TECHNOLOGY ACCEPTANCE AMONG EFL TEACHERS IN CHINA: APPLYING THE THEORY OF PLANNED BEHAVIOR

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Abstract— This paper synthesizes benefits that technology integration brings to EFL teaching in China, states problems that EFL teachers do not optimally use technology in teaching as national ICT-related policies requires. Factors influence technology acceptance among EFL teachers in China are analyzed by applying the Theory ofPlanned Behavior (TPB). Cultural factors are further analyzed to explain EFL teachers' reluctance and the low level technology use in EFL teaching. This study contributes to the existing technology acceptance theories by giving insights into influential factors of EFL teachers' technology acceptance in China. The findings also have implications for national and school administrators as well as policy makers in terms of technology related policy making, funding for technology facilitating conditions, technical supports and particularly technology related professional training for EFL teachers to improve EFL teachers' technological, pedagogical and content knowledge.

Keywords: Technology acceptance, EFL teachers, China

I. INTRODUCTION

Technology is creating paradigm shift, changing expectations and opening up possibilities in teaching and learning. Advances in computer technology and the diffusion of technologies motivated thedevelopment of new teaching strategies, enrichedteaching materials, and increased students' learning motivation (Teo, 2011). For students, technology plays important roles in effectively preparing themselves to face future multiple challenges in the workplace (Hopson, Simms, & Knezek, 2002; Reiser, 2001). In language teaching and learning, computer assisted language learning (CALL) which embraces a wide range of ICT applications and approaches (Levy, 1997) has become an overwhelming trend in language teaching field. Computers can facilitate language-rich environment, act as a tool to increaseverbal exchange (Liaw,1997).Previous studies reported English teachers' computer use effectively improve students' listening and speaking proficiency (Zou, 2013), facilitate interactive language learning and increase learner autonomy (Wang & Coleman, 2009).However, technology is not being used to support the student-centered instruction which is believed to be most powerful (Ertmer & Ottenbreit-Leftwich, 2010; Maddux & Johnson, 2006). Teachers were reported had lackluster responses towards using technology in teaching and learning (Zhao & Cziko, 2001), and when computers were used, they were usually used for low-level purposes (Becker, 2001; Li, 2014). Considering teachers play a core role in any institutional level in deciding when and how to use technologies, it is of great importance to gain insights into factors influence teachers' technology acceptance.

II. LITERATURE REVIEW

2.1. English Teaching and Policy in China

As lingua franca, English is continuously showing its dominance in foreign language teaching and learning in China. The importance of English proficiency is not only reflected by its importance in examinations at all educational levels, but also embodied in job interviews and professional promotion opportunities. Therefore, how to effectively teach English keeps attracting great attention among researchers and teachers. Influenced by traditional teaching philosophies, English teaching in China has long been witnessed as teacher-centered and examination-oriented approach (Li, 2014, Li & Walsh, 2011; Wu, 2004), in the long run, students' English learning were criticized as "deaf and dumb English" (Liu & Dai, 2003; Zhang, 2002). The old syllabus (College English Syllabus, 1999) which emphasizes reading and writing were not producing students with the necessary English skills (Hu & McGrath, 2011) to satisfy the great demand in the globalization in terms of people's intercultural awareness and English communication competence. To deal with the mismatch between teaching focus and society demands, technology use is promoted in English teaching to enrich authentic English materialsand provide opportunities for communication, these are especially valuable for countries like China where monolingual dominates and face to face experiential learning is difficult (Wang & Coleman, 2009). A reform intending to rectify students' inability to use English for oral communication was launched by Chinese policy-makers in 2002 (Zhang, 2008) and it witnessed a shift from focusing on reading and grammar learning as the primary goals to developing students' ability to use English in a well-rounded way, especially listening and speaking (College English Curriculum Requirement, 2007), and ultimately develop students' intercultural competence. Furthermore, ICT use was particularly recommended as a teaching mode in CECR (2007). The teaching objectives indicate transformation from

content based instruction (CBI) to constructivism (Vygotsky, 1978) supported communicative language teaching. EFL teaching in China is stepping into a flourishing period of computer assisted language teaching (Zhuang, Huang, & Wang, 2007) after the new CECR was issued.

Under reforms, Chinese government has injected abundant funding to improve school computer facilities and teacher training programs to equip teachers with necessary computer skills. Schools are witnessed an increase in computer availability and internet accessibility, especially in urban China. For teachers, demonstrating adequate computer skills (PowerPoint, word processing, and internet use) are critical for teaching qualification and future professional promotions. Under the context of government policy requirement and increased investment in technology facility, a considerable studies reported the strengths of technology supported English teaching from the perspective of paradigm shift in China, however, little research to date has investigated potential factors influence English teachers' technology acceptance (Li, 2014).

