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Title:

The Effects of Web-based Instruction on Chinese EFL Students' Learning Outcomes

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之所以要把这册书付诸出版主要是出于两个想法，第一，希望为我提出的“预选背景下的教育技术专业发展模式”提供一个例证；第二，从科学实证的角度，对教育技术在高等学校外语教学中的应用作评估研究。

我自 2003 年 2 月回国，立志推行“预选背景下的教育技术专业发展模式”。所谓预选背景下的教育技术专业发展模式就是将教育技术嵌入教育体系内的各学科专业，形成外语教育+教育技术、数学教育+教育技术、地理教育+教育技术等教育专业模式。之所以要推行“预选背景下的教育技术专业发展模式”是基于以下两点考虑：

一、来自学科内对教育技术的评估是技术在教育领域推广过程中的重要环节

教育领域中的技术推行必须建立在规范的实验结论基础上，因此评估是教育技术中的重要组成部分[1]。通常这样的评估实验要具备一定的规模，其结果才能被泛化、承认。技术在教育领域中的推行不应该是行政指令的结果，更不应靠教育者非科学判定的感受或是人云亦云的推测作出决定；换言之，只有积极的评估结果才能作为技术推行的根据。

必须指出的是，同一项技术在不同的学科里有可能产生不同、甚至是相反的效果，这就要求从事教育技术评估的研究人员必须在充分了解某学科的理论基础和教学规律的前提下，针对某项技术在该学科中的应用，进行实验设计，得出评估结论，从而促进教育技术在该学科中的推广。由学科内的学者获取教育技术知识，然后针对教育技术在该学科内的应用得出评估结论，最终促进技术在学科内的推广和普及，这样的模式与国外教育研究领域盛行的“行动研究”[2] 有很多吻合之处。

为帮助实际工作者研究自己所处的环境，解决其在工作环境中所面临的问题，美国社会心理学家科特·列文（Kurt Lewin）曾于四十年代提出一个有关社会研究的思路，即由实际工作者对身处环境中的实际问题进行研究，所得结果直接应用于其工作环境 [3]。根据不同的学科特点，对教育技术应用和推广的研究应在这样一个思路下进行。

二、技术必须由学科教学人员携带直接进入课堂才能真正为教学所用

究竟由谁携带技术进入课堂在教育技术领域里是个关键的问题。我国电教界的元老南国农先生主张应该由电教人员携带技术进入课堂，并为此将电教工作由教学服务为重心转向以“三深入”（深入学科、深入教学、深入课堂）的教学科研为重心[4]。然而，到目前为止，教育研究人员还未能就电教工作者如何熟悉学科理论基础和教学规律从而做到将技术与学科教学有机结合的问题找到一个可行的办法。

不让技术停留在课堂之外，是教育技术学科亟待解决的重要问题。从整合意义上讲，只有学科教学人员直接携带技术进入课堂，根据学科特点、教学规律和教学目的对教学内容进行技术设计，才能实现技术与教学的有机结合，才有可能对技术在学科内的应用做出评估，

促进技术在学科内的推广和普及。也许，这恰恰解释了为什么国外教育技术人才培养多以硕士、博士层面为主的现象[5]。

到目前为止，我提出的“预选背景下的教育技术专业发展模式”仍只是个设想，还没有经历大规模的验证，但它为教育技术深入学科、深入教学和深入课堂提供了一个可行的思路，即教育技术学习者在首先具备学科背景的情况下再来学习教育技术，最终做到携带技术直接从事教学和科研。作为本书的作者，我算是个例子。

程幼强
2003 年 7 月

注：

- 1.B. 西尔斯和 R. 里齐著，乌美娜等译《教学技术：领域的定义和范畴》中央广播电视大学出版社，1999 年版。
2. Kemmis, S. Action Research in the International Encyclopedia of Education, Vol. 1 ed. by Husen, 1985, p 35.
3. Lewin, K., Resolving Social Conflicts, p 205.
4. 沙景荣，深入课堂、深入教学、深入学科，电化教育研究，2000，10，p7275.
5. 谢百治，美国教育技术简介，电化教育研究，2001，9，p5557.

