



Using Modern Technology to Improve English Teaching and Learning

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Abstract

The advance of modern technology has unprecedentedly changed every aspect of our life, including education. Governments from all over the world have attached much importance to technology implementation in education, investing substantial funds in education to improve information technology infrastructure and systems and support increased access to educational technology. It has become an irresistible trend to integrate modern technology in education. Teachers at different teaching levels are demanded to be competent in using modern technology in teaching [1]. However, research has indicated that classroom technology integration is not satisfactory [2][3]. This paper analyzes the theoretical aspects of using modern technology in English education, the shortcomings of the traditional teaching methods, and the advantages of using modern technology in teaching and learning English as a foreign language. The previous studies published in journals and conference proceedings included in Web of Science and SCOPUS, regarding the benefits of using modern technology for English education, are discussed as references for integrating modern technology in teaching for English teachers. The aim of this paper is to provide English teachers and educators with a better understanding of the scientific aspects and the benefits of using modern technology in English education and encourage English teachers and educators to integrate modern technology in teaching practice. In addition, this paper also addresses the factors affecting the effective integration of modern technology in educational settings, giving educational policy-makers enlightenment as to the effective integration of modern technology in education.

Keywords: *English; technology; teaching; learning.*

1. Introduction

The development of modern technology has brought about great changes in education, evidenced by the changes in the teaching environment, teaching content, learning form, etc. Many studies have shown that modern technology can improve the outcomes of education. Due to this, governments from all over the world have attached much importance to the integration of modern technology into education. For instance, the U.S. Department of Education issued “National Education Technology Plan 2010 (NETP2010)”, aiming to apply the advanced technologies used in our daily personal and professional lives to our entire education system to improve students’ learning; the UK launched the “Harnessing Technology Strategy and the Next Generation Learning Campaign” to raise people’s awareness of the benefit of the use of technology in education; China also has issued the “Ten-Year Plan of Educational Digitalization (2011-2020)” in order to enhance the integration of technology into education. Under the current educational policy, many educational technologies have been introduced into classrooms and teachers are encouraged to integrate technology in teaching to achieve the improvement of their students’ academic performance and technological literacy.

This paper aims to suggest using modern technology to improve English education. The coming of modern technology and the studies that proved the benefits of modern technology bringing to education suggest us using modern technology in English education to achieve a more effective way of English teaching and learning. This paper highlights the theoretical aspects of integrating technology into English education and the advantages of using modern technology in English teaching and learning. In addition, suggestions for the effective use of modern technology in education are also presented.

2. Methodology

Qualitative methodology is adopted in the study, mainly by analysing the theoretical basis of integrating modern technology into English education, the shortcomings of the traditional teaching methods, and the advantages of using modern technology for English teaching and learning. The previous research published in journals and conference proceedings included in Web of Science and SCOPUS, regarding the use of modern technology for English education, is used as a support.



3. Theoretical basis

3.1 Constructivism

Constructivism is a theory of knowledge and learning. The earliest proponent of constructivism can be traced back to Swiss psychologist J. Piaget, who is an influential psychologist in the field of cognitive development. Constructivism believes that knowledge is not obtained by learners through teachers' instruction but through the construction of meaning which is achieved by collaborating with others in a certain context [4]. Constructivism considers "context", "collaboration", "conversation" and "meaning construction" as four essential elements in the learning environment. The "context" refers to creating a learning environment conducive to the meaning construction of the learned knowledge. "Collaboration" takes place throughout the learning process. Collaboration plays an important role in the collection and analysis of learning materials, the evaluation of learning outcomes, and the final construction of meaning. The "conversation" is an indispensable part of the collaboration process. The members of the group must discuss how to complete the learning tasks. The "meaning construction" is the ultimate goal of the entire learning process. The meaning to be constructed refers to the nature, laws, and intrinsic connections between things. Helping students to construct meaning in the process of learning is to help students to get a deeper understanding of the nature and laws of things reflected in the current learning content and the internal relationship between the things and other things. With the aid of modern technology, the teacher can use multimedia resources to create excellent learning contexts based on the teaching themes. The fusion of text, sound, images, videos, and animations provides students with a sound learning context. In addition, the rich teaching resources enable teachers to carry out classroom activities through which the communication and collaboration between the teacher and the students and amongst students will increase.

