Exploring the Relationship between the ESL Learners' Preferred Classroom Environment and Language Learning Strategies

by

Yanyan Gao

A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
August 4, 2018

Keywords: individualized classroom environment, language learning strategies, instructional methods

Approved by

Maria Witte, Chair, Professor of Educational Foundations, Leadership and Technology
James Witte, Professor of Educational Foundations, Leadership and Technology
Leslie Cordie, Assistant Professor of Educational Foundations, Leadership and Technology
David Shannon, Humana-Germany-Sherman Distinguished Professor
Educational Research and Evaluation

Abstract

This study examined the preferred individualized classroom environment and language learning strategies of the college-level ESL learners who registered in an English as a Second Language (ESL) program in a public four-year university in the southeast of the United States. Based on Fraser (1985)'s Individualized Classroom Environment's theoretical framework and Oxford (1990) Strategy Inventory of Language Learning's framework, this study examined the difference of individualized classroom environment and language learning strategies of the ESL learners by gender and explored the relationship of these two sets of variables among the ESL learners.

A quantitative research design was used in this research. One-way Multivariate Analysis of Variance (MANOVA) was used to address the first two research questions. A series of regression were used to address the third research question. The Individualized Classroom Environment Questionnaire (ICEQ) (preferred short version) (Fraser, 1985) and Strategy Inventory of Language Learning (SILL) (Version 7.0) (Oxford, 1990) were used in this study. Participants were ESL students enrolled in the ESL programs at a public four-year university in the southeast of the U.S. during the Spring semester, 2018. Survey data was analyzed through one-way MANOVA and multiple regression analyses.

Results showed that the female college-level ESL learners tend to use more Memory strategy significantly than the male college-level ESL learners. The results also illustrated that the influence of individualized classroom environment to college-level ESL learners' choice of language learning strategies. To summarize, Independence and Investigation of individualized

classroom environment were significant predictors to Metacognitive language learning strategy. Participation, Independence and Investigation of individualized classroom environment were significant predictors to Compensation language learning strategy. Personalization, Independence, Investigation and Differentiation of individualized classroom were significant predictors to Memory language learning strategy. Participation, Independence, Investigation and Differentiation of the individualized classroom environment were significant predictors to Cognitive language learning strategy. Personalization, Independence and Investigation of the individualized classroom environment were significant predictors to Affective and Social language learning strategy.

This study suggested that teachers provide certain aspects of individualized classroom environment for ESL learners through strategy instruction or encourage them to develop certain language learning strategies. ESL educators are encouraged to choose appropriate teaching methods and learning strategies suitable for the ESL learners to better understand and use appropriate learning strategies. ESL administrators are encouraged to provide classroom guidelines to the teachers and instructors, in order to help the ESL learners to employ proper language learning strategies and improve their English proficiency.

Acknowledgements

I would like to express my sincere appreciation to all the people who have provided me the possibility to finish the research of this dissertation. First of all, I would like to express my deepest gratitude to my committee members for supporting and advising me during proposing and implementing this study. First and foremost, I would like to express the gratitude to my chair Dr. Maria Witte for her guidance, advice, revisions, understanding and patience, from the very beginning to the end. Without her support I could not have completed this dissertation. Secondly, I would like to express three committee members, Dr. Maria Witte, Dr. James Witte and Dr. Leslie Cordie, in Adult Education program, who taught me and inspired me to do this research. Finally, I thank Dr. Shannon, for his teaching and suggestions on the data analysis and data interpretation.

Additionally, I would like to express my gratitude to Dr. Jamie Harrison as the outside reader, not only for her review and suggestions for this study, but also being a great advisor on English teaching.

I also thank Dr. Lin, for her review and suggestions for the dissertation. I thank the director of Intensive English Program, Robert Weigel, the coordinator of the ESL program, Felix Jelen, and the associate director of ESL program at Auburn Montgomery, Toby J. Killcreas, for her support and help with data collection of this study. I also thank all the students of the ESL program at Auburn and Auburn Montgomery, for their willingness to participate in the study.

Finally, I would like to thank my family. My husband and my children have always given me courage and support to further my study in the field of education.

Table of Contents

List of Tables

List of Abbreviations

ASC   Academic Self-concept

CES   Classroom Environment Scale

CoP   Community of Practice

EFL   English as a Foreign Language

ESL   English as a Second Language

ICEQ   Individualized Classroom Environment Questionnaire

LEI   Learning Environment Inventory

LLS   Language Learning Strategies

MANOVA   Multivariate Analysis of Variance

MCI   My Classroom Inventory

MMD   Mixed Mode Delivery

SILL   Strategy Inventory of Language Learning

SLA   Second Language Acquisition

CHAPTER I: INTRODUCTION

Overview

More and more international students are choosing to go to the American universities or colleges to further their study, which is creating a demographic shift on campus and in the classroom. According to Open Doors report (2014), The United States recorded its eighth consecutive year of international enrolment growth last year, expanding 8% in 2013/14 to reach a record high of 886,052 students. In Open Doors report (2015), the number of international students at U.S. colleges and universities had the highest rate of growth in 35 years, increasing by ten percent to a record of 974,926 students in the 2014/15 academic year. The United States hosts more of the world's 4.5 million global college and university students than any other country in the world. In 2014/15, there were 88,874 more international students enrolled in U.S. universities and colleges compared to the previous year. India, China, and Brazil have the highest numbers of international students on U.S. campuses. There have been substantial increases in the number of students from Brazil, Kuwait, and Saudi Arabia in recent years.

International graduate students are coming in ever-growing numbers to English-speaking countries. English as a Second Language (ESL) programs have become more and more important to international students. It is long believed that the successful English-learning experience of these students in their home countries will naturally lead to success in their academic studies and social life abroad (Liu, 2012). However, this may not always be the case. The role of target-language improvement in adaptation to new environments is important for international students. Another important part for international students is their academic study, and the classroom environment

needs a transition from their native country to the new environment. A large group of international students need to learn English in a new classroom environment.

Many ESL teachers and instructors find that even well-prepared lectures or training often fail to engage all students when the composition of the class is multicultural, even the traditional methods of instruction. With students from different backgrounds and with the different preferred classroom environments, they may also prefer different strategies for learning. This study suggests the preferred individualized classroom environment and learning strategies for ESL learners may be rooted in their own learning experience. The ESL learners, or the non-native English learners, in fact, may be culturally predisposed to learn in ways that may not (always) be compatible with the 'local' and 'common' methods of instruction, the latter being themselves subject to cultural conditioning. The individualized classroom environment could lead to different language learning strategies for ESL learners. With that knowledge, the ESL educators could understand further how their work in the classroom environment could affect their students' choice of language learning strategies.

There have been many studies about the classroom environment and teaching and instructional strategies, from which the teachers could use the results to improve classroom practices. However, little attention has been paid to the exploration of the influence of the classroom environment on the students' language learning strategies choices, and how teachers and instructors can use this information to diversify the way they teach in the classroom to engage all students with multiple preferences and hence to provide a truly practical approach to classroom instruction.

Statement of the Problem

There is a lack of research identifying the influence of the ESL learners' preferred individualized classroom environment and their language learning strategies. International students account for a substantial part of the American university student population. According to a report titled *The Geography of Foreign Students in U.S. Higher Education: Origins and Destination*s by Neil G. Ruiz (2014), the number of international students on F-1 visas in U.S. colleges and universities grew dramatically from 110,000 in 2001 to 524,000 in 2012. Besides F-1, some J-1 visa holders are also graduate students. The number has increased drastically in the past ten years. In the group of international students, a large proportion of them need to learn English before they can be part of the classroom in the colleges and universities. learning English may also increase their functional abilities of living in America and also help them learn more about American culture. Meanwhile, effective ESL learning could help the ESL learners achieve the most important goal for their studying in America, which is to learn and to study, and finally, obtain the degree they pursue.

