The relationship between prior knowledge of adult language learners and their satisfaction with language learning software

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Introduction

There are a myriad of tools and resources available to the self-directed language learner, from online language learning communities like italki (http://www.italki.com/) to university courses like French Online from Carnegie Mellon University (http://ml.hss.cmu.edu/languageonline/ FOL/FOL.html). Self-paced language learning software is another choice. These types of software "are built around pre-planned lessons with distinct goals prescribed in a linear, guided path" (Godwin-Jones, 2007). Commercially available software to suit this purpose includes Rosetta Stone, TellMeMore, and ELLIS.

These types of software focus on the development of the four language skills – reading, writing, speaking, and listening – and employ an assortment of techniques. Most language learning software in this category also include translation and grammar explication. Rosetta Stone is quite different. Rosetta Stone (RS) is a language learning software that tries to facilitate second language learning that is a recreation of first language learning. RS claims that their method of language learning, which they call "Dynamic Immersion", provides the learner with a fully immersive environment similar to their first language learning experience. RS bases their pedagogy on "a carefully designed sequence of words, images and the voices of native speakers" and claim that this approach allows learners to progress naturally in their language learning without translation or overt grammar lessons (Language learning, n.d.).

Current second language acquisition (SLA) theory operates under the premise that adult second language learners acquire language much differently than first language learners. In fact, according to Steven Pinker, complete acquisition of a second language by adults is, for the most part, not possible. "In sum, acquisition of normal language is guaranteed for children up to the age of six, is steadily compromised from then until shortly after puberty, and is rare thereafter" (Pinker, p. 293).

RS makes two problematic claims: that adults can learn second languages in the same way that children do and that the RS software recreates the conditions of first language acquisition. These claims could create an unrealistic expectation among users of RS.

Objectives of the Study
The proposed study will explore the relationship between the prior knowledge of adult language learners derived from language courses and software and the nature of their learner satisfaction with language learning software (such as Rosetta Stone) that attempt to emulate their first language learning experience.

The Problem
Traditionally, adult second language learning includes translation and grammar explication. RS goes to great pains to avoid using translation and grammar explications in their software as their pedagogy is based on the idea that these techniques impede language acquisition. How does prior experience with translation and grammar explications in second language learning affect the

nature of learner satisfaction with RS? I hypothesize that prior knowledge, acquired skill, and overall experience with translation and grammar explications in second language learning will negatively affect learner satisfaction with RS.

Significance of the Study

This study could be significant to several audiences. SLA researchers may find it helpful in understanding how SLA is impacted by learning strategies. Language teachers may find it useful in determining how RS can be used to support their curricula. The general public may find it useful in determining how to structure their language learning.

Conceptual Framework

The proposed study will explore the relationship between the prior knowledge of adult language learners derived from language courses and software and the nature of their learner satisfaction with language learning software (such as Rosetta Stone) that attempt to emulate their first language learning experience.

Research Problem

IV: the prior knowledge of adult second language learners derived from language courses and software

Sub-Variable 1- Quantity of prior knowledge of language learning

Sub -Variable 2- Quality of prior knowledge of language learning

DV: the nature of learner satisfaction with language learning software that attempts to emulate their first language learning experience

Sub-Variable 1- Quantity of learner satisfaction

Sub-Variable 2- Quality of learner satisfaction

Hypotheses

a. The greater the level of prior knowledge of adult second language learners with language courses and software, the lesser the level of learner satisfaction with software that attempts to emulate first language learning.

b. The greater the number of second languages the adult learner has studied, the lesser the level of satisfaction with software that attempts to emulate first language learning.

c. The greater the fluency with second languages of the adult learner, the lesser the level of satisfaction with software that attempts to emulate first language learning.