2.2 The Theory of Planned Behavior

The theory of planned behavior (TPB) is a theory designed to predict and explainhuman behavior in specific contexts (Ajzen, 1991), and it improves the predictive power of the theory of reasoned action (TRA) by including perceived behavioral control as an antecedent to predict intention. The TPB has been used by researchers over the past20 years and shown to be able to predict a variety of intentions and behaviors (Teo, 2012). Three major factors are included in TPB: attitude toward the behavior which refers to the degree to which a person has a favorable or unfavorablefeeling about performing a behavior; subjective norm which refers to the perceivedsocial pressure to perform or not to perform the behavior; and the perceived behavioral controlwhich is described as the perceived ease or difficulty ofperforming the behavior (Ajzen, 1991). The three variables jointly influence people's behavioral intention which captures how willing people are to use technology. Behavioral intention is the mostinfluential predictor of people's actual behavior. Figure 1 shows the construct of TPB.

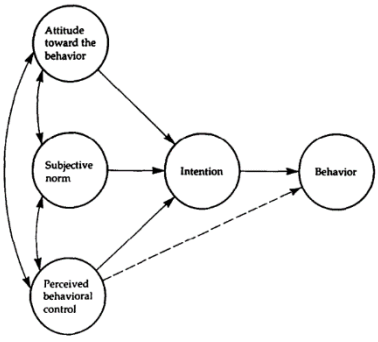


Figure 1. Theory of planned behavior (Ajzen, 1991)

In TPB, intention indicates how hard people is willing to try, or how much of the effort he or she is planning to exert for the specific behavior (Ajzen, 1991). As a general rule,the stronger intention a people to have, the more likely the specific behavior is to be performed. Intention is predicted by attitude, subjective norm, and perceived behavior control, and mediates the attitude-behavior, subjective-behavior, and perceived behavior control-behavior relationships. In addition, perceived behavior control directly influences the individual's behavior.

Although recent meta-analysis suggested TPB generally explained 41%-50% of variance in people's intentions and 28% -34% of variance in behavior, a large proportion of potentially explainable variance remains unaccounted for (Morris,Venkatesh, & Ackerman, 2005). Two ways to address unexplained variance are including additional variables and moderators (Conner, Sheeran, Norman, & Armitage 2000).

III. FACTORS INFLUENCE CHINESE EFL TEACHERS' TECHNOLOGY USE

3.1. Understanding Extended Factors in Literature

In the Theory of Planned Behavior, intention indicates behavior only if the behavior in question is under volitional control (Ajzen, 1991). Attitude toward the behavior and subjective norm are user-related factors. As a non-motivational factor, perceived behavior controlis not a user-characteristic factor, instead, it is more of an external factorthatindicates people's perceptions onthe availability of requisite opportunities and resources, for example, time, money, skills, and cooperation of others (Ajzen, 1991).Considering limited factors in TPB and the purpose of better understanding factors that influence people's technology use behavior, there is a need to include morepotential factors and consider contextual factors to further understand users' technology use.

According tothe literature, system or technology related features such as perceived usefulness and perceived ease of use were included to predict the motivational factor of attitude (Pavlou & Fygenson, 2006). According to a previous studies, usefulnesses of integrating technology in English teaching are: providing abundant and versatile resources and authentic input (Golonka et al., 2014);attracting student's attention (Schmid, 2008); improving the quality and in-depth of students' involvement (Carey, 1999) ; helping teachers toorganize contents (Golonka et al., 2014); improving teaching effectiveness in students' reading comprehension, academic writing (Carey, 1999) and pronunciation (Golonka et al.,2014); and increasing students' language production and language use diversities (Golonka et al., 2014). With these usefulness getting ackowledged by EFL teachers, they are more willing to adopt technogloy in teaching. Perceived ease of

use is also an important facor that influences people's attitude toward using technology. For EFL teachers in China, most commonly used technologies are PowerPoint, Word processing, and the internet (Li, 2014). These are not reported as complex technologies for the majority of teachers. However, if there is a age difference in terms of teachers' beliefs on theperceived ease of use, and to what extend it influences their attitudes are worthy offurther investigation.

