

The Impact of Technology-Integrated Instruction to Elementary Students' Language Learning Motivation and Performance

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This study aims to investigate technology-integrated language learning courses that benefit elementary language learners' desire to learn English (motivation) and how they are related to the student's performance. Theories guiding this investigation included Dörnyei's L2 Motivational Self System and Gardner's Socio Psychological System to describe language learners' desire to learn (motivation). Thirty-five 3rd grade elementary school students, who are learning English with technology at school, were included in this study. The result indicates that the features of technology students like to use while learning have positive and significant correlation with desire to learn English (motivation); and their previous technology learning experience and motivation have significant influence on their final grade. This final analysis could provide a guideline for EFL teachers or students who are in teacher training programs to integrate technology into their future courses.

Keywords: CALL, motivation, EFL, performance

Introduction

The agenda the researcher pursued was how technology is related to students' motivation and final performance while learning a foreign language. The primary research goal was to evaluate language learners' motivation while integrating technology into language learning. As cited in Oxford and Shearin's study (1994), several researches show that motivation plays a crucial role for students to learn because it can reflect how often students apply learning strategies; how much language learners use the target language to interact with others; how much input they receive from the learned target language; how well they have achieved on curriculum-related achievement tests; how well they could achieve proficiency level; and how long they could preserve and maintain their skills even after their language learning is over (Ely, 1986; Gardner, 1991; Oxford & Shearin, 1994). In addition, applying technology in learning can benefit language learning because it could not only provide a better and more effective use of class time but individualize students' learning because students can work at their own pace (Martinez-Lage & Herren, 1998). Thus, the studies and theories that the researcher included in the research were focused on language learners' motivation since applying technology in a language classroom could promote this approach.

Literature Review

Motivation

Motivation plays an essential role in language learning because it shows why language learners decide how

they are willing to participate in leaning process, how hard they are willing to try to pursue the goal and how long they are willing to sustain in the learning process (Dörnyei, 2001). Hence, Gardner and his colleagues proposed a socio-educational model focusing on integrativeness and instrumentality. Integrativeness explains language learners' affective disposition of the target language group while instrumentality focuses on using the target language as a tool for career, travel, or specific purposes. According to Gardner and his colleges (Gardner, 1985; Gardner & Masgoret, 2003), positive attitude and integrative motivation play more important roles in achievements than instrumentality. However, integrative motivation could not be applied to some EFL (English as a foreign language), such as Taiwan, in which language learners mainly learn English to pass entrance exams, fulfil requirement, fulfil others' expectation (usually from their parents), or obtain a job. The instrumental motivation plays the central role of them to learn English. Hence, EFL leaners are very hard to observe the target community because it is hard for them to find the target community they can assimilate with in their own country (integrative motivation). Thus, Dörnyei (2005) proposed the model of the L2 Motivational Self System, based on Gardner's socio-educational model, to construct the ideal L2 self. Ideal L2 self means an individual's ideal self-image can be used to express the wish to become a successful language learner. This system includes ideal self, ought-to-self, and L2 Learning Experience. Ideal self represents the attributes (or effort) an individual would like to possess, and what people wish themselves to become in the future. It is a promotion focus, and its concern is on growth, achievement, and goal reaching (Higgins, 1998). Ought-to self is what an individual feels obligated or duty bound to become. It is a prevention focus (Higgins, 1998) and is concerned with regulation of behavior in order to stay responsible, safe and avoid possible negative outcomes (Dörnyei, 2005, p. 106). L2 Learning experience "covers situation specific motives related to the immediate learning environment and experience" (Dörnyei, 2005, p. 106). This is more related to Asian culture because most language learners consider themselves to be "forced" to learn a foreign language (usually English). It is more related to more extrinsic types of instrumental motivation which is mentioned in Gardener's socio-educational model. Based on Dörnyei's L2 Motivation Self- System, intrinsic and extrinsic motivation could encourage language learners to learn a target language; it also clarifies how these two types of motivation affect language learners' attitudes toward language learning. Table 1 shows the elements of the L2 Motivational Self System. The researcher designed the motivation scale based on L2 Motivational Self System. The ideas and components are shown in Table 1:

