statistics of the participants' characteristics

This section provides sufficient information on the characteristics of the participants of the present study. Table 1 and Table 2 furnish information on the number of the students in the relevant schools and in the groups of the study respectively:

Table 1

Number of Secondary School Students in Public and Private Schools

Students	Number
Public school	85
Private school	68
Total	153

Table 2

Control and Experimental Group Students

School	Number
Control group	25
Experimental group	25
Total	50

The demographic information of the study population is shown in Tables 1 and 2. In the academic year 1401-1400, there are a total of 153 secondary school students in public and private schools, of which, as shown in the table, 85 are public schools and 68 are private schools. The total number of secondary school students in these schools is 153. Of these, 85 high school students are studying in a public school and 68 high school students are studying in a private school.

Inferential statistics

The present study has one main hypothesis and six sub-hypotheses. To compare the mean of managers, the normality of the data was first checked. Then, to investigate the relationship between quality management and cost management and the demographic characteristics of managers, a correlation test was used and stepwise regression analysis was used to evaluate its share and areas in predicting the total score of quality management and cost management.

Table 3

The Normality of Variables

Variable	Statistics K-s test	p-value	Test result
Traditional curriculum	0.653	0.787	Normal
Curriculum integrated with technology and information	0.909	0.381	Normal

Testing research hypotheses

First hypothesis

There is a relationship between a traditional curriculum and learning English language course in secondary school.

Table 4

Correlation between Traditional Curriculum and Learning English Language Course in Secondary School

Variable	learning English language course	
	Correlation coefficient	P value
Traditional curriculum	0.111	0.037

According to Table 4, it can be seen that there is a positive correlation between the traditional curriculum and learning English in secondary school, which is statistically significant at the level ($p < 0.05$). Also, to test the above hypothesis, a simple linear regression of the simultaneous model is used, which is presented in the following tables.

Table 5

Multiple Correlations of Traditional Curriculum and English Language Learning

Correlation coefficient	Squares R	Modified R squares	Estimated benchmark error
0.111	0.012	0.010	6.486

Table 6

Significance of Regression Model for Predicting English Language Learning in Secondary School with Traditional Curriculum

Model	Total square	Df	Average squares	F statistics	P value
Regression	183.879	1	183.879		
Remaining	14724.119	350	4.371	7.407	0.037
Total	14907.997	351			

According to Table 5, in all participants, the correlation coefficient of traditional curriculum and English language learning in secondary school is 0.111. In other words, according to the adjusted R square, 0.010% of the variance of English secondary school learning is explained by the traditional curriculum in the whole study group. According to Table 6, the prediction of learning English in the secondary school by the traditional curriculum was statistically significant at the level of ($p < 0.05$). Therefore, the obtained results can be generalized to society. In other words, the research hypothesis is confirmed.

Table 7
Investigation of Standard Predictor Coefficients

Predictive variable	Non-standard coefficients	Standard error	Standard coefficients	t statistic	Significance level
Traditional curriculum	0.128	0.061	0.111	2.091	0.037

According to Table 7 of the standard coefficients of predictor variables, the traditional curriculum with a beta of 111% has a positive contribution to learning English in the secondary school.

Second hypothesis

There is a link between technology combined with technology and learning English in the secondary school.

Table 8
Correlation between Technology-Integrated Curriculum and English Language Learning

Variable	Learning English language course	
	Correlation coefficient	P value
Curriculum integrated with technology and information	0.128	0.016

According to Table 8, it can be seen that there is a positive correlation between the curriculum integrated with technology and learning English, which is statistically significant at the level ($p < 0.05$). Also, to test the above hypothesis, a simple linear regression of the simultaneous model is used, which is presented in the following tables.