Universities and colleges usually hold many on-campus activities for international students. International students play a major role in many campus activities. The ESL program provides international students opportunities to improve their English and thus their ability to live and study in America. Previous studies were conducted on social engagement and development for international students rather than academic development. Researchers in the field of second language acquisition (SLA) contended that previous studies were not able to offer effective solutions to improve language learners' motivation, autonomy, and performance because they did not address student's individual learning needs in the classroom (Crookes & Schmidt, 1991; Dörnyei, 1994). Furthermore, prior studies were mainly conducted on elementary

and secondary ESL learners rather than the college-level ESL learners. This study thus intends to bridge the gap in the field of ESL learning.

Purpose of the Study

This study is a quantitative study designed to focus on ESL learners who enrolled in Shorelight Education Program at a public four-year university in the southeast of the United States in the 2017-2018 school year. This study explored the ESL learners' preferred individualized classroom environment and language learning strategies by conducting individual student surveys in their ESL classrooms. The results were generated from a modified version of the Individualized Classroom Environment Questionnaire (preferred short form), the Strategy Inventory of Language Learning (Version 7.0) and a short demographic questionnaire.

The primary purpose of this study was to identify the preferred individualized classroom environment and language learning strategies of the college-level ESL learners at a public four-year university in the southeast of the United States in relation to gender. In addition, there was an examination on the relationship between the individualized classroom and language learning strategies for the ESL learners. Since there are more international students and more ESL learners on campus, there is more diversities in the classroom and may be easily noticed by both the instructor and the students easily. Finally, there was a follow-up discussion on the instructional methods in the classroom.

The participants were all non-native English speakers, who were being prepared to be admitted to the university for academic study.

Research Questions

The following research questions were used to guide this study:

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners?

2. What are the differences in language learning strategies between male and female college-level ESL learners?

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies?

Significance of the Study

Based on current data of international students reported by the Department of Education and the Census Bureau (2017), there is a need to have a deeper understanding of learning styles differences for international students. Especially for ESL students, as they want to pursue study in America and need more English language education. There is also a need to pursue and develop more diversified instructional methods in the classroom environment for the ESL educators because of the diversified population on campuses. As a result, school system administrators can utilize the findings of this study to develop more activities in creating a favorable classroom environment for ESL students, and teachers can strengthen their skills to teach and accommodate a diversified class. They can also use the results of this study to address the educational and instructional needs of international students in future classes. Teachers in universities and colleges could be able to use the information to accommodate their multicultural students and their individual learning needs.

This study contains information which might be utilized by the ESL educators and administrators who are involved in working or teaching a diversified class in an ESL program. The answers to the research questions could assist the teachers in understanding more about the ESL learners' classroom learning needs and incorporating appropriate classroom instruction methods and classroom environments. Finally, ESL learners could enjoy their English study in America and thus succeed in their academics. With effective English learning, international students could be involved on campus academically and their American life socially. As a result, the school system administrators and ESL educators can use the results from for this study as a tool to implement programs for the classroom environment development of the ESL learners, and which could provide the favorable learning environment to develop useful language learning strategies for ESL learners.

Limitations

There were three potential limitations to the study. The first limitation was generalizability. The participants in the research are all the ESL students at a public four-year university in the southeast of the United States. This study attempted to gain a deeper understanding of the ESL learners' preferred individualized classroom environment and language learning strategies. Each of the student participant volunteered to participated in the study and had the opportunity to share their experiences of studying in the ESL program. However, the American native students did not participate in the study, which limited the generalizability the study. There was a need to explore this population's instructional methods preferences and learning needs. The other limitation of this study was that participants were selected using convenience sampling. Johnson and Christensen (2014) defined convenience sampling as "people who are available, volunteer, or can be easily recruited in the sample"

(p.263). However, the potential dependability issue was addressed by using a case study design so that the focus was on only on one university. The third limitation was that the participants of the survey would provide the researcher their common language learning strategies and preferred ESL classroom environment, and these are not limited to one specific class. When applied to another class, their answer could be different.

Definitions

Below are some terms which are used throughout the study:

Andragogy — the art and science of helping adults learn; engaging the adult learner with the structure of a learning experience.

Classroom Environment — Classroom Environment, also called classroom climate, is defined as the intellectual, social, emotional, and physical environments in which our students learn.

Diversity — Diversity means individual differences, the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies.

English as a Foreign Language (EFL) — the teaching of English to people who speak a different language and who live in a country where English is a foreign language spoken.

English as a Second Language (ESL) — the teaching of English to people who speak a different language and who live in a country where English is the main language spoken.

Ethnicity — Ethnicity is the ethnic traits, background, allegiance, or association with a group such as African American or Caucasian.

F-1 visa — The F-1 Visa (Academic Student) allows individuals to enter the United States as a full-time student at an accredited college, university, seminary, conservatory, academic high school, elementary school, or other academic institution or in a language training program.

Instructional Methods — Instructional methods are ways that information is presented to students.

International students — International students are those students who do not hold citizenship or permanent residency status in the United States. In 2006, the OECD (Organization for Economic Cooperation and Development) and UIS (UNESCO Institute for Statistics) convention was to use the term "international student" when referring to students crossing borders for the specific purpose of the study.

J-1 visa — The Exchange Visitor (J) non-immigrant visa category is for individuals approved to participate in work-and study-based exchange visitor programs. Participants are integral to the success of the program.

Language Learning Strategies — Language learning strategies are tools for active, self-directed involvement, which is essential for developing communicative competence. Appropriate language learning strategies result in improved proficiency and greater self-confidence.

Learning Strategies — Learning strategies are steps taken by the students to enhance their own learning.

L2 — A person's second language or L2, is a language that is not the native language of the speaker, but that is used in the locale of that person.

Pedagogy — the study of being a teacher or the process of teaching that is concerned with helping children learn.

Organization of the Study

This study is organized into five different chapters. Chapter 1 provides an introduction to the study, presenting the problem, purpose, research questions, significance, and definition of terms. Chapter 2 includes a review of related literature, which relates to the classroom environment and language learning strategies for the ESL students. Chapter 3 reports the procedures utilized in this study including the population and sample, instrumentation, and data collection and analysis. Chapter 4 presents the findings of the study, which includes organization of data analysis, demographic results, and data analysis. Finally, Chapter 5 includes a summary of the study, conclusions, implications, and recommendations for further practice and research.

CHAPTER II LITERATURE REVIEW

Introduction

The review of the literature provides a framework for the present study by discussing the theories in classroom environment, and language learning strategies in ESL learning in America. The theories on classroom environment will first be discussed, followed by the introduction of long form and short form of Individualized classroom Environment (ICEQ). Other educational environment theories were introduced at different educational levels, including elementary, secondary and postsecondary levels. Next, language learning theories are discussed, with the introduction of Strategy Inventory of Language Learning (SILL) and other studies on language learning strategies. Past research on language strategies are discussed later, including research related to ESL learners and teachers and research related to EFL learners in another country. Then, the relationships between the classroom environment and language learning strategies are reviewed. Previous studies on classroom and language learning strategies was the firstly discussed, followed by previous studies also focused on the STEM classes. Finally, previous studies on the classroom environment and learning strategies were discussed.

Purpose of the Study

This study is a quantitative study designed to focus on ESL learners who enrolled in Shorelight Education Program at a public four-year university in the southeast of the United States in the 2017-2018 school year. This study explored the ESL learners' preferred individualized classroom environment and language learning strategies by conducting individual

student surveys in their ESL classrooms. The results were generated from a modified version of the Individualized Classroom Environment Questionnaire (preferred short form), the Strategy Inventory of Language Learning (Version 7.0) and a short demographic questionnaire.