Table 1

Dörnyei's L2 Motivational Self System

Elements	Rationale	Gardner's motivation	Example
Ideal Self	Promotion	Integrative motivation Instrumental motivation	Hopes Aspirations Advances Growth Accomplishment
Ought-to Self	Prevention	Instrumental motivation	Avoid negative outcomes Concerned with safety and responsibility Obligations
L2 Learning Experience	Immediate learning environment; experience	Instrumental motivation	Teachers Curriculum Peer group Experience of success

Computer Assisted Language Learning (CALL) and Motivation

According to Bruner (1960), successful language learning would not occur without high motivation. Applying CALL in the classroom could increase students' motivation because it is one of notable techniques nowadays (Chapelle & Jamieson, 1986; Chang & Lehman 2002; King, 2002; Torii-Williams, 2004; Ushioda, 2011).

Several studies have conducted related to CALL (e.g. Amaral & Meurers, 2011; Ayres, 2002; Gruber-Miller & Benton, 2001; Roussel, 2011; Rüschhoff & Ritter, 2001; Stepp-Greany, 2002; Strambi & Bouvet, 2003); however, motivation was not considered as the major factor in these studies. Ushida (2005) investigated the importance of motivation in language learning and attitudes toward an online language course context in second language (L2) acquisition integrating two theoretical frameworks to investigate different aspects of learning motivation. Gardner and MacIntyre's socioeducational framework (1993) was conducted to explore language learners' attitudes and motivation while Dörnyei's (2001) concepts of foreign language learning motivation were utilized to explore the influence of learning contexts and motivation of language learners. The results indicated that learning motivation and attitudes toward CALL-integrated course were relatively positive and stable during the course. Moreover, this study did not only show significant differences in student motivation but also indicate teachers might play an important role in shaping students' motivation. Hence, Chapelle (2001) outlined a framework for evaluation of CALL in his book including six principles: The first principle talks about *language learning potential*, which consists of motivation factors including the quality of interactions that learners are engaged in. The second one is *meaning focus*, which is to make sure language learners receive meaningful, interesting, and comprehensive input. The third is *learner fit*, which is about the level of the language. The fourth element is *authenticity*, which requires language learners to demonstrate what they have learned and the tasks they have practiced beyond the classroom. *Positive impact* is about benefits that learners might gain from working on hands-on activities. The *practicality* is the last principle that requires language learners to apply acquired skills of the target language to real life situations. Thus, it is crucial for teachers to create a unique CALL environment to engage students in learning process and to affect students' motivation and attitudes toward studying the target language that greatly influence success.

The Present Study

The primary focus of this study is to explore whether technology-integrated lesson could promote language learners' motivation and their final performance. Several studies have conducted to investigate motivation and language learning based on Dörnyei's L2 Motivational Self System (Csizér & Kormos, 2010; Csizér & Kormos, 2009; Papi, 2010; Yashima, 2009). However, few of them have focused on evaluating the motivation component with CALL or among elementary level language learners. Thus, the major purpose of this study was to investigate EFL elementary learners' motivation and performance with mediated instruction. The focus and research questions of this study are the followings:

How is language learners' technology learning perception related to their desire to learn English (motivation)?

Can language learners' previous learning experience with technology and desire to learn English (motivation) predict their test performance?

Methodology

Participants

Thirty-five 3rd graders were recruited from two EFL classes at the end of the 2012 academic year. The participants participated in a required English course in a rural elementary school in south of Taiwan. Not every student in this rural elementary school owns a computer, the internet access at home, a tablet or a smart phone because it is located in a lower social economic school district. These students only had an English class two hours a week, and the teacher integrated technology (smart board, video, audio, the Internet, computers, projectors, camcorders, etc.) in the learning process to involve students in learning processes. The course might be the only chance for some students to learn English with technology because those students might not have any technology devices to learn with the target language out of class. The students had the opportunity to participate in hands-on activities and were provided multiple opportunities to practice listening and speaking in class. The teacher provided video and audio files for students to practice speaking and listening in class.

Data Collection and Instruments

Students' desire to learn English and final performance were measured in this study to explore their learning motivation of integrating technology into language learning. In addition, data for language learners' technology experience and perception toward learning English using technology were collected. This research primarily used quantitative measures, correlation and regression analyses to analyse the data. In the multiple regression models, the independent variables included the desire to learn English and students' learning language experience with technology. The dependent variable was their final performance which is their final grade. A paper-pen survey was utilized to collect data from the target population. Before delivering the survey to students, the human consent form was sent to each student's guardian. The terminology contained in the survey was also explained to students. The following sections were included in the survey.