Table 9
Multiple Correlations of Integrated Curriculum with Technology and English Language Learning

Correlation coefficient	Squares R	Modified R squares	Estimated benchmark error
0.128	0.016	0.014	6.145

Table 10
Significance Study of Regression Model for Predicting English Language Learning of Secondary School with Curriculum Integrated with Technology

Model	Total square	Df	Average squares	F Statistics	P value
Regression	220.593	1	220.593	5.841	0.016
Remaining	13218.861	350	37.768		
Total	13439.544	351			

According to Table 9, in all participants, the correlation coefficient between learning English in the secondary school and the curriculum integrated with technology is equal to 0.128. In other words, according to the adjusted R square, 0.014% of the variance of learning

English in secondary school is explained by the curriculum integrated with technology in the whole study group. According to Table 10, the prediction of secondary English language learning by the curriculum integrated with technology was statistically significant at the level of ($p < 0.05$). Therefore, the obtained results can be generalized to society. In other words, the research hypothesis is confirmed.

Table 11
Investigation of Standard Predictor Coefficients

Predictive variable	Non-standard coefficients	Standard error	Standard coefficients	t statistic	Significance level
Curriculum integrated with technology and information	0.140	0.058	0.128	2.417	0.016

According to Table 11 of the standard coefficients of predictor variables, the curriculum integrated with technology with a beta of 128% has a positive contribution to the English language learning of high school students.

Discussion

The present study was conducted to investigate the effect of combining technology and information with the curriculum on learning English in the second year of high school and the results showed that the combination of technology and information with the curriculum has a significant effect on learning English in the second year of high school. This finding is part of the results of Majidi et al. (2011), Mollazehi (2014), Fatemi (2015), Kian (2015), Omid Ali (2015), Mousavi (2016), Sullivan and Umaschi (2016), Manuel Sáez et al. (2016) and Nan Zhang et al. (2018) are consistent.

Mardomi (2014) studied the role of new technologies in the field of librarianship and their impact on university libraries. The results of this study indicate that new technologies in this field have had a great impact so that today this field is removed from the title of librarianship and is introduced as information science and science and libraries from the limited regional framework and its physical and traditional space have moved towards digital, electronic and virtual streaming.

In this regard, Omid Ali (2015) during a study to identify and analyze the standards, criteria, and indicators for measuring and measuring per capita reading in Iran and showed that technology and information and its integration with the curriculum and extracurricular are among the factors Which can increase per capita reading.

Meanwhile, concerning technology and learning, Majidi et al. (2011) showed in a study that information and communication technology has a significant effect on students' learning. The results also indicate a significant difference in information literacy and its components between the experimental and control groups. Based on the results of this study, education officials are recommended to use information and communication technologies (ICT) and integrate them in educational centers while improving the level of learning of students in improving the quality of education and per capita reading. Teachers' views have also been examined in this regard.

Fatemi (2015) during a study showed that from the perspective of teachers, the benefits of educational technology in the curriculum are high. In their view, the use of educational technology greatly affects the implementation of the curriculum. From the teachers' point of view, the necessary prerequisites for the application of educational technology in the curriculum are largely provided. From the teachers' point of view, the effectiveness and effectiveness of educational technology in the curriculum is high compared to its ineffectiveness. The results of testing the hypotheses show that there is a direct relationship between service history and field of study with the amount of use and their view of the application of technology. But there is no significant relationship between gender and their views on the impact and application of technology.

The curriculum of leading countries in the field of integrating technology with the curriculum also confirms the results of the present study, as Kian (2015) states in a study that in the study of curricula, it was found that the studied countries have adopted a cross-curricular approach. In addition, in their educational initiatives, these countries use the needs assessment and feasibility and government funding of group partnerships. This research, formulating solutions to create a legal framework, using private sector cooperation, formulating plans for remote areas, using a cascading model in teacher training, integrating information and communication technology in all curricula and coherent evaluation of plans for the education system and offers Iranian breeding.

What we need in our view are educational and research design strategies that aim to identify how to use emerging educational technologies that increase learning outcomes while preserving people's privacy and ethical standards at the highest level. Its limit has been observed.