The primary purpose of this study was to identify the preferred individualized classroom environment and language learning strategies of the college-level ESL learners at a public four-year university in the southeast of the United States in relation to gender. In addition, there was an examination on the relationship between the individualized classroom and language learning strategies for the ESL learners. Since there are more international students and more ESL learners on campus, there is more diversities in the classroom and may be easily noticed by both the instructor and the students easily. Finally, there was a follow-up discussion on the instructional methods in the classroom. The participants were all non-native English speakers, who were being prepared to be admitted to the university for academic study.

Research Questions

The following research questions were used to guide this study:

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners?

2. What are the differences in language learning strategies between male and female college-level ESL learners?

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies?

Classroom Environment Theories

It is more relevant to observe the classroom learning environment through the teachers and the students' perceptions, as opposed to using the external observers and analyses (Brophy & Good, 1984). Defining the classroom environment in terms of the shared perceptions of the teachers and students has advantages as it can provide a deeper understanding of the classroom environment. The teachers and students are the direct participants of the classroom environment rather than the observers who may neglect or consider unimportant in the classroom. (Fraser, 1989)

The studies on the educational environment over the previous 40 years builds upon the earlier ideas of Kurt Lewin and Henry Murray and their followers. Lewin's (1936) study focused on the interaction with personal characteristics, and found that the educational environment is the major determinant of human behavior. Murray (1938) followed Lewin's idea and developed a needs- press model for the interaction between the educational environment and personal characteristics. The need is personal needs, which refers to motivational personality to learn or to achieve certain goals. The press is environment press which provides an external situational counterpart. Needs-press theory was further elucidated by George stern (1970).

In America, over 40 years ago, Herbert Walberg and Rudolf Moos began seminal independent programs of research which attracted many followers all over the world. Walberg developed the widely-used Learning Environment Inventory (LEI) as part of their research in the Harvard Project Physics(Walberg & Anderson, 1968). Moos collaborated with Edison Trickett, and developed the Classroom Environment Scale (CES) (Moos & Trickett, 1974; Trickett & Moos, 1973).

In Australia, Barry Fraser and his colleagues began their research which first focused on

the student-centered classrooms and involved the use of the Individualized Classroom

Environment Questionnaire (ICEQ) (Fraser, 1990; Fraser & Butts, 1982).   The ICEQ focused

on the teacher-centered classrooms. Fraser, subsequently, developed more classroom

environment measurements for specific purposes, such as Science Laboratory Environment

Inventory (SLEI), Constructivist Learning Environment Survey (CLES), and What Is Happening

In this Class? (WIHIC).

Literature reviews trace the considerable progress in the conceptualization, assessment,

and investigation of the subtle but important concept of the learning environment over the

previous quarter of a century (Fraser 1998a, 2002, 2007). Previous studies have investigated the

association between the students' cognitive and affective learning outcomes and their

perceptions of psychosocial characteristics of their classroom environments (McRobbie &

Fraser, 1993). A positive classroom environment could be related to good learning outcomes.

Good and Brophy (2000) reviewed research on many of instructional and organizational

variables in the classroom that were determinants of students' outcomes. Fraser (1998) also

claims that "students are at a good vantage point to make judgments about classrooms because

they have encountered many different learning environments and have enough time in a class to

form accurate impressions. Also, even if teachers are inconsistent in their day-to-day behavior,

they usually project a consistent image of the long-standing attributes of the classroom

environment." (p.528) There are a number of studies which have investigated how different

classroom environments influence student outcomes. In addition to the established influence of

classroom-level environment on student outcomes, school-level environment variables also have

been consistent predictors of a variety of students' cognitive and affective outcomes (Freiberg,

1999). Baron and Byrne (1977) described attitudes as individually-attributed beliefs, emotions,

and behavioral tendencies that someone has towards specific abstract or concrete objects. Results of studies conducted over the past 40 years have provided convincing evidence that the quality of the classroom environment in schools is a significant determinant of student learning (Fraser, 2007, 2012). Students learn better when their perceived classroom environment is more positive (Dorman & Fraser, 2009).

Attitudes are major determinants of behavior (Tavsancil, 2006). Kretch and Crutchfield (1980) explained that understanding attitudes allow knowledge of several related behaviors. Emotions, which are expressed through attitudes, affect what is being learned and have a significant impact on learning (Caine & Caine, 1994). Fraser, Aldridge, and Adolphe (2010) conducted a cross-national study of classroom environment in Australia and Indonesia. The two-way MANOVA revealed some differences between countries and between sexes in students' perceptions of their classroom environments. Simple correlation and multiple regression analyses generally revealed positive associations between the classroom environment and student attitudes to science in both countries. Chionh and Fraser's (2009) study revealed that better examination scores were found in classrooms with more student cohesiveness, whereas self-esteem and attitudes were more favorable in classrooms with more teacher support, task orientation and equity. Differences between the classroom environments of geography and mathematics classes were small relative to the large differences between students' actual and preferred classroom environments. Velayutham, Aldridge, and Fraser (2012) found out that the multigroup analysis to examine gender differences revealed that the influence of task value on self-regulation was statistically significant for boys only. The findings from Koh, and Fraser's (2014) study supported the positive impact of using mixed mode delivery (MMD) in terms of students' perceptions of their classroom environments for all Constructivist Learning

14

Environment Survey (CLES) scales. Adamski, Fraser, and Peiro (2013) discovered that when the unique and common variances in student outcomes explained by the classroom environment and the home environment were examined, the home environment was more influential than the classroom environment in terms of students' attitudes, but the classroom environment was more influential than the home environment in terms of achievement. Aldridge, Ala'i, and Fraser (2016) found out that the same students also responded to a survey developed to assess ethnic and moral identity. Analysis of the data indicated strong, positive associations between the school climate and students' ethnic and moral identity. Another study about school climate also revealed that all six school climate factors were related to student well-being. These relations were primarily indirect (with the exception of teacher support, school connectedness and affirming diversity which had a direct influence), mediated through the students' sense of ethnic and moral identity, resilience and life satisfaction (Aldridge et al., 2016).

ICEQ and short form of ICEQ

The Individualized Classroom Environment (ICEQ) assesses those dimensions which distinguish individualized classroom from conventional ones.The initial development of the ICEQ by Rentoul and Fraser (1979) was guided by the literature on individualized open and inquiry-based education; extensive interviewing of teachers and secondary schools students; and reactions to draft versions sought from selected experts, teachers, and junior high-school students. The final version of the ICEQ (Fraser, 1990; Fraser & Butts, 1982) contains 50 items, with an equal number of items belonging to each of the five scales. Each item is responded to on a five-point frequency scale with the options of Almost Never, Seldom, Sometimes, Often and Very Often. The scoring direction is reversed for many of the items. The five scales are Personalisation, Participation, Task Orientation, Innovation and Individualisation, which are

classified by Moos's scheme.

Although the long form of ICEQ has been used successfully for a variety of purposes, some researchers and teachers have reported that they would like to take less time to administer and score the measurement. Consequently, short forms of CES, ICEQ, and MCI were developed by Barry Fraser (1982) and Barry Fraser and Darrell Fisher (1983a) to satisfy three criteria. First, the total number of items was reduced to approximately 25 items to provide greater economy of testing and scoring time. Second, the short forms were designed to be amenable to easy hand scoring. Third, short forms are likely to have adequate reliability for the many applications which involve averaging the perceptions of students within a class to obtain class means.

