FACTORS AFFECTING ENGLISH LEARNING OUTCOMES - APPLYING STRUCTURAL EQUATION MODELING (SEM)

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Abstract

This study aims to present an overview of researches on factors affecting the results of students learning foreign languages, especially English, from previous studies. The results of retrospective analysis of documents and studies have shown the gaps of research methods in analyzing the factors affecting English learning outcomes of students and recommended the use of structural equation modeling methods (SEM) to predict students' English learning outcomes based on both subjective and objective factors.

Introduction:

English plays an important role in the process of globalization and internationalization (Pham Cuong, 2016), and is a major foreign language taught in the education system in Vietnam, especially at the university level and is a graduating requirement for students. However, many studies have shown that the current situation of teaching and learning English in Vietnam is ineffective, leading to the inability of graduates to use English at work. There are different explanations for English learning outcomes, including both subjective and objective factors such as the effects of learning motivation, anxiety, teaching methods, learning methods or facilities. Understanding the factors that affect students' English learning results is essential for higher education institutions to enact appropriate policies which help improve students' English learning results.

Materials and Methods:

Overview of factors affecting English learning outcomes

Attitude

The learning attitude has recently attracted attention from first and second language researchers. Most researches on this issue have reached a conclusion in which students’ attitude is an integral part of the learning process; therefore, it is supposed to be an essential component of the pedagogical method on foreign language acquisition.

Many studies have been carried out to seek for the nature of students' attitude towards language learning in general and English as a second language in particular. For example, a research was conducted by Abidin et al. (2012) with 180 high school students in three majors: Basic Science, Life Science and Social Science, to investigate their attitude towards English language learning in terms of behaviors, cognitive and emotional aspects. The findings revealed their negative attitude towards the language acquisition, and there were significant statistical differences when it came to gender and majors but not school year.

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Alkaff (2013) implemented a research with science and art students to determine students' attitude towards English learning. The research has shown that most students have a positive attitude, and they strive to improve their English although there are few chances of practice. Omar (2013) investigated whether students' attitude was influenced by the nationality of teachers or not. The results have shown that the majority of students have a positive attitude towards learning English, and that the teacher's nationality does not impact on the positive orientation towards their English language. Ahmed (2015) conducted a study with amateur English learners in Malaysia to explore their attitudes towards English learning and what may have hindered their learning. The outcomes have shown that their attitudes towards learning and using English are extremely positive.

Regarding to studies conducted in Thailand, Chaihiranwattana and Sirikun (2011) conducted a survey to determine the attitude towards English learning of 388 university students who did not specialize in English from the University of Siam. The results have shown that most of the students have a positive attitude while Thadphoothoon (2001) has found that undergraduates from Dhurakij Pundit University have a neutral attitude towards learning English. In the research conducted by Nuchnoi (2008), the findings have indicated that graduates from Rangsit University are highly motivated and find learning English enjoyable, necessary and beneficial. However, this should not come as a surprise as these Rangsit University graduates are majoring in English. Although some researchers investigated whether Thai students had a positive attitude towards learning English or not, one of the areas that is still under-explored is whether Thai students who are in the field of science and technology also share a positive attitude towards English. Additionally, previous studies did not target the use of English outside the educational contexts. Therefore, the present study aims to fill this gap and also to discover if there are significant differences in proficiency between students from six different faculties and if there is a correlation between users and the use of English in five different contexts.

Al-Bustan and Al-Bustan (2009) investigated the attitudes and interests of non-English-major ESL students towards learning English at Kuwait University. The results of the study implied that the majority of students recognized the importance of learning English, and most of the participants agreed that they had difficulty in the four skills (reading, writing, speaking and listening). Students' preferable learning methods include discussion, multimedia tasking, and computer-based tasking.

Motivation
It is undeniable that motivation plays an important role in learning a foreign language. There are many studies which have shown that motivation is one of the predominant factors determining the success of language learning (Bradford, 2007; Dörnyei, 1998; Engin, 2009). Motivation is an essential part of learning. (Brewer & Burgess, 2005). Particularly in language learning, the learner must wish to achieve or do something to achieve it. Cook (2000) said that language learning process saw a progress when students are motivated in a language learning context. Whereas, Ellis’s observation (1994) indicated that there was a proportion of students learning with inner motivation and that it triggered the learning process. He also mentioned that language instructors acknowledged the importance of learners’ driving force, but did not explain their own sense of failure about their students’ disincentive.

According to Ditual (2012), learners are highly motivated with a positive attitude towards learning English. There are internal and external motivation. Moskovsy and Alrabai (2009) argued that internal motivation plays a more important role than external motivation in learning English. Other findings of this study indicated that inner motivation is more consistent with learning English.

Teacher - student relationship
Students who have a constructive relationship with teachers will be inspired to study. Students are more engaged in the learning process when they have a supportive relationship with teachers; they tend to work harder in the classroom, be more consistent, accept criticism, better cope with stress and pay more attention to the instructor (Little and Kobak, 2003). Furthermore, according to Hughes et. al. (2006), the typical level of support form teachers can also be considered one of the aspects of the classroom environment. The classroom environment has a strong impact on students.

Consequently, the significant effect of the change in the student-teacher relationship on students’ academic achievements deserves more attention - given the quality and dynamic nature of these relationships. Mental support and academic guidance from instructors were critical to improve students’ academic success (Pianta, La Paro, Payne, Cox & Bradley, 2002) and also to assist extroverted learners (Silver et al., 2005). Therefore, interventions
to enhance students’ academic accomplishments should focus on the student's relationship with their teachers (O’Connor & McCartney, 2007).