Conceptual Model

Prior knowledge of language courses & software	leads to →	Less learner satisfaction with software that attempts to emulate first language learning
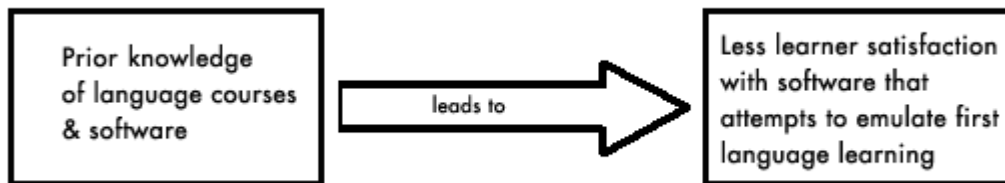
Research Questions

Univariate: What is the nature of prior knowledge of language courses and software among adult second language learners who are using software that attempts to emulate first language learning?

Univariate: What is the nature of learner satisfaction of adult second language learners with software that attempts to emulate first language learning?

Bivariate: What is the relationship between the nature of prior knowledge of language courses and software among adult second language learners and the nature of learner satisfaction of adult second language learners with software that attempts to emulate first language learning?

Rationale

There are a myriad of tools and resources available to the self-directed language learner. Many computer assisted language learning (CALL) tools utilize traditional language learning methods such as translation and grammar explication as well as well-known language learning techniques such as the communicative method. There is, however, a type of software that purports to help learners acquire second languages in the same way that their first language was acquired. Experience tells us that learning a second language as an adult is a fundamentally different phenomenon than what we experienced as we acquired our first language. Second language acquisition research supports this as well.

This study proposes to examine how adult learners' prior language learning knowledge affects their satisfaction with language learning software that tries to emulate first language learning experience. It will also attempt to determine if there is a relationship between learner fluency and number of languages known and their satisfaction with this type of language learning software. Understanding this relationship may help developers create more effective language learning environments, particularly for those learners who have studied languages previously. This study would expand on our understanding of second language acquisition and how previously acquired languages affect learners' language learning efforts.

Review of Literature

Theodore J. Kopcha and Howard Sullivan (2008) examined the effects of learner control and program control in computer-based instruction on achievement of students with differing amounts of prior knowledge and differing levels of preference for control. Participants in the study were 99 sixth- and seventh-grade students (44 male and 53 female) from a middle school in the northeastern United States. Students were regular users of the school's computer lab and had experience using the internet and productivity tools. These students were selected for the study because their prior computer experience and because the content of the instructional program was part of the regular curriculum at the school. A Learner Preference Scale was designed to assess students' preference for control over instruction. Students also completed constructed-response pre- and post-tests. An attitude questionnaire was administered, and learners' time spent on the computer was tracked. Students were also interviewed. One-way analysis of variance was used to analyze the pretest for any existing differences between groups. Pearson Product Moment correlations were calculated to assess the relationship between the pre- and post-test scores. The study found that there was an interaction between preference for control, type of control, and level of prior knowledge which indicated that students with high prior knowledge scored higher on the posttest when they were assigned to the version of the instructional program that matched their preference for control. The general implication of these results is that giving learners control over the amount of instruction they receive may be an effective strategy for those with a high level of prior knowledge or ability, but not for those with a low level.

Lina Lee (2004) looked at learner satisfaction and motivation in studying language with a networked collaborative interaction (NCI) in which native speakers of Spanish collaborated with non-native speakers of Spanish online. The study explored learners' perceptions and concerns regarding online exchanges. Participants were from two U.S. universities - 13 non-native Speakers of Spanish from the University of New Hampshire who were third-year Spanish students and 13 native speakers of Spanish from George Mason University who were enrolled in a course "Integrating Technology into Language Teaching". Learners completed an end-of-semester survey. In addition, interviews were conducted. Online exchanges created during the NCI were also gathered and analyzed. Findings showed that NCI offered a powerful forum for learners to use the target language and to socially interact with native speakers. Non native speakers reported that this unique learning condition exposed them to a wide range of functional and meaningful language discourse. The study also found that learners' language proficiency, computer skills, and age may linguistically and socially affect the quality of online interaction.