Educational Environment

Based on the different levels in the educational system, there was previous research which was related to elementary education, secondary education, postsecondary education in different countries. In elementary education, researchers paid attention to the development of the elementary students and teachers. Some researchers were investigating more measurements while some were beginning to explore more development of teachers and the benefits to the students. Thomas and Mee (2005) used the General Studies Metacognitive Orientation Scale (GSMOS) that evaluated elements of the metacognitive orientation of the classrooms' learning environments, with which the results suggested no statistical differences between the pre- and post-intervention environments of the classrooms and student interviews, classroom observations provided supportive data for some changes. Spelman, Bell, Thomas and Briody (2016) conducted a 2-year study that examined the impact of mathematics-focused professional development and instructional coaching support on classroom quality in five inner-city Catholic elementary schools. The results demonstrated that the domain of classroom organization

demonstrated a significant improvement in instructional support as well as positive gains. The domain of emotional support did not demonstrate significant improvement when comparing pre and post data results. Peoples, O'Dwyer, Wang, Brown and Rosca (2014) describes the development, validation, and application of a Raschbased instrument, the Elementary School Science Classroom Environment Scale (ESSCES), which is a specific measurement for students' perceptions of constructivist practices within the elementary science classroom. The instrument, designed to complement the Reformed Teaching Observation Protocol (RTOP), was conceptualized using the RTOP's three construct domains: lesson design and implementation; content; and classroom culture. Faulk and Evanshen (2013) talked about linking the classroom environment to learning for elementary students. They conducted teaching research in large groups, small groups, and individually, and proposed that proper classroom arrangement can encourage focused learning experience and support collaboration and exploration. Kiper and Tercan (2012) conducted a program for primary school teachers in Sakarya, who received in-service training on the subject of information technologies on their levels of use of information technologies in classes. They compared two groups of teachers, one receiving the training while the other not. The results showed that those teachers who have received in-service training on information technologies used information technologies in their classes on a higher level than those who did not.

For secondary and post-secondary education, researchers have explored more into the influence of classroom environment on the students. Lai, Chou, Miao, Wu, Lee and Jwo (2015) conducted a comparison research for the actual and preferred classroom environment perceived

17

by the middle school students. The comparison results identified that there was a gap between the ideal and actual classroom environments. Based these results, they suggested that government, schools, and health education teachers improve classroom environments during school health programs to satisfy students' expectations and thus increase their learning efficacy and overall well-being. Another comparison research was conducted by Shea and Bidjerano (2016), which focused on the classroom-based students and online students. The results showed that in contrast to previous research, compared to exclusively classroom-based students, more students who had engaged in online education had either attained an associate degree at the end of the observation period or transferred to a different institution. The study on the community college students may provide some inspiration for the administration and practices in the community schools. Shochet and Smith (2014) studied the interrelation among school connectedness and classroom environment and depressive symptoms for adolescent students. They tried to discover a clear relationship among the three. The results showed that only a partial mediation was found, with both classroom environment and school connectedness continuing to contribute uniquely to the prediction of concurrent and subsequent depressive symptoms. These findings provided additional support for the idea that school-based pathways to depressive symptoms are a complex interplay between environment and individual difference variables, necessitating individual and environmental school-based interventions. Cavanagh (2015) employed the capabilities-expectations model of engagement in classroom learning based on bio-ecological frameworks of intellectual development and flow theory. The construct in the research was called an engaging learning environment. Hamada and Hassan (2017) introduces an interactive learning environment for teaching and learning information and communication theory and related courses. The environment integrates several modules to meet the students'

different learning styles, which is an important trait for the learners. Perks, Orr and Al-Omari (2016) conducted a case study which examines the physical aspects of a particular university classroom, and what effect specific changes to the classroom had on the perceptions of students, instructors and observers regarding the room as an effective learning space. The findings of the study classroom design nevertheless may provide insight regarding the manner in which physical space might support or even enhance teaching and learning. Another study on a measurement for higher education, Yin and Lu (2014) worked on a report to describe the development and validation of an instrument, the University Mathematics Classroom Environment Questionnaire (UMCEQ), for assessing the mathematics classroom environment in tertiary institutions in China. Four dimensions are suggested to understand the characteristics of classroom environment in Chinese tertiary institutions, which are all for conceptualizing human environments, i.e., relationship, personal development and system maintenance and change.

In other countries, their classroom environment studies are more diversified, because of the cultural differences, races, and origins. Dorman (2009) investigated some determinants of the classroom environment in Australian Catholic high schools, employing the Catholic School Classroom Environment Questionnaire (CSCEQ). The above research findings reveal the influence of four determinants of classroom environments: student gender, grade, subject, and school type. Dorman (2014) conducted another study linking university students' perceptions of their classroom environment and course experiences as conducted at one Australian university. It revealed that improvements in the classroom environment were linked to more positive course experiences which are being taken as indicators of institutional performance. A classroom assessment environment is a classroom context experienced by students as the teacher

determines assessment purposes, develops assessment tasks, defines assessment criteria and standards, provides feedback, and monitors outcomes (Brookhart, 1997). Alkharusi (2015) employed 18-items of Alkharusi's (2011) Perceived Classroom Assessment Environment Scale to discover that there two primary factors to influence the classroom environment, which is learning-oriented and performance-oriented to the students in the Sultanate of Oman. Hong-Nam and Szabo (2012) examined changes that occurred in the use of language learning strategies by Korean university students as their language learning context shifted from an EFL to ESL setting, which is a common phenomenon for international students. The study found Korean university students utilized different strategies while in an ESL setting (Korea) than they did while in an ESL setting (US). Yang (2013) reported the findings of a study investigating junior secondary school students' perceptions of mathematics classroom learning environments in China. Three types of mathematics classroom learning environments, namely highly favorable, intermediately favorable, and lowly favorable as perceived by participants were further identified in this study. Its findings show that even though mathematics teaching practice in China has been widely criticized as overly teacher-centered or knowledge-centered (Biggs, 1998), not all Chinese students perceive their mathematics learning environments in this way.

Learning Strategies

Strategy Inventory of Language Learning

Many previous studies related language learning strategies employed the Oxford's Strategy Inventory of Language Learning (SILL), for ESL (English as a Second Language)/EFL (English as a Foreign Language) learners, SILL version 7.0. The distinction between ESL and EFL comes from the native language of the country in which instruction is being given. An ESL classroom is one in which English is the primary national language. On the other hand, an EFL

classroom is one in which English is not the native language. There are a variety of language strategies measurement tools available. Table 1 shows the different definitions of language learning strategies offered by different researchers.

Table 1

Definitions of Language Learning Strategies offered by Different Researchers

Author	Language Learning Strategies focus
Oxford (1994)	Specific actions and behaviors which students use to apprehend, internalize and use the L2
Cook (1991)	Choices that the learners make while learning or using the L2 that affects learning
Taron (1991)	Attempts to develop linguistic and sociolinguistic competence in the target language
Fox & Matthews (1991)	The way learners use their brains consciously to handle their learning
Oxford & Crookall (1989)	Steps taken by learners to aid the acquisition of information
Mohamed Amin Embi (2000)	Necessary competencies for effective learning and retention of Information
O'Malley & Chamot (1990)	Individuals who take a more strategic approach learn more rapidly and effectively while that those who do not.

Adapted from *Definitions of Language Learning Strategies offered by Different Researchers Kashefian-Naeeini & Maarof (2010).*

Many researchers have described good language learners and their strategies. Rubin (1975) offers the following profile: Good language learners: 1. are willing and accurate guessers; 2. have a strong, persevering drive to communicate; 3. are often uninhibited and willing to make mistakes in order to learn or communicate; 4. focus on form by looking for patterns, classifying, and analyzing; 5. take advantage of all practice opportunities; 6. monitor their own speech and the speech of others; 7. and pay attention to meaning. From another study, Naiman, Frohlich,

and Todesco (1975) identified six strategies used by good language learners: 1. selecting language situations that allow one's (learning) preferences to be used; 2. actively involving oneself in language learning; 3. seeing language as both a rule system and a communication tool; 4. extending and revising one's understanding of the language; 5. learning to think in the language; 6. addressing the affective demands of language learning. Synthesizing previous work and her own research on language learning strategies, Oxford (1990) has developed a list of six broad strategy categories: Metacognitive, Affective, Social, Memory, Cognitive, and Compensation strategies. Each of these categories is composed of a number of specific strategies or behaviors. Successful language learners use a wide range of these strategies-the ones that are most appropriate for them and the task at hand.