The approach of traditional education systems that seek to engineer learning through a more or less linear approach; are moving towards a new educational paradigm that attaches great importance to controlling the learner to facilitate the meaning of the rich information-rich lake (Robert Razer and John W. Dempsey, 2013).

Simulation and visualization tools lead the students to find out patterns explicitly. These curricular approaches enhance success for different types of learners and may by far boost the performance of at-risk students.

However, there is no effective educational design in deprivation. Employers sometimes complain that graduates of design and educational technology have good skills in writing and applying graphics in computer-based and network-based training, but most of the training they produce is soulless and not effective enough. To produce high-quality products, educational designers must know exactly the process of motivational design and educational design. Experience shows that convincing teacher and educational designers to accept motivational design officials can be difficult, and sometimes they have a misconception of their responsibility to learner motivation. Of course, it should be noted that knowledge of motivational techniques is also very important for educational designers or human performance technologists to be able to choose the appropriate techniques for a situation or adapt techniques to adapt to a situation with special needs. We now realize that there is a challenge in motivational design as well as educational design, and that is how to make the design process faster and more efficient at the same time. A fully implemented process involving all levels of analysis, design, production, developmental testing, and review and validation will be very time-consuming.

Conclusion

The main purpose of the templates developed in educational design is how to reduce the project time cycle from start to finish. The same is true of educational design. One of the most important parts of the educational design process is the integration of educational innovations in the educational and corporate environment. The general public believes that if educational innovations are effective and well-designed, they are ready to choose, but this belief has been proven to be wrong. Research, most of which is based on work. They have shown that many social, personal, organizational, economic, and technical factors combine to influence the selection rate and the spread of innovation (Robert Razer and John W. Dempsey, 2013).

However, it should be noted that the processes used to organize educational design and development activities are of particular importance. Educational design specialists use the systematic process of designing, producing, implementing, and evaluating educational methods and materials.

Finally, it is emphasized that today's world is the world of technology and information.to encourage different segments of society, especially students, who are taking the first step in learning and study, this opportunity should be used because by combining technology and information it is easy to promote learning in the country. It is enough to imagine that the student's curriculum is designed in modern tablets, and in addition to written books, there are also audiobooks, attractive e-books are designed to encourage students to read them. Regarding this fact technology is increasingly becoming an integral part of the curriculum development.

The findings of the project provide evidence that the secondary school teachers also need audiovisual classroom materials for effective teaching.

The general picture is that different countries have various strategies and policies dealing with that issue. Nowadays, due to the coronavirus pandemic, implementation of innovation in virtual training has been increased. Certainly, it gives us a fresh look at the bigger picture and perhaps a more hopeful point of view considering the use of the power of the new information technologies in curriculum development.

The results of the study may have a number of implications for EFL teachers and curriculum developers. Integration of technology will assist teachers to the global requirement to replace traditional teaching methods with a technology-based teaching and learning tools and facilities. The results indicate that integration has a great effectiveness for both teachers and the students. Furthermore, teachers' well-equipped preparation with tools and facilities is one the major factors in success of technology-focused teaching and learning. It seems that professional development training programs for teachers also played a key role in enhancing students' quality learning. In addition, the results highlight the fact that, EFL curriculum developers have to overhaul the EFL curricula of the secondary schools by integrating technology with these curricula. The integration of technology with the above-mentioned curricula may have a beneficial impact on the EFL learners' acquisition of the diverse aspects of the target language.

Recommendations

For the future studies, there is a radical need for consideration of various aspects of integration regarding strategic planning in curriculum development. It is viable if further studies can be made based on what barriers teachers are challenging in using technology in their daily classrooms in schools. Besides, rather than just focusing in public and private schools, it is best if this study can be conducted in English teaching academies we have in Iran that concerning vast range of their funding paves the way for implementation much faster and easier. It is worth doing if comparison can be made among different schools in which it can take the good side as samples and promote learning through identifying the serious flaws. Apart from that, it would be exciting to see the findings between the effectiveness of ICT integration in public and private schools focusing different type of courses.

