The impact of technology on teaching and learning languages

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Learning a second language has always been a passion of many people around the globe. Many have learned and are learning foreign languages for different reasons including studying abroad, business, and hobby. The advancement of technology has impacted our lives greatly in many ways. For example, technology has improved our personal lives, the way we teach, learn, and do our businesses. Technology has made it possible to form a virtual team collaborating and communicating regardless of the location and culture of team members. Technology has removed the distance barriers and has made it possible for higher education to effectively teach anyone and for businesses to easily reach anyone around the globe. This has made more people interested in learning foreign languages. Technology can be used to facilitate teaching and learning foreign languages in efficient and effective ways. Therefore, a foreign language can easily be learned without the worry of traveling and finding a well qualified teacher.

The main purpose of this endeavor is to explore the impact of technology on teaching and learning languages. Second life technology is emphasized, and a survey of methods of teaching Chinese language is used as an example for this purpose. Chinese language is a very popular language and is highly sought. Therefore, the secondary purpose of this endeavor is to present different methods and technologies that have been employed teaching this popular language. This survey of different methods and technologies used should provide a reference for teaching foreign languages.

Keywords: Foreign Languages; Second Life; Teaching and Learning languages; Chinese Language

1. Introduction

Undoubtedly technology has impacted the lives of everyone more or less. In recent years, advancement and ease of using technology has made everyone wonder how technology can improve the way we do things. The key is awareness and to determine how technology can add value. The impact of technology on education has been tremendous recently and that is the reason distance education has soared. It is because of the technology that we are offering many online courses and degrees now. Online education has made it convenient to enroll in a course from anywhere. This allows enrolling and learning a less popular language that locally may not be available.

The purpose of this research is to explore how technology has evolved to change education in general and languages in particular. Further, a survey of different methods used in the United States to teach Chinese language is provided. This survey by no means is exhaustive, but should touch on the main methods practiced over the years. This survey also shows the developments and advancements in teaching a language. Further, this survey shows the great impact of technology to teaching and learning of a foreign language such as Chinese which is very popular.

The instructors have always faced the challenge of motivating, engaging, and getting students involved regardless of the teaching method used. The instructors are taking different approaches to face this challenge such as using technology and hands-on activities. It is possible that teaching online can be a bigger challenge than teaching offline.

2. Online Education

The growth of online learning has been astonishing in recent years, and the number of online courses is increasing at a steady pace every semester. Institutions of higher education are committing more resources to online education to stay competitive, and are offering more online courses and degrees. Therefore, more students are encouraged to take online courses and pursue online degrees. For example, Allen and Seaman [1] report a growth of 17% in enrollment from 2007 to 2008 in online learning. This report is based on the response of 2,500 institutions with growth of 3.9 to 4.6 million students taking at least one online course. Further, 12 million students now take some or all classes online, and the estimation of online students by 2014 is 22 million [2]. This estimation in growth of online students suggests a great online learning market estimated to be $69 billion by year 2015 [3]. Therefore because of this online learning boom, online education has become a top priority in the 21st century in higher education [4].

The main advantage of online education is convenient without the restrictions of time and location. In addition, other advantages mentioned in the literature are flexibility, ease of participation, absence of labeling (race, gender appearance), training in electronic communication, and exposing students to information technology [5]. The disadvantages mentioned are lack of teacher training, technology issues, course content, pedagogy issues, student and instructor inexperience, and a failure to provide multiple forms of communication with instructor and between students [6, 7]. Online teaching and learning will improve with the enhancement of online teaching and learning experience of
everyone including instructors and students. Not only instructors will improve teaching online courses, students also will gain more experience learning online and both become more effective. Further, the advancement in technology should enhance delivery of online courses and improve interactions amongst students and between students and instructor.

The debates continue for effectiveness and quality of online education, and which mode of education better prepares students for the job market: traditional - face-to-face or non-traditional - online. In 2009, the US department of education reported the findings of a research focused on the K-12 environment titled “Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies” that are interesting and relevant for online education as a whole. The findings suggest that on average online students out performed those receiving face-to-face instruction. This report also includes that learners in the online environment spent more time performing a task than learners in traditional environment.

Many in the society have already sold on this form of education and more are embracing online education. The reasons for more to embrace online education include advancement in technology in general, more facilitating technology for online delivery, more appropriate usage of technology in online teaching, better preparations to teach online courses, increase online learning experience by both instructors and students, and more awareness that online teaching is not a duplication of face-to-face teaching and need to be designed differently than traditional teaching in a classroom. Often online courses are taught as mere replications of traditional face-to-face classes rather than finding more suitable ways to present and deliver classes in an online setting [8]. Despite some early failures, there is increasingly more evidence that online education is an effective learning medium [9] without comprising pedagogy [10]. One issue of concern in online teaching has been interaction. However, improvement in communication technology has addressed this issue and has improved communication, collaboration, and interaction in online courses.

Online education is in fact improving interactions among students and teachers, improving critical thinking among students, and increasing student satisfaction [11]. Students with online education are expected to have better communication skills and be more technology savvy.