Many studies related to language learning strategies have conducted the research with the Strategy Inventory of Language Learning (SILL) (Version 7.0), which could also be seen in the following. Oxford (1990) developed the SILL based on the previous research and made language learning strategies more detailed. Oxford (1990) divided these strategies into six categories arguing that many language learning strategies can be used by language learners. Oxford (1990) also divided language learning strategies into direct learning strategies and indirect learning strategies. Direct learning strategies are involved in conscious mental processes, while indirect learning strategies support learning without involving the target language. Table 2 is the specific skills offered by Oxford (1990).

Table 2

Indirect and Direct Strategies from SILL (Version 7.0)

	Strategies	Specific skills
Indirect Strategies	Metacognitive strategies	Organizing, focusing, and evaluating one's own learning
	Affective strategies	Handling emotions or attitudes
	Social strategies	Cooperating with others in the learning process
Direct Strategies	Cognitive strategies	Linking new information with the existed schema and for analyzing and classifying it
	Memories strategies	Entering new information into memory storage and for retrieving it when needed
	Compensation strategies	Overcoming deficiencies and gaps in one's current language knowledge

Note: Reproduced from "Language Learning Strategies" from Oxford,1990, p.17, Copyright 1990 by Newbury House publishers.

A large number of the research studies conducted using the SILL employs version 7.0 (EFL/ESL) in which a heterogeneous group (participants whose native language are Chinese, Japanese, Spanish, Turkish, or Korean) are measured on LLS usage in learning English. Diversity research could be another important element considered with the language learning strategies of non-native English speakers. By employing some of the techniques and approaches used in prior EFL SILL research, the benefits of the SILL can be explored as a more

homogenous group (native English speakers) branch out into heterogeneous language studies. There are many elements which may influence the EFL/ESL learners from different cultures.

Language Learning Strategies

Previous studies related to language learning strategies have examined correlations and influence from various perspectives and theories to the language learning strategies of ESL learners. Many education studies have investigated learning strategies since the 1980's, and this has also become a trend in second and foreign language education. Researchers have discovered that successful L2 learners, compared with their less successful classmates, used more learning strategies and employed them more frequently; this strategy use was shown to occur before, during, and after L2 tasks (Oxford, 1994; Oxford, Cho, Leung, & Kim, 2004). Oxford (1990) pointed out how important learning strategies are, both in theory and in practice, for language learners. Rubin (1994) described learning strategies as behaviors that would contribute to developing learner's language system affecting learning directly.

Different from the previous research and expectations, gender did not affect strategy use and awareness significantly. It did not have large effect sizes either. There are interesting research results from Oxford, Nyikos, and Ehrman (1988) and Lee and Oxford (2008). While the studies from Oxford, Nyikos, and Ehrman (1988) showed that social strategies are the best-known strategies employed more by women than by men; Oxford and Lee (2008)'s study showed that except social strategies, females used five of the six categories significantly more often than males. On the other hand, Lee and Oxford (2008) also found out that in metacognitive strategies showed significantly more awareness by males than by females. This is also interesting because men were more aware of their metacognitive strategies than women while using them less often than women. According to Pressley (2000), good readers use a strategy

only when it is necessary to help their learning. Thus, it is possible that men were better English learners than women. In sum, gender, though reaching statistical significance on some interaction effects, had effect sizes that were negligible. We think that it is still good for learners because we cannot change nor manipulate gender. The smaller the effect size of gender, the more possible it is for teachers or learners to improve learning.

There is research which focuses only on language learning strategies for ESL learners (Kashefian & Maarof, 2010) or in an ESL context (Nguyen& Godwyll, 2010). Kashefian and Maarof (2010) found in their research that gender did not have any impact on the students' language learning strategies and on the six strategy categories which was from Oxford (1994). Nguyen and Godwyll (2010) also employed Oxford's Strategy Inventory of Language Learning(SILL) (Version 7.0) in their research. They found out that as to ESL learners, Social and Metacognitive strategies were more frequently used than the Affective and the Memory strategies; advanced learners used more strategies than lower proficiency learners did.

Beyond that, previous studies also tried to explore the relation between the language learning strategies and specific language skills. Kameli, Mostapha, and Baki, (2012) focused on the formal language learning environment had an influence on the ESL learners' vocabulary learning strategies. Kameli et al. (2012) found out that teaching methods, the level of encouragement students received, peers' negative and positive behaviors, classroom's activity and textbooks were significant factors that generally affected the learners' choice of vocabulary learning strategies in school. Another case is about the relative clause acquisition. Phoocharoensil (2010) found out that language universals are responsible for the English relative clause acquisition by Thai EFL learners, who have positive and negative influence from their native language. Critical Thinking is not a specific skill but could be a skill of a lifetime of

complicated choices which individuals have to make in their personal, academic and social lives (Facione & Facione, 1996). Bagheri (2015) conducted research in a leading university in China and found out that successful language learners were those with higher critical abilities. One important influence of applying critical thinking in ESL/EFL contexts would be the higher use of language learning strategies.

Most investigators have supported that awareness helps students learn a language and use strategies, at least in the earlier stages of learning (Chamot, 1998; Cohen, 1995; O'Malley & Chamot, 1990; Oxford, 1990; Oxford & Cohen, 1992). According to Cohen (1995), when students are no longer aware of their behaviors to learn a language, these behaviors are, by definition, no longer strategies but are instead processes; thus, he was emphasizing the importance of strategy awareness through definitions. Green and Oxford (1995) stressed that learning strategies are teachable in the class by the instructors, i.e., that students can become more aware of strategies through strategy instruction.

Oxford, Lavine, and Crookall (1989) have discussed four interrelated principles which permeate communicative language instruction. These principles, taken together, lead to the following four classroom implications: 1) change of classroom organization; 2) use of more realistic communication patterns and processes; 3) use of active learning modes; 4) need for strategy training.

ESL Learners and Teachers

On the one hand, ESL learners are the most important elements in ESL contexts. Domakani, Roohani and Akbari (2012) learned from their research results that Iranian ESL learners have a moderately high level of motivation toward learning English, and motivation correlated positively with all types of language learning strategies. Ghavamnia, Kassaian and

26

Dabaghi's (2011) research results indicate that Persian students do use a number of language learning strategies, but that they show distinct preferences for particular types of strategies. The findings also reveal a positive relationship between strategy use and motivation, proficiency, and language learning beliefs. Tabatabaei and Hoseini (2014) studied the language learning strategies for ESL learners and ESP (English for Specific Purpose) learners, and they found out that ESL learners and ESP learners used quite different strategies. So their studies revealed that it is necessary to employ specific learning strategies for ESL learners. Mortazavi and Barjesteh's (2016) study results revealed that there was a significant difference between freshman and senior EFL learners in their preferences, needs and opinions about various types of activities, and various aspects of language education. The findings also revealed that freshmen students required more practice in grammar and pronunciation than vocabulary for them. The senior students reported that vocabulary and grammar were the most difficult component of language skill and pronunciation was the least one. Liyanage and Bartlett (2012) found that when preferences for individual strategies were considered rather than for strategies in some broadly categorized group such as Cognitive, Metacognitive or Affective strategies, some preferences did not associate with gender; nevertheless, some strategies were clearly preferred by males while others were clearly preferred by females.It also inspired the further research of the relationship between the other categories of ESL/EFL learners and their language learning strategies.