References

Day-Black, C., Merrill, E. B., Konzelman, L., Williams, T. T., & Hart, N. (2015). Gamification: An innovative teaching-learning strategy for the digital nursing students in a community health nursing course. *Journal of the Association of Black Nursing Faculty in Higher Education (The ABNF Journal), 26*(4), 90-94.

Fatemi, H. (2015). *A survey of teachers' attitudes about integrating technology with the curriculum: A case study of the elementary course of the master's thesis* (unpublished master's thesis). University of Kurdistan, Kurdistan, Iran.

Hew, K. F., & Tan, C. Y. (2018). Predictors of information technology integration in secondary schools: Evidence from a large scale study of more than 30,000 students. *Plos One, 11* (4), 68-99.

Hsiao-Jung, Ch., Li-Ling, L., Yu-Che, Ch., Chung-Chih, H., & Li-Chun Ch. (2019). Factors influencing technology integration in the curriculum for Taiwanese health profession educators: A mixed-methods study. *Public Health*, *16*, 26-52. Doi:10.3390/ijerph16142602.

Jamieson-Proctor, R., Albion, P., Finger, G., Cavanagh, R., Fitzgerald, R., Bond, T., & Grimbeek, P. (2013). Development of the TTF TPACK survey instrument. *Australian Educational Computing, 27*(3), 26-35.

Jorge, C. M. H., Gutiérrez, E. R., García, E. G., Jorge, M. C. A., & Díaz, M. B. (2003). Use of the ICTs and the perception of e-learning among university students: A differential perspective according to gender and degree year group. *Interactive Educational Multimedia, 7*, 13-28.

Kian, M. (2015, September 15-19). *New approaches to integrating information and communication technology in educational programs* [Paper presentation]. The Second National Conference and the First International Conference on New Research in the Humanities, Marvdasht, Fars, Iran.

Lilly, K., Fitzpatrick, J., & Madigan, E. (2015). Barriers to integrating information technology content in doctor of nursing practice curricula. *Journal of Professional Nursing, 31*, 187–199.

Lui, P. (2016). Technology integration in elementary classrooms: Teaching practices of student-teachers. *Australian Journal of Teacher Education, 4*(3), 25-52.

Mafuraga, M., & Moremi, M. (2017). Integrating information and communication technology in English language teaching: A case study of selected junior secondary schools in Botswana. *International Journal of Education and Development using Information and Communication Technology, 13*(1), 142-152.

Maguth, B. M. (2014). Digital bridges for global awareness: Pre-service social studies teachers' experiences using technology to learn from and teach students in Thailand. *Journal of International Social Studies, 4*(1), 42-59.

Mahmood, F. (2014). Factors affecting teachers' utilization of technology in Malaysian ESL classrooms. *Malaysian Online Journal of Educational Technology*, *29*(2), 15-23.

Majidi, D., Hamidizadeh, K., & Azami Tabar, A. (2011, July 2-8). *The effect of information and communication technology (ICT) application on students' learning and information literacy* [Paper presentation]. National Conference on Electronic City, Hamadan, Hamadan, Iran.

Malazehi, A. (2014, May 21-24). *Investigating the impact of information and communication technology on the curriculum planning process* [Paper presentation]. The First National Conference on Educational Sciences and Psychology, Marvdasht, Fars, Iran.

ManuelSáez, J., MarcosRomán, L., & EstebanVázquez-Cano, G. (2018). Visual programming languages integrated across the curriculum in elementary school: A two year case study using "Scratch" in five schools. *Computers & Education, 12*(9), 921-919.

Mardomi S. (2014, August 8-16). *The role of new technologies in the field of librarianship and its impact on university libraries, the first national congress of new technologies in Iran with the aim of achieving sustainable development* [Paper presentation]. Tehran, Tehran, Iran.