Desire to learn English. The initial eleven-item category included the desire to learn English. The rationale of this section was designed based on Gardner's Socio-Educational Model (integrativeness and instrumentality) and Dörnyei's L2 Motivational Self System to discover the degree of language learners' desire to learn English. This section used a 5-point Likert-type scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. The following examples were included: I hope I could speak English fluently (ideal self); People surrounding me expect me to learn English (ought to self); I am strongly motivated to learn English (L2 learning experience); and My English can be improved by mediated instruction (Learning Experience with Technology).

Language learning experience with technology. This section (seven items) was designed to serve as an independent variable in this study. This scale was designed to measure the participants' level of language learning experience with computers and their current use of technology. These categories included cell phone use, writing (word processing), computer use, Internet use, general communication (e-mail, online chat), social networking (video conferencing, Facebook, discussion boards), viewing of English television or movies, electronic learning (CD-ROM or Internet tutorials). Each category was quantified by a 5-point scale ranging from 1 (never) to 5 (very often).

Perceptions of learning English using technology. This section was designed to determine students' attitudes toward learning English by integrating technology. Attitudes toward learning English using technology

were measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). The following examples of this scale were included: efficiency, interesting, authenticity, confidence building and motivation building.

Final grade. The section was served as a dependent variable to explore if their previous language learning experience with technology and their learning motivation could be significant predictors of their final performance of the whole semester.

Results

Pearson Correlation Analysis

Desire to learn English, and technology perception. A bivariate correlation coefficient showed a positive relationship between these variables. The correlation result of the instrument was significant ($p < .05$, two-tailed test). Technology perception showed a positive relationship with desire to learn English ($r = .58$), Table 2 shows the detailed result.

Table 2

Pearson Correlations of Technology Perception and Desire to Learn English (n = 35)

Measure	1	2
Motivation	--	
Technology perception	.58**	--

** $p < .01$.

Regression analysis. A multiple regression analysis was conducted to determine whether the participants' learning with technology experience and motivation were predictors of their final grade. The result shows in Table 3. Based on the result, learners' technology experience and motivation play crucial roles to participants' final grade.

Table 3

Regression Model for Predicting Students' Attitudes Toward Mediated-Integrated Language Courses (n = 35)

Dependent variable	Predictor variables	B	SEB	β	R^2
Final Grade	Technology Experience	.33	2.21	4.73**	.25
	Motivation	.34	3.40	7.60**	

NOTE. $R^2 = .25$ ($N = 35$, $p < .05$).

Discussion

Correlation Coefficients

The purpose of this study was to investigate language learners' desire to learn English, and final performance after integrating technology into language learning. According to the data, technology perception has a positive and strong significant relationship with learning motivation; thus, the result supports a positive relationship between language learners' perceptions of using technology to learn and their learning motivation which might be a solution to help language learners' to improve their learning motivation.

Regression Analysis

The regression analysis conducted in this study showed that students' experience of learning English with

technology and their learning motivation were strong predictors of their final grade indicating that their learning experience with technology and their motivation to learn English somehow influence their final performance of the class. This means that if students could learn with technology alone with their motivation, they could improve their final performance of the target language. This is a great indication, especially for the target sample because they are from a rural area in southern Taiwan which is always lack of educational resources compared to major cities. The improvement of technology-integration courses might be able to shorten the urban-rural gap.

Conclusion

This study supports the assumptions of Gardner's Integrative Motivation and Dörnyei's L2 Motivational Self System that emphasize the importance of motivation in learning process. This result also suggested that integrating technology into a language learning course could benefit language learners. The teacher's role is to create an environment that promotes student learning. Instead of spending entire class time delivering content, teachers could facilitate student learning and provide models to students by integrating technology into language learning. This transition could help transfer the classroom from teacher-centered to student-centered because this course could help the students become active learners (Maxwell, 1998). To investigate other factors that might improve student learning, additional studies with more elements, such as an increased sample size, increased subject groups, and additional variables (such as specific technology tools and experiences that are more related to language learning), should be performed.

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