3.2 Theory of Second Language Acquisition

American linguist Stephen. D. Krashen proposed the famous second language acquisition theory in the early 1980s - "monitor theory", which includes five hypotheses, namely the acquisition-learning hypothesis, the natural order hypothesis, the monitor hypothesis, the input hypothesis, and the Affective Filtering hypothesis. The input hypothesis deals with how humans acquire the second language. It says that learners acquire the second language through the comprehensible input. Only when the input is comprehensible, can it have a positive impact on second language acquisition. And the incomprehensible input is only noise for learners. Therefore, making input vivid and relevant is beneficial to language acquisition. The "Affective Filter hypothesis" explains why learners have different learning speeds and achieve different levels of language. This hypothesis holds the view that access to comprehensive input does not ensure that students can master the target language. The process of second language acquisition is subject to affective factors. Krashen believed that the affective factors are: 1) motivation. The students' motivation for learning will directly affect the outcomes of learning. If motivation is explicit, the progress will be evident. 2) Personality. Learners who are self-confident, out-going, optimistic tend to gain more improvement in learning. 3) affective state. The affective state mainly refers to anxiety or relaxation. Those with higher anxiety will have higher affective barriers and less input [5]. With the help of modern technology, the integration of text, sound, videos, pictures, and animations in teaching materials not only helps students understand knowledge better but also makes learning more enjoyable. In other words, the use of modern technology can enhance the comprehensible input and reduce the anxiety of learning.

4. The advantages of using modern technology in teaching English

For many years, English teaching methods in many countries are characterised by the traditional one-way teaching mode, known as test-oriented teaching methods. Words, expressions, and collocations are learned by memorization, which constitutes a heavy burden for learning [6]. In addition, under the traditional teaching mode, there is a lack of authentic English-speaking environment which is important to language learning. Nowadays, teachers use modern technology to assist English teaching, enabling students to reach rich resources and have more opportunities for exposure to a foreign culture, which will improve students' interest in learning and in turn change students' attitudes towards English learning.

Modern technology refers to any technologies that use computers and modern communication means to obtain, transfer, restore, process and allocate information. As for English education, modern technologies such as computers and networks are now being used in classrooms for instruction in composition, literature, decoding, reading comprehension, spelling, vocabulary, grammar, usage,



punctuation, capitalization, brainstorming, planning, reasoning, outlining, reference use, study skills, rhetoric, handwriting, drama, in short, for every area of language arts [7]. Many studies conducted in recent years have indicated that modern technology can improve English teaching and learning [8]-[10]. In general, modern technology can benefit English teaching and learning in several ways.

4.1 Enabling access to rich resources from the internet

The development of modern technology enables teachers and students to access many online materials for English teaching and learning. There are many websites for English education, such as BBC English, VOA English, Ke Ke English, etc, and the websites will be updated each day. Teachers can use the information from them as valuable teaching materials. With the help of the internet, teachers can also download or find teaching materials from the technological device directly. For example, interactive whiteboards include various kinds of digital teaching materials, teachers can directly use these resources or utilize the materials to make individual teaching plans and courseware and most interactive whiteboards contain interactive textbooks containing videos, audio, hyperlinks and extra materials, helping teachers save time for preparing lessons [11]. Additionally, there are many online courses in MOOCs (Massive Open Online Courses), YouTube, TEDx Talks, iTunes U, etc. Students not only can use them to broaden their vision, such as experiencing language culture which is important for language study, but also can use them to enhance English listening skills.

4.2 Increasing participation and motivation in English learning

Many teachers and educators try hard to figure out a way that can help to increase learners' interest in learning. Modern technology can make this idea true. With the aid of modern technology, teachers can integrate pictures, images, animations, and videos into teaching materials, making learning more interesting. Hence, it can attract students' attention and increase students' participation in English learning. Liu and Chu [12] investigated a case study about the differences between the experimental group who used ubiquitous games to learn English and the control group who used a non-gaming method. The participants included 64 seventh grade students aged 13 or 14 years old and three high school teachers. The results demonstrated that the ubiquitous games affected the learning outcomes and students' motivation in English learning. The experimental group stated that they enjoyed the ubiquitous game because the game provides opportunities for practicing speaking in an actual environment.

4.3 Creating an authentic learning experience

Studies have indicated that modern technology is an effective teaching tool. Integrating modern technology in the process of teaching and learning helps students experience things virtually. For example, if teachers want to lecture a topic about Disneyland, they can display the scene of Disneyland through a video as not all the students have the opportunity to go there before the lecture. The simulated environment gives students an experience similar to the real experience, in which traditional teaching modes cannot match [13]. On top of this, by modern technology, students can listen to native speakers' spoken English or they can communicate with native speakers directly. For example, students can watch English movies on YouTube and experience native speakers' English. Teachers can use Facebook as an instructional tool in classroom teaching, helping non-native English speaking students to communicate with native speakers.