ABSTRACT

This study investigated the effects of Webbased instruction (WBI) on the academic achievement and the learning attitudes, selfefficacy, and interest in WBI of Chinese students of English as a Foreign Language (EFL).

This study's sample consisted of 60 secondyear undergraduate students from Tianjin Foreign Studies University (TFSU) School of English Studies (30 serving as the intervention group, and 30 serving as the nonintervention group). Students of the intervention group took twelve weeks of an online English reading and writing program. The nonintervention group took an equivalent course taught through traditional methods.

A quasiexperimental, nonequivalent control group quantitative design was used in processing the data from the third semester. Both groups were administered a pretest and posttest using a questionnaire concerning student attitudes toward learning, and Test of English as a Foreign Language (TOEFL), which contained three subscales: listening proficiency, grammar proficiency, and reading proficiency. Data were analyzed using analysis of covariance (ANCOVA).

正文节选

CHAPTER I

INTRODUCTION

In the past few decades, especially in the last twenty years of reform and opening to the outside world, China has made great achievements in developing a national economy. China's strong desire to communicate with the rest of the world and blend into the world economy has created an enormous need for citizens with English proficiency (Han, 2000). China may be ranked the first in the world in terms of population of English language learners. According to the 1997 statistics published by the Chinese Ministry of Education (MOE), in 1996 there were over 1000 universities and colleges offering foreign language courses to about 3,000,000 non-English major students and over 1000 adult education schools offering foreign language courses to over 2,600,000 students (Cao, 1998; Wang, Wei & Li, 1998).

The Nature of ELT in China

In China, research in English Language Teaching (ELT) started as late as the 1980s. When discussing issues of ELT, Chinese language researchers tend to interchange teaching English as a Foreign Language (TEFL) and Teaching English as a Second Language (TESL) and borrow language-learning theories from studies of Second Language Acquisition (SLA), which are mostly conducted in English cultures (Cao, 2000; Sun, 2000). Such ambiguity indicates that there may be confusion among researchers in understanding the nature of ELT in China, which may mislead the practitioners in applying suitable learning theories to second language development (Song, 2001). It is vital to clarify the difference between English as a Foreign Language (EFL) and English as Second Language (ESL). Language researchers who are aware of the distinction indicate that differences do exist between EFL and ESL (Ellis, 1997; Kramsch, 2000; Song, 2001; Swiderski, 1993). The most obvious difference lies in the setting in which language teaching and learning occurs, with the former taking place in a non-English home culture and the latter in the target culture. Teachings in those two different contexts are therefore named respectively as TEFL and TESL. TEFL conducted in non-English settings fails to provide language learners with sufficient opportunities for interactions in the target language and within authentic contexts. Quite often the only comprehensible language EFL students hear and read is within the classroom; in contrast, when ESL students leave the classroom, they may enter into a number of situations in which they can use and practice the target language (Gebhard, 1999). Gardner and Macintyre (1991) also noted the differences in learners' motivation toward English learning in different contexts. The distinction of context also brings about other differences between TEFL and TESL, such as different formation of student and instructor populations, different educational policies, different goals of learning and different concerns, which all play significant roles in the effectiveness of language teaching and learning.

The awareness of the differences between TEFL and TESL inevitably focuses the attention of TEFL professionals on the context of foreign language learning, and to be more exact, on the learning environment. The fact that language is ever dynamic as a social tool also reveals that the authentic context is a critical factor in language learning (Hymes, 1972; Kramsch, 2000). Hymes indicated, "the key to understanding language in context is to start not with language, but with context" (p. xix). Kramsch defined the term "authentic" as one used as a reaction against the prefabricated artificial language of textbooks and instructional dialogues. According to Kramsch, authentic texts require participants to respond with behaviors that are "socially appropriate to the setting, the status of the interlocutors, the purpose, key, genre, and instrumentalities of the exchange, and the norms of interaction agreed upon by native speakers" (p. 178).

However, to provide Chinese English learners with an authentic English language context has proven difficult. While their peers in English cultures are taking advantage of the context-embedded feature of TESL, Chinese TEFL instructors cannot help but be frustrated that they are teaching English in the home culture, which is geographically thousands of miles away from the target culture (Cheng, 2000).