**Anxiety**
The effects of anxiety on reading comprehension in foreign languages such as Spanish, Japanese, Russian, French, English (Sellers, 2000; Saito et al, 1999; Oh, 1990) have indicated that the fear of learning a foreign language affects the reading comprehension performance of students at intermediate and advanced levels.

MacIntyre (1995) showed that anxiety about learning a foreign language has a negative relationship to one's self-awareness of abilities, which leads to a decrease in learning performance. Academic success in a foreign language class requires learners to be fluent in that language. In fact, not all language learners are good at foreign languages. As a result, low ranking can lead to anxiety among incompetent learners, who are skeptical about their performance in the language class.

Concern about learning a foreign language has also been found to affect academic accomplishment in foreign language classes. Aida (1994) studied the relationship between language anxiety and the academic performance of 96 second year American students who used Japanese as a second language. The results revealed a moderately significant inverse correlation, suggesting that the higher the students' anxiety level, the lower their scores. An equally interesting result obtained from this study was that the mandatory group, consisting of students taking Japanese classes to meet university language requirements, showed higher levels of anxiety compared to those with pleasure.

**Testing and assessment**
Evaluation is an integral part of a teaching and learning system. It is therefore not surprising that researches have shown that assessment has the greatest impact on both learning effort and learning quality. Feedback on student performance (how students’ performance are related to learning objectives) is necessary to help them keep on track and adapt to course requirements (Nicol & Macfarlane-Dick, 2006, p. 205). First year students must have a clear understanding of the academic requirements. That perception can be built up through on-going assessments. Formative assessments can help reflect the objectives and provide feedback to students, so they know how to proceed to meet the requirements (Nicol, 2009). Indeed, studies have shown that feedback improves learning, and the achievement is among the greatest educational reported ones. Correspondingly, the use of classroom assessment provides teachers with data on teaching effectiveness and students’ comprehension. Assessment from teachers does affect learning results, especially in foreign language teaching.

**School climate**
Karemera (2003) found that students’ learning outcomes were significantly correlated with the satisfaction with the learning environment and facilities, including libraries, computer labs, etc. in schools. For the primary variables, he found a positive effect of high school performance and university performance, but no statistical evidence of a significant correlation between family income levels and academic outcomes. Robert and Sampson (2011) recognized that educating board members would have positive impact on schools, as long as students do their job. That students actively participate in the learning process are found to be positively correlated with learning outcomes. Student learning efforts and proper use of school-provided facilities will lead to a good fit between a student's learning style and a progressive student's performance (Ali et al., 2009). Saenz et al. (1999), held the view that students’ performance is related to library use and the educational background of their parents. Library use positively affects student learning outcomes. The education background of the father obviously has a relationship with the academic environment for a student (Kirimani & Siddiquah, 2008).

**Communication**
Hijazi and Naqvi (2006) realized that the most important factor that positively influences a student’s achievement is their English proficiency. If students have strong communication skills and strong English skills, they will increase their learning efficiency. Students’ learning outcomes are affected by communication skills; communication can be considered a variable that can be positively related to student performance in open learning. One major difference of this study compared to previous ones is that it focuses on open learning (Abdullah, 2011).
Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) is a second generation statistical analysis technique developed to analyze multidimensional relationships between multiple variables in a model (Haenlein & Kaplan, 2004). Multiple relationships between variables can be represented in a series of single and multiple regression equations. Linear structural modeling technique uses a combination of quantitative data and correlation (cause and effect) assumptions into the model. With SEM, researchers can visually examine the relationships that exist between the variables of interest to prioritize resources to better serve customers. The fact that potentially difficult to measure variables can be used in SEM makes it ideal for solving business research problems. SEM is a powerful statistical technique to meet the following requirements:

1. Analyze numerous multiple regression models simultaneously;
2. Analyze regression with multi-collinearity problem;
3. Analyze the path of analysis with many dependent variables;

According to Bollen (2011), there are 3 types of measurement models:

1. Effect Indicator (Reflective Measurement)
2. Composite Indicator (Formative Measurement)
3. Causal Indicator (Causal Measurement)

The SEM model has been widely used in research areas such as psychology (Anderson & Gerbing, 1988; Hansell and White, 1991), sociology (Lavee, 1988; Lorence and Mortimer, 1985), child development (Anderson, 1987; Biddle and Marlin, 1987) and management (Tharenou, Latimer and Conroy, 1994). In the field of education, many researchers also exploit this model to analyze the factors that affect learners' learning outcomes.

As a consequence, when studying the model of factors affecting academic achievement in general and factors affecting English learning outcomes in particular, it is necessary to use structural equation modeling to realize the effectiveness and predict students' learning outcomes.

Recommended research method:

Based on previous studies on factors influencing students' English learning performance, we find that the studies that preceded mostly use qualitative research methods through interviews. Some studies used quantitative research methods through descriptive statistical analysis and ANOVA testing. However, we have not seen structural equation modelling (SEM) analysis used to predict the factors that affect students' English learning outcomes. Therefore, we recommend this model to predict the factors that affect English language learning outcomes and uncover direct and indirect relationships. The proposed model is as follows:
Conclusion:
From the studies reviewed above, we notice that there are many factors that affect students' English learning performance at university level. These factors may be internal but also external ones. However, in order to understand these linear relationships, we not only use unilateral descriptive statistics to account for learning results, but we also need to have inference statistics using linear multivariable regression. Many previous studies have indicated this relationship but only use qualitative research and some descriptive statistics. Therefore, from the research reviews, we propose an analytical model of factors affecting English learning outcomes using structural equation model (SEM), which is suitable for predicting how the factors affect English language learning outcomes.

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