4.4 Supporting individual learning

Modern technology enables individual learning. Teachers can send videos or teaching materials to students, which often happens in a flipped class. Students can watch the videos and learn the teaching materials at their own pace. They can fast-forward, rewind, or replay the videos whenever they require [3]. This is helpful for the less informed students. They can listen to a teacher's lecture again and again, which can not be realized in a traditional class. Particularly, for those students who cannot attend the class, technology-assisted learning is an aid. Furthermore, there are various kinds of Apps that can be downloaded onto phones. Students can use them, based on their needs, for learning English vocabulary or grammar. Some Apps may provide e-books, which are useful for the improvement of reading and listening skills. Only if there is internet, students can study without time and place limits.

4.5 Increasing Interaction and Cooperation in the teaching process

Modern technology can help increase the interaction in the teaching process, which is important for the development of communicative competence in a language. For example, interactive whiteboards



can increase interactions between teachers and students and among the students as the main function of an interactive whiteboard is its interactivity [9]. Luo and Yang [14] researched the effect of the interactive functions of whiteboards on elementary students' learning. The findings showed that teachers' use of the interactive whiteboards' basic interactive function helps to enhance students' willingness to learn and enjoyment of learning. It is an undeniable fact that through active involvement in instruction pupils learn more effectively [15].

4.6 Improving the outcomes of learning

Whether the use of modern technology is to increase students' motivation of learning, or to make learning more interesting, or to increase the interactions in classroom teaching, the final goal of integrating technology in teaching is to improve the outcomes of learning. Numerous studies have indicated that modern technology can improve the outcomes of education. Ebrahimzadeh and Alavi [16] studied the educational potential of a digital video game to see if it can facilitate students' vocabulary learning. The participants of the study were 136 male EFL(English Foreign Language) students aged from 12 to 18. Pre- and post-test were used to examine students' performance in learning vocabulary. The result indicated that there was a significant difference in scores from pre-test to post-test. In other words, digital video games can help language learners with vocabulary learning. Couvaneiro and Pedro [17] researched the use of tablets in teaching English as a foreign language. 53 Portuguese 8th-grade students and two teachers were involved in the study. The result indicated the positive effects of the tablets on the teaching-learning process, which were proved by the development of English oral competence of students. Likewise, a study by Bitter and Meylani [18] on the effects of a mobile English-speaking software app called "Qooco Kids English" on children's spoken English. In the research, the Qooco Kids English was used to teach children aged from 10 to 12 years to speak English. The pre-and post-tests indicated that the "Qooco Kids English" software can improve students' achievement in both spoken and written English.

5. How to integrate modern technology effectively

The use of modern technology can greatly improve the efficiency and effectiveness of English teaching and learning, which has been proven by many studies. Integrating modern technology in education has become a national strategy of education worldwide. However, the effective use of modern technology is more than the introduction of technology in the classroom. That is to say, gaining access to technology does not mean the successful integration of technology in teaching. Studies showed that although schools are rich with technology, classroom teaching in many countries is still dominated by traditional teaching modes. It is like wearing new shoes, but walking in an old way. For example, in many countries, classrooms have been equipped with interactive whiteboards. However, many teachers just take them as simple presentation tools used for presenting courseware. In this case, classroom teaching is still teacher-centered instead of student-centered.

The research found out that teachers' technological competence is the main factor affecting the effective use of technology in classroom teaching because technology itself cannot bring effect to education, and its impact on education can only exert through the teacher who is the direct practitioner of using technology. Therefore, importance should be attached to teachers' technological competence in order that technology can be used effectively for active classroom teaching. Emphasis should be placed on training teaching staff to be competent in using modern technology. This needs joint efforts from educational policymakers, school leaders, teachers, and educators, etc. Educational policymakers and school leaders should carry out plans to train teachers on how to use technology to improve teaching instead of only the knowledge of technology software and hardware. Teachers should be aware of the effectiveness and efficiency that technology can bring to teaching and learning and actively integrate it into teaching practice. It is worth mentioning that teachers use technology to bring pictures, images, audio, video, animations, etc., to the teaching process, making classroom teaching more interesting and enjoyable, the aim of which is to serve the needs of teaching, i.e. for improving the outcomes of learning, not just for fun. One must understand the instructional purpose and how the technology might be utilized best to accomplish that purpose.

6. Conclusion

This paper discusses the theoretical basis of the integration of technology and the advantages of using modern technology in English teaching and learning. As modern technology can benefit English education in many ways, it is important to reform the traditional teaching modes by integrating modern technology into English teaching and learning. Although it is an undeniable fact that technology can significantly enhance the effectiveness of English education if it is used properly, the effective use of



modern technology involves teachers' knowledge of how to use modern technology for teaching purposes. Therefore, attention should be paid to improve teachers' technological competence in teaching. In the meantime, with the help of modern technology, information is easily reachable. However, not all the information is good for students, even some of them are harmful. Teachers have responsibility to help students identify and choose valuable information.

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