Time and self-efficacy was previously extended to predict perceived behavioral control in TPB among online shopping consumers and witnessed their effects(Pavlou & Fygenson, 2006).Li (2014) indicated Chinese EFL teachers' technology uptake is much more complicated by existing technology acceptance model suggested, and time is an important concern for EFL teachers in China. University English teaching is characterized by large class size (Hu, 2002) and large student-teacher ratio. Teachers are occupied by teaching preparation, correcting students' assignments, and pressure from academic publication for their future professional promotion. Self-efficacy refers to the extent to which one believes what one can do with the current level of skills one possesses (Bandura, 1977). Research on self-efficacy usually focuses on specific context, such as computer self-efficacy, which denotes a user's assessment of his or her ability to use a computer, and it may influence an individual's technologyuse decision (Gong, Xu, & Yu, 2004). Individuals with a weak sense of computer self-efficacymightbe easily frustrated by potential obstacles and respond by lowering their perceptions of their capability to use technology. By contrast, individuals with a strong sense of computer self-efficacy usually will persist with their efforts even when they met difficulties, they are more likely to overcome whatever obstacle was present (Compeau& Higgins, 1995). In education, computer self-efficacy affects teachers' decision making regarding the extent and the way technology is used in teaching practice (Teo, 2009). It is worth noticing that Chinese EFL teachers' computer self-efficacy was not reported in previous study, its effects on factors such as perceived ease of use and attitude deserves further research.

3.2. Cultural Influences

Culture influences people's thinking and behavior. Influenced by the traditional Confucian-heritage culture, Chinese value group interests and avoid being difference with group members, thus when a specific policy, specifically the technology use in EFL teaching is promoted, teachers' attitudes toward it may to a certain degree be influenced bythe policy itself and other people's opinions. Besides policy, the effect of subjective norm on users' attitudes might be stronger among Chinese population. Testing possible cultural effects on teachers' technology intentions are necessary, since cultural issues are reported to explain the lack of acceptance for some teachers in China (Dong, 2009).

Chinese ranks very high on some cultural dimensions, such as the power distance, collectivism and uncertainty avoidance (Hofstede, 1986). Chineseculture influences Chinese educational principles including teachers' pedagogies and teaching styles (Dong, 2009).According to Confucian norms, teacher is viewed as the possessor and transmitter of knowledge, and literacy-focused and teacher-centered lecture is a natural consequence.English teachers may find it awkward to change their roles from knowledge providers to communication facilitators.Besides, teachers and students believe textbooks represent the finest form of knowledge developed by authorized experts, and are the absolute sources for finding the correct answers. Therefore, when confronting questions, students and teachers would rather seek for answers from textbooks than searching online using technologies. In addition,partly due to high degree of uncertainty avoidance, Chinese teachers are relatively slow and reluctant to accept innovative technologies. In addition, for eastern students, the sense of "keeping face" makes them preferred to getinstructions from teachers, even in the interactive online learning environment (Liang & McQueen, 1999). To meet demands from students, teachers are usually willing to give them feedback in person, and these are in line with Hofstede (1986) whose studysuggested that, the heavy reliance on instructors and textbooks are indicators of the high power distance dimension of Asian cultures. Moreover, short-term orientation (Hofstede, 2001) was observed in Chinese English education (Dong, 2009).It is refleceted in teachers' respect for tradition, protection oftheir faces, personal steadiness and stability. Teachers are afraid of losing face in front of students, when they are not fully confident of their abilities of using technologies; they are more likely to use the traditional chalk and blackboard teaching that they are more used to.

CONCLUSIONS

Previous researches on Chinese EFL teachers' technology use are mostly focused on descriptions of ICT-related policies and share of experience of teachers' technology use. Although external barriersincluding insufficient facilitating conditions and teachers' heavy workloads were reported that might explain teachers' reluctances of technology use (Li, 2014), there is a sever lack of investigation on EFL teachers' technology acceptance in China. Perceived behavioral control or facilitating conditions, especially technology training and support are important factorsthat might influence teachers' actual use of technology in China. While, pre-service teacher preparation and in-service courses and trainings in China were devised in reference to

technology training, thus, teachers are not familiar with the interaction patterns, features and possibilities of technology-mediated educational transactions (Zhou, Zhang, & Li, 2011). Besides, the current technology training needs consider content and pedagogy requirements. There is an urgent need for school administrators and curriculum designers to carefully consider the importance of professional technology training, and take further steps to provide more opportunities for EFL teachers to be equipped with technological, content and pedagogical knowledge. Leaders are also suggested to know the detailed needs from both teachers and students in order to improve education excellence.

Chinese national policies about ICT use in EFL education, the recognition and popularity of ICT as a support for teaching, as well as teachers' desire to change current teaching methods promise ICT use a bigger momentum in China. Some contextual and cultural factors in China cannot be neglected, for instance, a lack of time, teachers'heavy workload, and cultural orientations (Hu & McGrath, 2011; Li and Walsh,2011). Although initially the majority of teachers held positive attitudes towards ICT use in English teaching and the national reform on EFL teaching, their enthusiasm was waning in the light of insufficient perceived behavioral control including computer facility availability and training, serious lack of college English teachers and high-quality teaching software (Hu & McGrath, 2011; Wu, 2004). Therefore, measures are needed to effectively conquer the current difficulties, otherwise, technology will not be widely accepted and used in EFL teaching, let alone the potential benefits that technology bring to EFL teaching.

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