

Rethinking Learning Strategies in the Digital Age

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ABSTRACT

Educational researchers have come to understand that learning is not a simple matter of information transmission. It is suggested that how and what people learn throughout their lives should be enhanced by digital technologies, such as computers and internet, etc.. As to the drawbacks of present education system, such as low efficiency and high cost, we've realized that there is a need to reform education fundamentally and put a great endeavor to rethink how people learn. In this paper, different and new viewpoints are put forward to support the arguments. And it will touch and showcase some feasible techniques which can help reform education fundamentally.

Keyword : Digital Age, Education, 4E strategy, Online Testing

1. Introduction

With the internationalization and social development, Education has become a key element leading to a person's great success and prosperous future, and that of a company and a country as well. In China, as a foreign language¹, English is not often spoken by people every day, but only restricted in English classrooms. Some 50 students are crowded in a typical English class. Usually, it is the teacher who is talking and talking on the podium, leaving the students busy taking notes. Students seldom have a chance to talk, think or express themselves in English. As a result, even having learned English for more than 10 years, most Chinese students still have much difficulty in speaking English fluently, not to mention writing or communicating in English effectively. Therefore, we must rethink how to learn, how to teach, and how to reorganize school classrooms.

With the rapid development of digital media technology and the worldwide use of the Internet for communications, there have been growing interests and attempts to apply the new advanced technology to teaching and learning English. 1) Various courseware, supported by different techniques are widely used in the classrooms, such as Microsoft office PowerPoint, html and macromedia authorware, etc.. 2) Multimedia is utilized through classes, such as video, audio, flash objects and so on. 3) Different platforms are introduced to enhance the communication and interaction between teachers and teachers, teachers and students, and students and students, such as Moodle (Modular Object-Oriented Dynamic Learning Environment), Blackboard and Web2.0. That is to say, teachers and students are connected with outside-class world and to get access to distant resources through computer mediated communication (CMC) or virtual reality (VR), instead of being limited to traditional realistic communication in classrooms.

2. Computer and Creativity

In recent years, computer is accessible to nearly everyone in all parts of the world. With the highly development of computer and internet, the world is becoming a global village. Things are changing rapidly, such as the way people live, work, learn, entertain and communicate. The information is likely to be outdated in almost half a year. Things need to be updated every day and every month. So, one cannot imagine how everyday life would be like without computer and internet.

Computers are, more broadly, a new medium through which people can acquire, express and create. The generation of an idea, concept, design action, or design entity is an emergent property of the interaction that evolves between human and computers². Creativity is defined as the ability to generate ideas or artifacts that are novel, surprising, and valuable, interesting, useful, funny, beautiful ..., etc³.

Creativity is mainly based on understanding and memorizing. It is a mental and social process involving the generation of new ideas or concepts, or new associations of the creative mind between existing ideas or concepts, which is fueled by the process of either conscious or unconscious insight⁴. Just as man extended his arms by learning to use arms (weapons), so he can extend and expand his brain power by computers. Now time has come for us to ask not what computers can do, but ask what computers cannot do. Creativity can be enhanced by tools. Before digital age, it cost human beings too much time to make new things. With computers and internet, many thoughts and ideas can be realized, some of them were never dreamed of before. The best proof of this statement is the commercial advertisement. Nearly all the novel ads are designed and polished by computers. In sum, there are many intriguing relations between creativity and computers. It gives human being a way of expanding their minds to explore the unprecedented range of creativity.

3. A New strategy of leaning: 4E strategy

The ultimate goal of education is a society of creative individuals who are constantly inventing new possibilities for themselves and their communities. Success in the future will be based not on how much we know, but on our ability to think and act creatively.⁵ Strategies of learning things you don't know are so important. With the fast development of modern technology, especially instructional or educational technology in foreign language teaching and learning, the 4E strategy in education is becoming possible, i.e., Expose, Explore, Experience, and Experiment.

Expose

Learning is not a simple matter of information transmission. Students reinforce understanding of grammars, apply the rules, and practice speaking and listening English through learning activities on the Web and in class. To reach this goal, English learners must be exposed in large amount of real or quasi-real language environments, that is to say, immersing in enough comprehensible input to get output. Traditional blackboard with limited spaces and outdated English books are not sufficient. Fortunately, computers can help the teachers to solve this problem. With the internet, firsthand information could be shown or downloaded to the computer and demonstrated to the students in or after the class.

Explore

Exploration of the knowledge can locate some novelties, and find their neighbors and pathways, very often coming up with surprises-- in the sense that we had not realized. The teacher can select activities such as information acquisition towards a unique topic, group discussions on the internet and blog posting on teacher's website during their instruction to enhance exploration. In this learning phase, students themselves begin to construct the target language structures through their own ideas and thoughts, which can stimulate the students to explore and acquire knowledge with interests and high effectiveness.

Experience



This is an original “Chinese proverb” from a bus advertisement, that is, 画意能达万言. In fact, the literal translation is: *A Picture's Meaning Can Express Ten Thousand Words*. Somehow the phony Chinese proverb over the years has been given its western counterpart meaning that “a picture is worth a thousand words”, setting up a clash between words and pictures. With digital hegemony, visual messages have reasserted their position as an important communication medium. However, recognizing the combination of words and pictures is vital in communication.