For centuries, traditional teacher-centered instruction has been dominating classrooms in China. The typical classroom in China is one in which the teacher talks most of the time, while the students only listen. There is not a great deal of interaction, and it is even considered impolite for students to cut in to challenge or raise questions when the teacher is teaching (Huang & Xu, 1999; Wu, 2001).

TEFL in China, constrained by many home culture conditions, yet with a huge population of 3,055,600 English language learners, needs more appropriate language learning theories and teaching methodologies tailored for its own needs. Pioneer researchers (Gebhard, 1999; Littlewood, 1981; Nunan, 1998a; Swiderski, 1993) emphasize the significant roles played by culture and context in foreign language learning and have based many of their studies upon sociocultural learning theories; however, how to break through the cultural constraints and eradicate the lack of authentic context in TEFL remain unanswered questions.

Along with the recent technological development of the Internet, in exploring the effects of Web-based instruction (WBI), Warschauer and his associates (Warschauer & Kern, 2000; Warschauer, Shetzer & Meloni, 2000) achieved major advancements in bridging the cultural gaps between home cultures and the target language. It is not an exaggeration to say that their practices, for the first time in the history of TEFL, make authentic language context/culture easily accessible for the mass population of Chinese EFL learners. Warschauer's (1999) constructivist perspectives, situated learning and apprenticeship, have had a profound influence in shaping the theoretical frameworks for WBI.

Need for the Study

Many researchers now consider computers, the Internet, the World Wide Web (WWW) and related technologies to be an integral part of language teaching (Furstenberg, Levet, English & Maillet, 2001; Kramsch, A’Ness, Lam, 2000; Kern, 1995; Liao, 1999; Maxwell, 1998; Nunan, 1999; Warschauer, 1999). Nunan (1999) indicated that in addition to increasing student intercultural awareness and sensitivities, the Internet also provides them with opportunities for genuine communication beyond the classroom. The explosion in Internet usage has been particularly valuable to EFL students. Warschauer (1999) conducted a series of studies on electronic literacy and computer-mediated communication. According to Warschauer (2000), five main features of network-based foreign language teaching provide students with new experiences in the target culture and additional opportunities for expression and reflection. The five features are: 1) the authenticity of context that allows foreign language students to be sufficiently exposed to the target culture and language; 2) huge amount of opportunities for language and computer skill literacy; 3) the opportunities to interaction with native speakers 24 hours a day; 4) the vitality of the Internet to keep both language instructors and students updated for language development and change of ideas; and 5) the empowerment in cross-cultural collaboration.

Kern (1995) compared the quantity and quality of the discourse produced during Daedalus Interchange sessions with that of a classroom that only engaged in face-to-face discussions. The InterChange sessions revealed more language production and greater opportunities for students to interact. The language output of the students was more complex and sophisticated compared with that in the face-face discussions. Further, the enthusiasm, practice, and feedback allowed for the students to interact independently of the professor’s instruction, giving them the liberty to use the language for their own purposes. Maxwell (1998), director of National Foreign Language Center, USA, summarized that the Internet/WWW and related technologies can encourage the transition from teacher-centered to learner-centered learning, enhance student motivation, and contribute to the authenticity of the learning process.

However, some researchers remain cautious toward technology adoption. Paolucci and Jones (1998) reviewed over 800 journal articles on educational technology and came to the conclusion that researchers have not yet clearly demonstrated quantifiable learning outcomes. Liu (1999), a leading Chinese linguist, also criticized the language research in China for lacking theoretical grounding and appropriate methodologies. Liu pointed out, “editors found that 90 percent of articles sent to Foreign Language Teaching and Research Press could not be published, and 80 percent of the refusals were due to the inappropriate methods” (p. 260).

The literature review shows, although many studies discuss the effects of using computer technology on language teaching, such as how WBI improves student learning attitudes, interests and self-efficacy, most of them have been conducted in the western cultural context (Kamhi-Stein, 2000; Kramsch, A'Ness & Lam, 2000; Sankaran, Sankaran and Bui, 2000; Vallance, 1996; Warschauer, Shetzer & Meloni, 2000). It is uncertain whether the findings of previous studies in the West can be applicable to the ELT environment in China. So far, no well-established theories that are directly applicable to ELT in China are presently available, thus these topical issues should be explored. Besides, research on the effects of WBI on student motivation analyzed from the quantitative perspective is also missing from the literature. In summary, more quantifiable learning outcomes that support integrating WBI into ELT in China should be investigated.