On the other hand, teachers also play an important role in language learning. Behroozizad, Nambiar and Amir (2012) discovered in their study that ESL learners' activities are mediated to a considerable extent by the opportunities provided through the teacher's scaffolding. The findings suggested that teachers should utilize different forms of mediation in

their teaching to help learners harness the advantage of the efficacy of communicative classrooms.

EFL Learners in Another Country

The distinction between ESL and EFL comes from the native language of the country in which instruction is being given. An ESL classroom is one in which English is the primary national language. On the other hand, an EFL classroom is one in which English is not the native language. The EFL learners research could provide more evidence to the relation between the cultures and the language learning strategies.

Because of the largest population, and English is the first foreign language in China, research related to Chinese EFL learners take a large part in this group. Su (2015) pointed out that there is a need to increase the contextual sensitivity of LLS research, especially for LLS research conducted in EFL contexts, which should attempt to theorize EFL is learning processes and strategies for learning to speak English from authentic data collected from EFL learners learning practices in their milieus. To summarize, Su (2015) indicated that there was a need for contextualization in LLS research with a special focus on strategies used to developing speaking skills, particularly in foreign language contexts. Zhai (2016) paid attention especially to the vocabulary acquisition and teaching. Different vocabulary level could influence their writing level. Ping, Baranovich, Manueli and Siraj (2015) also studied on the perspective of vocabulary acquisition in language learning. The study suggested that there is a pressing need to enhance learners' self-regulation in learning vocabulary through explicit strategy instruction, which emphasizes cognitive, metacognitive, and motivational aspects of learning. WeChat became the most popular social media since 2011. Ding (2016) explored the effect of WeChat-assisted problem-based learning (PBL) on the critical thinking (CT) disposition of EFL Learners. The

research findings confirmed that the PBL practice significantly improved EFL students' CT disposition in general, in independent inquiry step, and regarding all CT subscales. The study also revealed that the PBL practice eliminated significant gender difference in Group Negotiation, although there seemed a significant gender difference in Hypothesis Proposition after the PBL practice.

There were also studies in other countries. Yabukoshi and Takeuchi (2009) conducted research to lower secondary language learners in Japan. The analyses indicated 1) that females reported more use of strategies than males, and 2) No positive relationship was found between English proficiency and strategy use. Similarly, Tezcan and Deneme (2015) also conducted research on the youth language learners in Turkey. Similarly, they found that the effect of gender on the use of LLS was identified. Females were found to use LLS more widely than males. Yet, no significant difference was found in the use of LLS between successful and average students. They also found that among these strategies from Oxford (1990), metacognitive, social and affective strategies were found to be the most frequently used language learning strategies whereas memory and cognitive strategies are found to be rarely used ones. Rahimi, and Saif (2008) explored the factors influencing the choice of the language learning strategies in Iran. The results of the study point to proficiency level and motivation as major predictors of the use of language learning strategies among this group of learners. Gender, on the other hand, was not found to have any effect while years of language study appeared to predict strategy use negatively. Kittigosin and Phoocharoensil (2015) paid attention to the delexical verbs use of Thai EFL learners. The results revealed that learners relied on three major learning strategies - native language transfer, synonymy, and overgeneralization that could lead to the uncommon and deviant use of English delexical structures by learners. It was also discovered

that both high and low proficiency learners were most familiar with the delexical verb take. Riazi (2007) studied the perception of female Arab English majors to language learning strategies. The study found that this group of EFL learners featured medium bordering on high strategy users, and results did not show any significant difference among four educational levels regarding the use of strategy categories. To this group, the six strategy categories (Oxford 1990) were used in the order of Metacognitive, Cognitive, Compensation, Social, Memory, and Affective. Zareva (2013) wanted to identify categories of the learning strategies commonly used by Russian university students in an English Linguistics Program with a TEFL concentration, which could help the evaluation of the effectiveness of TEFL-oriented programs. The research is about language learning strategies and program evaluation, so the findings of the study can help curriculum designers and instructors refine the focus of their TEFL-track programs and make informed decisions about emphases and de-emphases in their students' training.

Altunay (2014) proposed that effective use of language learning strategies has special importance for distance language learners who do not have direct face-to-face contact with their tutors. This study investigated the use of language learning strategies by a group of Turkish distance learners of English. Tahriri and Divsar (2011) found that Iranian EFL learners are 'medium' strategy users. In addition, they found that metacognitive strategies have the highest frequency which is confirmed in the present study. This reflects a need to pay further attention to strategy training in order to promote EFL learners' language achievement. Liu and Chang (2013) explored the relation of self-concept and language learning strategy use. Of the six categories in Oxford (1990), Compensation strategies were reported as the most frequently used and Social strategies were the least used. Participants with low and medium academic self-concept (ASC) used Compensation strategies the most, while the participants of high ASC used Metacognitive

strategies the most. A significant positive relationship between strategy use and ASC was identified.

Classroom Environment and Language Learning Strategies

Classroom and Language Learning Strategies

There are previous studies on language learning strategies in ESL/EFL classroom. Bi's study (2013) involved whether psychosocial aspects of English classroom environments had associations with the English learning motivation types of Chinese tertiary level English majors. The results showed that environment dimensions of involvement and task orientation were found to be predictors of the motivation types of Intrinsic Interest. Razak and Saeed (2014) conducted a qualitative study aimed to identify the revision strategies among learners of English as a foreign language (EFL). It also examined the focus of these strategies and learners participation and membership in an online community of practice (CoP). So the research is about revision strategy and an online learning environment. The study found out that the revision strategies focused on writing mechanics, language (form and meaning), unity and content of paragraphs. The CoP facilitated students' revision process by increasing the participation of those peripheral learners (new members) in these activities through social ties and relationship building, a supportive learning environment and developing a sense of autonomy among them. Ensslin (2006) researched on the literary hypertext strategy and the language learning environment. With respect to text production, literary hypertext opens up alternative ways of organizing semantic structures in individualized, associative ways, which invites constructivist teaching approaches in the foreign language classroom. Results show that collaborative, creative writing in hypertext format stimulates motivation, confidence, and autonomy, as well as helping to improve grammatical competence, particularly amongst intermediate and advanced learners.

Karimian and Talebinejad (2013) paid attention to the skill of translation as a language learning strategy in an EFL classroom. The results revealed that language learners used a wide variety of learning strategies concerning translation to comprehend and remember as well as produce English whether or not they are discouraged to do so by their teachers. Another language learning study by Christie, Tolmie, Thurston, Howe, and Topping (2009) was collaborative dialogue in Scottish primary classroom. The results showed significant increases both in the observed frequencies of children's collaborative dialogue and in the rated quality of classroom learning environments over the course of the study.

STEM classes

Dr. Barry Fraser, as an author of many specific classroom measurements, has studied in the science classroom or laboratory classroom in the 1990s and 2000s. Fraser and McRobbie (1995) conducted a cross-national study in the science laboratory classroom environment in schools and universities. A new instrument was developed and validated in a Class form (student's perceptions of the class as a whole) and a new Personal form (student's perceptions of his/her own role within the class). Ferguson and Fraser (1998)'s study investigated students' perceptions of the generalist learning environment of the primary school compared to their perceptions of the specialist science learning environment of the secondary school. It was found that both school size and student gender were found to be influencing factors for changes in some learning environment dimension perceptions. The purpose of Lee and Fraser's (2002) study was to investigate Korean high school students' perceptions of their laboratory classrooms, focusing especially on the aspects measured by the items in the Science Laboratory Environment Inventory (SLEI).A translated version of (SLEI) and interviews were employed in the study, which helped the authors explore the students' opinions and their perceptions about the

laboratory classroom. It was found that students from the science-independent stream perceived their classroom environments more favorably than did students in the other two streams Lai and Hwang (2016) studied a self-regulated flipped classroom approach to improving students' learning performance in a mathematics course. The findings of this study indicate that integrating the self-regulated strategy into flipped learning can improve students' self-efficacy as well as their strategies for planning and using study time, and hence they can learn effectively and have better learning Achievements. Sohrabi & Iraj (2016) implemented flipped classroom using digital media. It was found that students of both participants groups responded positively to the flipped classroom, with each focusing on their specific goals.