Ayse Akyel and Gülcan Erçetin (2009) examined differences in reading processes and strategies of second language learners in the use of hypermedia as compared to printed texts. After a thorough literature review of research on reading strategies and skills for both L1 and L2 students, the authors described their study which aimed to investigate three questions: What strategies used with print text are also used by L2 readers with hypermedia? Do L2 readers use

new strategies in reading hypermedia text? Does level of prior knowledge affect readers' strategy use? The authors tested 10 undergraduate students at a Turkish university using a think-aloud protocol as the main data source to analyze reading strategies. Text recall protocol was used to assess comprehension levels and prior knowledge the subject area was determined through an open-ended test questionnaire. A standardized reading test was also administered to asses reading levels of the students. Finally, structured interviews were conducted to glean additional information about students' strategy use and attitudes towards hypermedia texts. The authors found that most strategies used in reading hypermedia texts were similar to those used in reading printed text with one notable exception: certain strategies used in reading printed text may not be useful in reading hypermedia texts. The authors also found that level of prior knowledge of subject matter can affect reading strategies employed.

Joan R. Whipp and Stephanie Chiarelli (2004) examined how learners adapt their prior experience with self-regulated learning strategies in an online course. The study found that "the unique features of a learning environment may influence whether or not a learner enacts self-regulated learning strategies". In this paper, the authors attempt to answer the question "What does self-regulated learning (SRL) look like in cyberspace? Their study consisted of 8 students in a graduate level course called "Using Technology for Instruction and Assessment". Student and instructor interviews and student journals were primary data sources and course documents served as secondary data sources. The authors used individual case and cross-case analytic techniques to examine their data. They found that students made significant adaptations to their SRL strategies to work in the web-based environment of the course including changes in goal-setting and planning, performance, and self-observation and reflection. This study concluded with a summary of strategies and processes that successful students use to self-regulate in online courses.

Method

Justification for Method
A quantitative survey will be conducted using currently enrolled undergraduate students in BA programs in a large southern university's College of Humanities and Social Sciences. The data to be collected is the nature of the subjects' prior knowledge derived from language courses and software and the nature of their satisfaction with language learning software that attempts to emulate first language learning experience (such as Rosetta Stone). In this case, quantitative data collection and analysis using an original questionnaire is suitable because the subjects are adults capable of making this type of self-reporting evaluation. In addition, this research method is justified because the researcher has access to and familiarity with the target population.

Selection of Setting

The setting for the study is a large southern university's College of Humanities and Social Sciences which has 4700 undergraduate students pursuing BA degrees. The students in this setting are varied in their prior knowledge derived from language courses and software.

Selection of Subjects

Subjects will be selected from a target population of about 4700 students of the College of Humanities and Social Sciences. College requirements for students pursuing a BA degree include proficiency in a foreign language at the intermediate level, demonstrated through completion of foreign language courses at the university or through a placement test. To adequately represent this population, the sample will consist of 355 people. The subjects will be selected by simple random sampling, using a table of random numbers and the e-mail list for the currently enrolled undergraduate students in the College of Humanities and Social Sciences obtained from the university registrar. This sample size provides a confidence interval of +/- 0.05 with a confidence level of 95%.

Instrumentation

The survey will be conducted using a self-administered web-based questionnaire. The questionnaire will be an original instrument, created and administered using the free online survey tool Survey Monkey. The survey questions will be closed-ended, using a Likert- type scale with multiple choice answers.

Field Study

A field study of a small group of students (n=5) from the proposed population was conducted in the spring of 2010. The field study helped confirm the suitability of the setting, test the effectiveness of the questionnaire, and gather ideas for improving it. The method of data collection for the field study was an online self-administered survey using Survey Monkey. Prior to the online survey, an e-mail was sent to 5 purposively selected subjects explaining the purpose of the field study. The survey is the same instrument proposed for use in the actual research with additional open ended questions to gather respondents' feedback on the survey.