Course management software such as WebCT and Blackboard are used by many institutions now for online courses or supplement to offline courses. This software provides a template for entire course or part of the course to be placed online, and supports asynchronous and synchronous teaching environment. A website is created for the course by the software that can be accessed by students. This site can be linked to other materials on the web to provide students with additional resources. The standardized templates provided by the software include syllabus, class roster, announcements, a threaded discussion list, and shared space for student projects. The instructor can also insert various materials, such as readings, lecture notes, outlines, exercises, and online examinations.

3. Technology in Education

Technology has changed and enhanced teaching both online and offline. This is particularly true about teaching languages. For example, 3D virtual worlds like Second Life are now being used by language teachers to provide simulation of real life environments and allow students to discover more creative and more realistic ways to improve their language skills. The 3D online world allows its virtual residents known as “avatars” to build their own creations, allowing for an imaginative virtual world to include what exist in the real world such as airports, markets, banks, libraries, and cinemas. Avatar Languages has opened its doors to students around the world and is established by Howard Vickers an English teacher with extensive international experience currently based in Bolivia. Avatar Languages is an online language school which uses 3D virtual world Second Life. The native speaking teachers who are professionally experienced and qualified are offering customized language classes to students around the globe.

The unique qualities of a 3D virtual world can provide opportunities for rich sensory immersive experiences, authentic contexts and activities for experiential learning, simulation and role-play, melding of complex scenarios, a platform for data visualization and opportunities for collaboration and co-creation that cannot be easily experienced using other platforms. Second life is completely user-generated 3D environment that comes with relatively easy-to-use building and scripting tools that anyone can learn. This makes it an ideal platform for engaging students in creating their own learning activities, experiences and environments, and not just be passive consumers of learning. One main feature of second life is “images” that is a good way to get students attention and should increase their interest and involvement. These images are all related and tied to what is being taught. These images are related to the vocabulary of the language being taught and therefore reinforce the lesson.

Second life might be better suited to younger learners of foreign languages because of their experience with the internet. They greatly value and appreciate the internet. They are computer and internet literate and they have no fear of technology. They consider internet as a natural place to learn and play as today’s generation is often referred to “Digital Natives” because they have grown up within a digital world.

The virtual world allows groups to be taught and take part in exercises together. Group teaching on conference calls is very much a one way affair, whereas in a virtual world the presence of others is immediately obvious, because the environment is shared there are common visual points of reference for everyone. The members of groups can easily collaborate, communicate, and work on group projects.
This new medium using technology to teach a language offers many opportunities and calls for a new way of teaching language. Therefore, one should not try to exactly duplicate the classroom activities to teach the language online and second life as a medium. The second life itself should be viewed as a classroom providing new set of activities to practice in teaching the language. The second life gives students an opportunity to practice what they have learnt instantly. It is usually easier to learn vocabulary in context and related images the virtual world provides. Further, the informal settings of the virtual world should help emphasize understanding slang expressions and grammar.

Avatar English is an online language school in the 3D virtual world Second Life which is taking an innovative approach by combining Second Life with voice messengers, such as Skype and other online teaching tools. Language educators in Second Life are working together to develop and improve their teaching methods, and an example of this collaboration is the recent SLanguages virtual conference. Therefore the schools can offer language classes with professionally qualified and experienced teachers to students around the globe.

3.1 Teaching Methods

The traditional face-to-face approach is still common for teaching a foreign language when there is a demand and a well qualified instructor. Students can easily interact with the teacher and each other. Chinese is a language with pictographic characters and tones, and face-to-face interaction in classrooms not only allows students to follow the lessons clearly but also to receive feedback quickly from the teacher. However, this teaching method is not convenient and it is highly demanding in man power, and restricts the students and teacher to gather in one place at the same time.

As early as in the 1970s, the University of Illinois started applying technology in Chinese language teaching [12, 13]. Taped materials and language laboratories for teaching Chinese have been used since the 1980s [14]. In 1981, Kim Smith in Brigham Yong University created the first program to teach Chinese characters [15]. The US government Interagency Language Roundtable (ILR) community designed the first self-study Chinese course named Standard Chinese with tapes and workbooks to teach Chinese. It served as the basis of teaching Chinese for the US foreign service and the American universities in 1980s [16]. In Tulsa Community College of Oklahoma, video tapes were used to assist teaching Chinese culture [17]. Further, in Kenyon College, movies were used to teach Chinese [18]. Hamilton College developed multimedia materials to teach students Chinese character recognition and acquisition [19, 20]. Purdue University used computer-based flashcards to teach students stroke sequences and character memorization [21].

Most multimedia materials not only have texts, but also have images and sound files. Therefore, they can offer graphic display of the relevant properties of the Chinese language and present the Chinese culture vividly, thus serving as good supplementary materials for teachers [22].