Martinelli, S. M., Chen, F., McEvoy, M. D., Zvara, D. A., & Schell, R. M. (2018). Utilization of the flipped classroom in anesthesiology graduate medical education: An initial survey of

faculty beliefs and practices about active learning. *Journal of Education in Perioperative Medicine, 20,* 617-634.

McDonald, P. L., Lyons, L. B., Straker, H. O., Barnett, J. S., Schlumpf, K. S., Cotton, L., & Corcoran, M. A. (2014). Educational mixology: A pedagogical approach to promoting adoption of technology to support new learning models in health science disciplines. *Online Learning, 18*, 1–18.

Mirrahimi, M., Mirrahimi, B., & Alavi Langroudi, K. (2015, September 17-24). *The need to use an integrated approach to information and communication technology in curriculum planning* [Paper presentation]. The Second National Conference and the First International Conference on New Research in the Humanities, Marvdasht , Fars, Iran.

Mousavi, H. (2016, August 7-10). *Factors affecting reading and reading, obstacles and solutions* [Paper presentation]. Regional Conference on Pathology and Reading Culture, Zanjan, Zanjan, Iran.

Nan Zhang, N., Yang, R., Liu, Y., Zhou, J., & Wang, G. (2016). Integration of information technology and the mathematics curriculum. *Mathematics Education in China, 14*, 201-223.

Odhiambo Ogola, S., Mbori, B. O., & Buluma, S. B. (2016). Students and teachers constraints in the implementation of the integrated English syllabus in secondary schools. *International Journal of Academic Research in Progressive Education and Development, 5*(4), 17-38.

Omid Ali, Q. (2015). *Identification and analysis of standards, criteria and indicators for measuring and measuring per capita study in Iran* (unpublished master's thesis). Shahed University, Tehran, Iran.

Papanikolaou, K., Makri, K., & Roussos, P. (2017). Learning design as a vehicle for developing TPACK in blended teacher training on technology enhanced learning. *International Journal of Education Technology in Higher Education, 14*, 1–14.

Rahimi Doost, G. H., Romani, H., & Islami, M. A. (2011, May, 22-25). *Investigating the problems of integrating information and communication technology in the school curriculum* [Paper presentation]. The First National Conference on Education in Iran, Tehran, Tehran, Iran.

Razer, R., & John W. D. (2013). *New trends and topics in educational design and technology* (M. R. Asadi, H. Eskandari, & D. Norouzi, Trans.). Tehran: Avae Noor Publishing.

Shiboko, L. Ch. (2015). *Teacher factors influencing integration of information communication technology in teaching of English in public secondary schools in Mumias sub-country, Kenya* (Unpublished master's thesis). University of Nairobi, Nairobi, Kenya.

Sullivan, A., & Umaschi, B. (2016). Robotics in the early childhood classroom: Learning outcomes from a 3-week robotics curriculum in pre-kindergarten through second grade. *International Journal of Technology and Design Education, 21*(9), 2–25.

Tamim R. M., Bernard R. M., Borokhovski, E., Abrami P.C., & Schmid R. F. (2011). What forty years of research says about the impact of technology on learning: A second-order meta-analysis and validation study. *Review of Educational Research, 81*(1), 4–28.

Tang, Ch. M., & Chaw L. Y. (2016). Digital literacy: A prerequisite for effective learning in a blended learning environment? *Electronic Journal of e- Learning, 14*(1), 54-65.

Uslu, Ö. (2018). Factors associated with technology integration to improve instructional abilities: A path model. *Australian Journal of Education, 43*, 31–50.

Webb, L., Clough, J., O'Reilly, D., Wilmott, D., & Witham, G. (2017). The utility and impact of information communication technology (ICT) for pre-registration nurse education: A narrative synthesis systematic review. *Nurse Education Today, 48*, 160–171.