Classroom Environment and Learning Strategies

Crose (2011) studied international students and diversity in the classroom. International students bring different cultural experiences, expectations, and learning styles to the higher education classroom that allow for new perspectives to be introduced. Through effective teaching practices in a globalized classroom and an awareness of the cultural diversity present in the classroom, faculty members can provide learning opportunities, both academic and socially, that meets the needs of host and international students while preparing them for effective interactions in a globalized society. Huang (2009) studied the largest group of international students. Huang's (2009) study investigated four Chinese graduate students' perceptions of the major differences between North American and Chinese classroom teaching styles. Major differences were identified. It then explored these four Chinese graduate students' North American classroom learning reality. Finally, the paper examined how they adjusted their classroom learning strategies and approaches accordingly so that they could adapt to the North American classroom environment. Cejda and Hoover (2010) explored the strategies that

community college faculty employ to engage Latino students. Findings indicated that knowledge, appreciation, and sensitivity to Hispanic cultures and an understanding of the preferred learning styles of Latino students are important considerations to establishing classroom environments that engage Latino students and, thus, facilitate their retention and academic success. Cheung and Lai (2013) discovered that, based on a structural equation model, regular classroom teaching was found to have a direct effect on personal development self-efficacy as well as an indirect effect through student use of deep learning strategies. Nijhuis, Segers and Gijselaers(2007) studied the interplay of perceptions of the learning environment, personality and learning strategies for international business students. They discovered that perceptions of learning environment components mediated the relationships between the other personality traits and learning strategies. Clayton, Blumberg and Auld (2010) proposed that most students preferred traditional learning environments if the environment matched their personal learning style and engaged them as students well. In Asian countries, academic pressures are regarded as a primary source of stress among students. However, Shih (2015) turned to the effects of classroom settings providing structure and peer support on Asian adolescents' use of coping strategies and academic burnout. He discovered that students' use of coping strategies played a mediational role in relationships between perceived classroom environment and academic burnout. Perceived classroom structure and peer support impact students' choices of coping strategies significantly.

Summary

This chapter has reviewed the classroom environment theories started in the early 1930s. The students and teachers' beliefs about classroom environment were more direct and authoritative than outside observers and analyses. Specific measurements were developed in

America and Australia. Dr. Barry Fraser had many contributions to the measurements, among which Individualized Classroom Environment Questionnaire were introduced and analyzed. Many studies were conducted in the classroom environment and the students' performance in different kinds of classrooms. The factors which influence the students' cognitive understanding and performance were also discussed. Then language learning strategies were presented after the Classroom Environment theories. The next part included Dr. Rebecca Oxford's language learning strategy theory, the Strategy Inventory of Language Learning, the development of language strategy theory and the research related to the LLS. Historical issues of language learning strategies are briefly reviewed. From these studies, it can be seen that researchers focus has been shifted from identifying different strategies to factors that influence the choice of learners' strategy use. Researchers also examined what strategies were used by successful and unsuccessful learners. It was concluded that successful learners used strategies more frequently and flexibly. Different classifications of language learning strategies also have been discussed. There are some differences based on contexts, but generally, there is no major difference, and six major language learning strategies have been identified. Factors that influence learners' strategy use include gender, cultural background, age, motivation, and beliefs about language learning. Learners with different genders may have difference choice of language learning strategies. Cultural background is also an important factor to influence the learners' LLS. The last part of this chapter involves research about the relationships between the language learning strategies, and classroom environment. There is research about the specific classroom environment and language learning, the STEM classroom analyses, and the classroom and learning strategies. After this review of the literature, Chapter III will demonstrate the methods of this study in detail.

CHAPTER III: METHODS

Introduction

This study included an analysis of data gathered from a self-report questionnaire, which was completed voluntarily by ESL learners who were studying at a public four-year university in the southeast of the United States during the Spring semester in 2018. The questionnaire chosen to collect data for this study was the Individualized Classroom Environment Questionnaire (ICEQ) (preferred short form) designed by Barry Fraser, and the Strategy Inventory of Language Learning (SILL) (Version 7.0) designed by Rebecca Oxford. This chapter is comprised of the following sections: 1) research questions, 2) participants, 3) instruments, 4) data collection procedures, 5) validity and reliability, and 6) data analysis.

Purpose of the Study

This study is a quantitative study designed to focus on ESL learners who enrolled in Shorelight Education Program at a public four-year university in the southeast of the United States in the 2017-2018 school year. This study explored the ESL learners' preferred individualized classroom environment and language learning strategies by conducting individual student surveys in their ESL classrooms. The results were generated from a modified version of the Individualized Classroom Environment Questionnaire (preferred short form), the Strategy Inventory of Language Learning (Version 7.0) and a short demographic questionnaire.

The primary purpose of this study was to identify the preferred individualized classroom environment and language learning strategies of the college-level ESL learners at a public four-

year university in the southeast of the United States in relation to gender. In addition, there was

an examination on the relationship between the individualized classroom and language learning

strategies for the ESL learners. Since there are more international students and more ESL

learners on campus, there is more diversities in the classroom and may be easily noticed by both

the instructor and the students easily. Finally, there was a follow-up discussion on the

instructional methods in the classroom. The participants were all non-native English speakers,

who were being prepared to be admitted to the university for academic study.

Research Questions

The following research questions were used in this study:

1. What are the differences of the preferred individualized classroom environment

between male and female college-level ESL learners?

2. What are the differences in language learning strategies between male and female

college-level ESL learners?

3. What is the relationship between the college-level ESL learners' preferred

individualized classroom environment and their language learning strategies?

Participants

Because this study explored the ESL learners' preferred individualized classroom

environment and language learning strategies, the participants of this study came from two ESL

programs at a public four-year university in the southeast of the United States. The participants

were selected as potential participants because they were enrolled as students in one of the ESL

programs that were over 18 years of age. They had to be English language learners enrolled in

one of the ESL programs. The above criteria were used to ensure the participants had the identical educational background prior to their participation in this study. All the participants took the survey voluntarily.

All participants were from the ESL programs at a public four-year university in the southeast of the United States. International students at this university hail from over 100 countries around the globe. The enrollment of international students for the Spring semester of 2018 was over 3000. There are more than 140 academic degree options in 13 schools and colleges at the undergraduate, graduate and professional levels in the University. If the non-native English speakers' English was not at a proficiency level, they would not be allowed to take regular academic classes. They would be required to learn and improve their English level. The ESL programs in the university usually work for these ESL learners, who are college-level ESL learners. The language program then assigns each student to the proper level of class according to their language ability. Once they complete all the levels of the language program, they are qualified to register in the college or university to take regular classes. The students could also skip the language program to take the TOEFL (Testing of English as a Foreign Language) test. Once their scores on the TOEFL test meet the school admission requirement, they can register for the regular classes directly.

All the participants in this study are from Shorelight Education program. Shorelight Education Program works to bring the best and brightest international students to the university and allows them through academic and social support programs, to have a successful experience as new member of the university, among which English training is the most important program. The participants are students preparing for study in an American university, business people and professionals seeking to improve their English communication skills, and visitors to the United

States who want to study English while becoming familiar with American culture. The Shorelight Education Program also provides a transition program (Master's Accelerator Program) for international students from their bachelor's degree in their home countries to graduate school in the United States.