Demographic data		
Age	Gender	Place of birth
21-30 – 60% (3) 31-40 - 40% (2)	Female: 40% (2) Male: 60% (3)	USA - 80% (4) Ghana - 20% (1)

First and second language knowledge					
First language	Second language	Age of second language acquisition	Primary method of study/ acquisition	Secondary method of study	Fluency
English - 80% (4) Twi - 20% (1)	German - 20% (1) Spanish - 60% (3) English - 20% (1)	Prior to age 11 - 20% (1) Between ages 11 and 16 - 40% (2) After age 16 - 40% (2)	Classroom instruction - 80% (4) Natural acquisition - 20% (1)	Study abroad/ language immersion - 60% (3) Books - 80% (4) Software - 100% (5)	80% or 4 subjects rated their second language fluency at intermediate or below. Only 20% or one person rated themselves at advanced fluency.

Of the subjects surveyed, 60% has used Rosetta Stone language learning software while 40% had used Tell Me More. Subjects were surveyed on their satisfaction with language learning software and 100% stated being either very satisfied of satisfied with the following aspects: Realistic presentation of language use, Organization of course content, and Access to help. Subjects rated satisfaction with "Opportunities for language use" as 40% satisfied, 40% neutral, 20% dissatisfied. Subjects rated satisfaction with "Interaction with other learners of speakers" as 20% satisfied, 20% neutral, 60% dissatisfied. Overall use of software was rated as 60% satisfied, 20% neutral, 20% dissatisfied.

After rating their satisfaction with language learning software, subjects were asked three open-ended questions. The first question asked subjects to share what they believe is most needed for successful language learning. Most respondents indicated that speaking the language and practicing with other speakers was important. The second question asked subjects to comment on what aspects of language learning software they found most helpful. Respondents stressed the importance of being able to hear the language spoken and that a variety of language learning activities and opportunities for practice was essential. The final open-ended question invited subjects to comment on their language learning experience in general. Only two subjects responded, and both indicated that speaking with other learners or native speakers was very important.

Operationalization of Variables
The survey instrument will include sections to test each of the study variables. After the initial demographic questions, the main group of survey questions will be divided into two groups. The first half of the questions will focus on the independent variable of subjects' prior knowledge

derived from language courses and software. The second half of the questions will measure the dependent variable, that is, the nature and degree of the subjects' satisfaction with language learning software that attempts to emulate first language learning (such as Rosetta Stone).

Data Collection Procedures

The data collection procedure will use a thorough model of repeated requests over time to obtain data using the survey instrument. This model starts out with a first request, followed by periodic reminders to subjects, to improve the chance of a good response rate. In total, four e-mails will be sent to the survey subjects: the first e-mail will go out on the first day of the study, the second will be sent one week later, and the third will be sent two weeks later. The final e-mail will be sent one month later. All the e-mails will contain the link to the survey, along with the disclaimer and an explanation of the survey. The final e-mail will also ask subjects not willing to complete the survey to respond via e-mail with feedback on their reasons.

Protection of Human Subjects' Rights

To protect the rights of the study subjects, the researcher will submit a proposal to the university Institutional Review Board (IRB) for approval and guidelines for data collection and privacy of the subjects. The researcher will be the only person with access to the data collected from the survey. In the e-mail communications from the researcher, the study subjects will be informed that both their identities and survey responses will be kept confidential. Finally, all the individual contact information of the subjects will be destroyed, once the survey and analysis has been completed.

Data Processing

Data processing will be conducted in two steps. Initially, the data obtained in the web-based survey will be exported into Microsoft Excel for appropriate coding. All data will be checked and rechecked when transferred from the questionnaires to the spreadsheet. In the second step, the spreadsheet data will be exported into the Statistical Package for the Social Sciences (SPSS) software, which will be used to perform statistical analyses of the data.

Data Analysis

The research questions and hypotheses will be examined using several different types of tests, including frequencies, percentages, mean scores, and standard deviations. To examine the degree of correlation between the independent variable of prior knowledge derived from language courses and software and the dependent variable of satisfaction with language learning software that attempts to emulate first language learning, Pearson r correlations will be applied to the data. The results will be summarized and presented in the findings section of the research report.

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