The fast development of computer-assisted technology at the turn of the century helped various kinds of language learning programs to be developed to assist teachers to teach Chinese. Examples of these programs include Hyper China, Pinyin Master, Hyper-China, Chinese character tutor, ABC interactive Chinese, Chinese character tutor, stepping into China etc.[23]. The University of California at Santa Barbara developed a program named Cyber Chinese to assist students practice drills, and assist teachers with assessment [24]. The University of California at Berkeley has used course management software such as WebCT to develop listening exercises for students [25]. In Baruch College, Penless software was developed to instruct students to write Chinese characters, and this software has been tried out in other universities such as Bryn Marr College, Rutgers University [26]. The Ohio University is using speech recognition software to help students to master tone pronunciation in Chinese [27].

The language learning programs have played a very important part in Chinese teaching activities. The language learning programs allow students to repeat exercises on their own without the need for intervention of the teacher and therefore make teaching more efficient and effective. These programs are particularly effective in vocabulary, speech, pronunciation and characters [23]. However, due to difficulties in the parsing of the Chinese language, they are less effective when it comes to grammar. Furthermore, language learning programs can provide more learner control for the students. Some of the programs can supply tutors with data to help them track students’ performance thus addressing their problems more effectively. However, these programs are mostly mechanical and usually only indicate the students’ errors instead of supplying sufficient explanation. Therefore, teachers are indispensable in diagnosing the weakness in students’ learning and addressing their individual needs [24].

Web-based distance instruction and using technology to facilitate online teaching of the Chinese language is becoming popular method of teaching Chinese language. Many are taking advantage of technology to deliver the course online or to accommodate teaching the course in the traditionally offline setting of the classroom. For example, at the University of California at Long beach, IRC (Internet Relay Chat) was used for online discussion, office hours, and tutoring [22]. California State University at Long Beach has used bulletin boards and chat rooms to engage students in discussion in Chinese [28]. Kenyon College collaborated with other colleges to offer courses through distance education to solve the problems of shortage of qualified teachers [18]. Michigan State University uses Adobe Connect Professional platform to deliver courses to students in Michigan Virtual High School. Online interactive exercises can be used to teach Chinese as well. For example, the Simple Online Interactive Test (SOIT) developed by Tim Snyder and Mike O’Kane at North Carolina State University [22]. Online resources such as texts, audio and video files, online newspapers and magazine have been developed to support teaching Chinese in online. Students are
encouraged to use chat rooms to communicate with each other and use email or mailing lists to gain pen pals or key pals.

Distance education offers many advantages. For example, students can access Chinese courses anywhere without the constraints of the location. This flexibility of time and location provides convenience for both teachers and students. However, researchers find not all the students are happy about the web-delivered courses. Ihde and Jiang [29] reported students’ reluctance to Chinese web materials, which may be partially due to the lack of learner autonomy or the unsatisfactory quality and variety of Chinese web materials. There are also issues about web access from students as technology is not always stable and teachers have not provided sufficient guidance for students in computer learning environment [29].

Electronic games have also been popular and applied in teaching Chinese language. Second Life is facilitating the electronic games and it is used by Michigan State University to teach Chinese in the Confucius Center. Zon is also a game developed at Michigan State University for learning Chinese, and it has been used as an auxiliary system in teaching Chinese in various American universities. Other than the common features of distance education, games provide fun for learning Chinese and simulate the real-life situations, in which students can practice Chinese and acquire communicative competence. Games are a great way to involve and engage students in online and offline teaching and learning.

4. Discussion and Conclusion

The advancement in technology has allowed the educators to be more creative and therefore more efficient and effective teaching online or offline. Technology has helped enhancing classroom activities, motivate students, and engage them in classroom activities. The more students are involved the more they should learn while enjoying their time. This is especially true with teaching foreign languages as more interaction is needed in the classroom.

It is important to provide context and have students practice what they are learning in a language course. People seem to remember what they have learned by experiencing just reading and memorizing. This is the reason people learn a language faster in a foreign country than in a classroom in their home country. Therefore, students should be provided with opportunities to practice and experience as they are in a foreign country. They should be in a situation that the need to remember is important as for example the need to find directions is important. This makes Second Life valuable as it provides the ability to set up scenarios where one can create the need to learn words rather than just trying to cram vocabulary into their head. Second Life technology provides the simulation of being in a foreign country and not just in the classroom. Second Life provides the necessary practice and learning from experience or learning by doing. This technology helps students learn what they want to learn in most cases and learn more than what a teacher wants them to learn. Therefore, more learning is taking place and retained.

The purpose of this endeavor was to explore different ways of teaching languages such as Chinese in American universities. It is obvious that each method has its own advantages and disadvantages. The main issue is awareness and willingness to adopt a method that is most effective in teaching the language. More technology-based methods should be expected in the future. One can take advantage of using multiple methods of teaching and it is very much recommended.

It is obvious that technology has been very effective in teaching foreign languages as language teaching has appeared in Second Life and the online language school. It is because of technology that more and more individuals are becoming more interested in learning foreign languages and therefore it is safe to say language teaching and learning has gained a “Second Life.” It is expected that the trend will persist and technology will continue its contribution to effective teaching and learning of languages.

References