With the correct interpretation of the proverb, words and pictures are inseparable and live in harmony as they are both used equally in order to understand the meaning of any piece of work.

Research has shown that people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see and hear and do simultaneously⁶. In this way, letting the students learn in a stimulated environment, such as watching a video clip, listening to an English song, would benefit the students much more than just the teacher's talking and talking on the podium.

Explosion of knowledge and information

Imagine a floppy disk=1.44mb=1509949.44bit/2=754974.72 Chinese characters, so a CD is equal to 367,001,600 Chinese characters, and a DVD is equal to 2523293286.4 Chinese characters. That is to say, 10 DVDs might hold all the words of all the books in a medium sized library!

Experiment

As the Chinese expression goes, “寓教于乐、寓教于思、寓教于行”, meaning “teach and learn with interest, teach and learn with inspiration, and teach and learn with lively activities”. Learning should not be a dull procedure without passion. An effective way to inspire the interests of students is to let them experiment. With the help of digital media, teachers are allowed to provide varieties of simulated scenes and situations to the students in the class. In a speaking class, teacher can log on a virtual learning reality, and expose the students to a vivid environment of English language.

4. An expansion of 4E learning strategies-Online Testing

First of all, think for a while, we must clarify the ultimate purpose of all kinds of tests and examinations in education: learning and helping learn. There are too many testing experts and

scholars busy and burying themselves in researching and studying those validities and credibilities of testing papers. They always put their emphasis on test papers, ie, doing testing for the testing's sake and neglecting the basic and fundamental function of tests and examinations. Recent developments in computer hardware, software, and school facilities create exciting new opportunities for the educational use of new technologies. The following part is beyond the traditional classroom testing modes, (e.g., paper-pencil), to demonstrate and explore a computer-aided testing approach, online testing. Traditionally, the end purpose of tests and examinations are to evaluate how the students did in a fixed period. The testing mode is pencil and paper. The standard of the testing is the score. Frankly speaking, traditional testing misleads us to a wrong way which results in a negative attitude of the students toward testing.

However, the online testing becomes a major process of learning. During the 5 years application of English online testing, we've found that students are no longer passive and negative knowledge receivers, but active and positive knowledge explorers. Since the lab of online testing is open to the students 24 hours a day and seven days a week, the students can schedule their own testing time. If they can not pass the exam for the first time, they can login the system for some more times until they get a satisfying score. In this way, the students can explore new knowledge during the process with a higher motivation, which is enhanced in turn by themselves.

As the survey we did in 2007 indicates that on the whole, the students hold a positive attitude towards online testing, which could be shown from the following aspects: 1) The testing scores are accurate and can generally reflect the students' ability of using English; 2) The interface and design of the system are friendly and easy to use, which could inspire students' learning impetus; 3) Without the over shoulder supervision of teachers, students feel free and comfortable to answer the questions, which did encourage them to try to take the test for a better outcome.

5. Conclusion

Digital technologies have the potential to fundamentally transform how and what people learn throughout their lives. We need to reform education fundamentally. It is high time that we rethought how and what people learn. Also, we believe that, online testing is a transformed way of learning, which could encourage the students to expose to a learning atmosphere, to explore new knowledge, to experience a self-enhance process and to experiment a new perspective of testing.

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About the Presenter

Shuzhuang Hao (M.A., Shandong University) serves as the Vice-Director of *The Research Center of Educational Technology for Foreign Studies* at Yantai University, Shandong, China. As an Associate Professor of English, he teaches *Multimedia in Language Learning*, *Courseware Design and Development*, *Fundamentals of Multimedia*, and *Advanced English Listening* to graduate and undergraduate students. Prof. Hao is a specialist in computer-assisted language learning in China. He has designed and developed a variety of multimedia CD-ROMs for publishers. For example, he designed *New College French*, *New College Japanese*, *College Communicative French*, and *Upstream* for Higher Education Press, *College English Listening and Speaking* for Peking University Press, *Twenty-First Century College English Viewing, Listening, and Speaking* and *Graduate English Viewing, Listening, and Speaking* for Fudan University Press. Prof. Hao also designs online test systems such as *Test Bank for College English* for Foreign Language Teaching and Research Press and *Learn Korean via Test Online* for EduSpa and CD-Space International, Korea. Because of his extensive experiences in media creation, Prof. Hao was invited to deliver lectures on *technological applications and practices for foreign language education* in many universities and colleges across China. Prof. Hao's presentation "English Test Online: Design and Implementation at Yantai University" will talk about emerging needs for online tests in Chinese foreign language education. Testing online is efficient but challenging. Prof. Hao will discuss the design of English Test Online with a focus on its implementation in the School of Foreign Languages at Yantai University. With the fast development of modern technology, especially instructional or educational technology in foreign language teaching and learning, the 4E strategy in education is becoming possible (i.e., Expose, Explore, Experience, and Experiment). Prof. Hao will share his experiences in how to apply the 4E in his media designs.