Purpose of the Study

The purpose of this study is to examine the effects of Web-based instruction (WBI) on student academic performances. The study will also examine whether there exist differences in student learning attitudes, interests in WBI, and self-efficacy as affected by WBI.

Definition of Terms

Attitudes

According to Allport's (1935) classic definition, attitudes are learned predispositions to respond to an object. More recent perspectives view attitudes as a summary construct that represents an individual's overall feelings toward or evaluation of an object (Zajonc, 1982). Lambert (1967) holds that attitudes consist of three components: the cognitive, affective and co-native components.

Authentic Text

Authentic texts require participants to respond with behaviors that are socially appropriate to the setting, the status of the interlocutors, the purpose, key, genre, and instrumentalities of the exchange, and the norms of interaction agreed upon by native speakers (Kramsch, 2000).

College English Test (CET)

College English Test is a nation-wide standardized English language proficiency test administered by the Department of Higher Education, Ministry of Education of China, offered to all Chinese college students (Brief introduction on College English Test, 2002).

Communicative Language Teaching (CLT)

Communicative language teaching is an approach that is based on communicative language use. Richards and Rodgers summarized the following theoretical premises deduced from the consideration of CLT:

1. The communication principle: Activities that involve communication promote language learning.
2. The task principle: Activities that involve the completion of real-world tasks promote learning.
3. The meaningfulness principle: Learners must be engaged in meaningful and authentic language use for learning to take place (Richards & Rodgers, 1986, p. 72).

Daedalus Products

Daedalus products include software, utilities, supplements, and publications designed by teachers for teachers to support collaborative learning and the writing process (Daedalus Group Inc., 2002).

Daedalus Interchange

Daedalus Interchange is a component of the Daedalus Integrated Writing Environment package produced by The Daedalus Group, Inc. Texas, USA. It allows students to communicate with one another via networked computer stations in real time. The program had been used successfully in the French courses at University of California at Berkeley (Warschauer & Kern, 2000).

English as a Foreign Language (EFL)

English as studied by people who live in places where English is not the first language of the people who live in the country (Gebhard, 1999).

English as a Second Language (ESL)

English as studied by people who speak other languages as their first language, but live in places where English is the first language (Gebhard, 1999).

Interest

An interest represents a specific relationship between a person and an object in his or her "life-space" (Lewin, 1936). Krapp (2002) summarizes the characteristics of the interest concept as cognitive aspects, emotional characteristics, value-related characteristics and intrinsic quality.

Online English Reading and Writing (OERW)

OERW is a culture study oriented course, encompassing many aspects of American culture, from the social and political structures and economic development of the United States to daily life of average Americans. Beside the text and graphics included in class pages, 62 external links to the WWW were included to expand student reading on related topics. OERW consists of twelve class units and was offered to the participants of this study as a treatment on a weekly basis.

Self-efficacy

Self-efficacy is the belief "in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3).

Spoken English Test (SET)

Spoken English Test is a test affiliated to College English Test (CET), administered by the Department of Higher Education, Ministry of Education of China, currently offered to Chinese college students in nineteen provinces (Guidelines of Spoken English Test, 2002).

Teaching English as a Foreign Language (TEFL)

The teaching of English where it is a 'foreign' language for students and not used as the language of communication within that country, e.g. teaching English in France (Global English, 2002).

Teaching English as a Second Language (TESL)

Teaching English as a Second Language. The teaching of English where it is a 'second' language for students and used alongside the native language, e.g. teaching English in India (Global English, 2002).

Test of English as a Foreign Language (TOEFL)

The Test of English as a Foreign Language (TOEFL) measures the ability of nonnative speakers of English to use and understand North American English as it is used in college and university settings. Scores on the test are required by more than 4,300 two- and four-year

colleges and universities, professional schools, and sponsoring institutions (Educational Testing Service, 2002).

Web-based Instruction (WBI)

Web-based instruction is a hypermedia-based instructional program, which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported (Khan, 1997).

Research Questions

Both ESL and EFL researchers give strong emphasis on the important role of interaction in language learning (Ellis, 1997; Kramsch, 2000; Liu, 1999; Nunan 1999). Student exposure to and involvement in the target culture is also emphasized (Kramsch, 2000; Littlewood, 1981; Warschauer, 1999; Warschauer & Kern, 2000).

This study was carried out through a pilot study and the present study comparing WBI intervention group and a non-intervention group in the following areas: academic performance, student English learning attitude, student self-efficacy in English learning, and student interests in WBI. The major aim of the pilot study was to help the researcher generate research questions and hypotheses. It also allows the researcher to: (a) get familiar with the testing procedures, (b) obtain feedback from research participants, (c) formulate test items to measure participants' WBI English learning attitude, self-efficacy, and interests, (d) gather information to help interpret findings in a more detailed investigation, and (e) generate hypotheses for the current study.

The present investigation was conducted through a quasi-experimental procedure to examine the effects and the potential of WBI in improving student academic performance, English learning attitude, self-efficacy, and interests in WBI. The specific research questions to be addressed include:

Research Question 1: Is there a significant difference in the English listening, between students who receive WBI and those who receive traditional lecture format instruction?

Research Question 2: Is there a significant difference in the English grammar proficiency between students who receive WBI and those who receive traditional lecture format instruction?

Research Question 3: Is there a significant difference in the English reading proficiency between students who receive WBI and those who receive traditional lecture format instruction?

Research Question 4: Is there a significant difference in the learning attitudes between students who receive WBI and those who receive traditional lecture format instruction?

Research Question 5: Is there a significant difference in the learning interests between students who receive WBI and those who receive traditional lecture format instruction?

Research Question 6: Is there a significant difference in self-efficacy between students who receive WBI and those who receive traditional lecture format instruction?

Hypotheses

Research Hypothesis 1: The English listening proficiency of students who receive WBI will be significantly different than that of students who receive traditional lecture format instruction.

Research Hypothesis 2: The English grammar proficiency of students who receive WBI will be significantly different than that of students who receive traditional lecture format instruction.

Research Hypothesis 3: The English reading proficiency of students who receive WBI will be significantly different than that of students who receive traditional lecture format instruction.

Research Hypothesis 4: The attitudes of students who receive WBI will be statistically different than that of students who receive traditional lecture format instruction.

Research Hypothesis 5: The learning interests of students who receive WBI will be statistically different than that of students who receive traditional lecture format instruction.

Research Hypothesis 6: The self-efficacy of students who receive WBI will be statistically different than that of students who receive traditional lecture format instruction.

Significance of the Study

This study investigates the effects of WBI on the academic performances and learning attitudes of EFL students. The results from this study may impact several educational concerns. First, the potential for the most proximal impact, related to student performance, may be on efforts in improving the learning environment of EFL with WBI. Nunan's (Nunan, 1999a) research indicated that WBI allows learners to be exposed more to authentic data. As Nunan put it, "learners encounter target language items in the kinds of contexts where they naturally occur, rather than in contexts that have been concocted by a textbook writer" (p.27). Second, the experience in using Web-based instruction (WBI) in teaching English as a foreign language (TEFL) may enrich the concept of distance education, making it more flexible and adaptable (Relan & Bijan, 1997). Third, using WBI helps TEFL from economical perspective. Many types of language teaching resources, which were hardly accessible years ago, become handy in nowadays under WBI environment (Warschauer, Shetzer & Meloni, 2000). Finally, the effects of WBI on students'

attitude, interests and self-efficacy should be of value to TEFL. Skinner and Austin (1999) suggest that more studies on how and why technology can motivate students should be carried out.

This study also aims to obtain preliminary information of WBI on TEFL in Chinese settings, considering the fact that previous studies have predominantly focused on cultural environments other than China. If WBI significantly correlates with the academic achievement and the motivational factors of EFL students, this research will be important in supporting the research by Warschauer (1999) that reasons the integration of WBI in TEFL.