Instruments

The English Language Learning and Classroom Environment Survey was used in the study. The survey consists of three measures: demographic information, the preferred short form of Individualized Classroom Environment (ICEQ), and the version 7.0 of the Strategy Inventory for Language Learning (SILL).

The demographic information was developed based on several previous studies (Oxford, 1990; Nguyen & Godwyll, 2010). It was designed to elicit students' demographic information such as gender, age, and educational background, native country and years of learning English. Based on the research questions, gender was used in the data analysis. This section was designed to provide additional information about the participants and at the same time help contextualize the results of the individualized classroom environment and learning strategy questionnaires.

Individualized Classroom Environment Questionnaire

The ICEQ assesses those dimensions which distinguish individualized classroom from conventional ones.The initial development of the ICEQ by Rentoul and Fraser (1979) was guided by the literature on individualized open and inquiry-based education; extensive interviewing of teachers and secondary schools students; and reactions to draft versions sought from selected experts, teachers, and junior high-school students. The final version of the ICEQ (Fraser, 1990; Fraser & Butts, 1982) contains 50 items, with an equal number of items belonging

to each of the five scales. Each item is responded to on a five-point frequency scale with the options of Almost Never, Seldom, Sometimes, Often and Very Often. The scoring direction is reversed for many of the items. The five scales are Personalisation, Participation, Task Orientation, Innovation and Individualisation, which are classified by Moos's scheme.

Although the long form of ICEQ has been used successfully for a variety of purposes, some researchers and users have reported that they would like to take less time to administer and score the measurement (Galluzzi, Kirby, & Zucker, 1980; Kyle & McCutcheon, 1984). Consequently, short forms of CES, ICEQ, and MCI were developed by Fraser (1982) and Fraser and Fisher (1983) to satisfy three criteria. First, the total number of items was reduced to approximately 25 items to provide reduced testing and scoring time. Second, the short forms were designed to be hand scored. Third, short forms are likely to have adequate reliability for the many applications which involve averaging the perceptions of students within a class to obtain class means.

The Individualized Classroom Environment Questionnaire (preferred short form) has five subscales: Personalization, Participation, Independence, Investigation, and Differentiation, consisting of 25 items, with five items under each subscale. According to Fisher and Fraser (1985), the short forms of each of the instruments have two features which facilitate easy hand scoring. First, underlining of an item number together with the inclusion of R in the Teacher Use Only column identifies those items which need to be scored in the reverse direction. Second, items from the five different scales are arranged in cyclic order so that all items from a particular scale are found in the same position in each block of five items.

Reported alpha reliability coefficients for the five scales is range from 0.68-0.79 (Fraser, 1994). Validation for the different forms of ICEQ, that is, students perceived actual learning

environment, students preferred learning environment, teacher perceived actual learning environment, teacher preferred learning environment, was conducted using both individual and class means as units of analysis (Fraser, 1994).

Fisher and Fraser (1985) provide statistical information (see Table 3) about the short form of each scale of ICEQ based on the use of the class mean as the unit of analysis with data collected from large and representative samples of science classes. The actual and preferred forms of the ICEQ were administered to a sample of 116 Grade 8 and 9 classes in 33 different schools in Tasmania, Australia (Fraser & Fisher, 1983). As some reading difficulties were anticipated among some students in this sample, a research assistant visited each school to administer the scales orally. As no data on the correlation between long and short form were available for this sample, it is reported that the correlation between long and short form for the actual form only for a sample of 100 classes of Grade 7 students in 33 schools in Tasmania, Australia. Each sample was made up of approximately equal numbers of boys and girls.

Data reported in the table for the actual and preferred versions of Instruments provide evidence in support of each short scale's concurrent validity (namely, the correlation between long and short forms), internal consistency (alpha reliability coefficient), discriminant validity (using the mean magnitude of the correlation of a scale with the other scales in the same instrument as a convenient index), and ability to differentiate between classrooms (ANOVA results) (Fraser & Fisher, 1983; Fraser & O'Brien,1985). The first two columns of figures in Table 3 shows that the correlations between scale scores on the long form and the short form ranged from 0.78 to 0.91. These values, which do not incorporate a correction for attenuation to compensate for imperfect scale reliability, support the concurrent validity of the short forms. Table 3 also reports each short scale's internal consistency and discriminant validity (using the

41

class as the unit of analysis). The values of the alpha coefficient ranged from 0.56 to 0.85 with a

mean of 0.70 for the short forms. These data indicate that the short forms generally have

adequate reliability for applications involving class means. Table 3 also reveals that the values of

the mean correlation of a scale with the other scales in the same instrument are quite similar to

those reported previously for the long forms of these scales. These values suggest that the short

forms display adequate discriminant validity and that both the short and long forms of scales in

each instrument measure distinct although somewhat overlapping aspects of the classroom

environment.

Table 3

Concurrent Validity (Correlation with Long Form), Internal Consistency (Alpha Coefficient),

Discriminant Valid 4v (Mean Correlation with Other Scales) and ANOVA Results for Class

Membership Differences for Short Forms of ICEQ

Scales	Correl. with Long form		Alpha reliability		Mean correl. with other scales		ANOVA results Eta^2
	Act.	Pref.	Act.	Pref.	Act.	Pref.	Actual
Individualized Classroom Environment Questionnaire (ICEQ)							
Personalization	0.95	0.94	0.83	0.73	0.30	0.35	0.29*
Participation	0.92	0.91	0.73	0.70	0.29	0.36	0.21*
Independence	0.84	0.84	0.70	0.75	0.15	0.20	0.28*
Investigation	0.91	0.93	0.69	0.63	0.34	0.36	0.22*
Differentiation	0.97	0.97	0.85	0.84	0.23	0.13	0.39*
Sample: 116 Grade 8 and 9 classes							

* $p < 0.01$

Note. Adapted from Fraser & Fisher (1986).

Strategy Inventory of Language Learning

Many attempts have been made to develop instruments to measure learning strategies (Brown & Holtzman, 1967; Christensen, 1968; Cohen & Chi, 2004). The best known and most used inventory for measuring foreign and second language learning strategies is the Oxford Language Learning Strategies and Strategies Inventory for Language Learning (SILL).

The SILL (Version 7.0) was developed by Oxford (1990) based on previous research and made language learning strategies more detailed. The questionnaire contains 50 items (ESL/EFL version) with six categories of strategies: Memory, Cognitive, Compensation, Metacognitive, Affective, and Social strategies. The questionnaire is self-scoring, and students rate themselves on a 5-point Likert scale, from 1 ("never or almost never true of me") to 5 ("always or almost always true of me"). According to Oxford (1990), items with means ranging from 1.0 to 1.4 on SILL indicate that the items are "never or almost never used," between 1.5 to 2.4 indicate that the items are "generally not used," between 2.5 to 3.4 indicate that the items are "sometimes used," between 3.5 to 4.4 indicate that the items are "usually used", between 4.5 to 5.0 indicate that the items are "always or almost always used".

Oxford (1990) divided these strategies into six categories arguing that many language learning strategies can be used by language learners. Oxford (1990) divided language learning strategies into direct learning strategies and indirect learning strategies. Direct learning strategies use conscious mental processes, while indirect learning strategies support learning without involving the target language. Oxford (1990) developed the strategies and specific skills for the indirect and direct strategies (see Table 1).

The SILL has been field-tested and used by many studies after it was developed in 1986

43

(Oxford & Burry-Stock, 1995). Oxford released the SILL in 1990, and since that time, the SILL has been used for many different scholarly and pragmatic purposes with Cronbach alpha ranging from .93-.98. It is widely considered as a quantitative instrument with high reliability and validity in examining learner's language learning strategy use (Oxford & Burry-Stock, 1995). Regarding the reliability of the SILL, Oxford and Burry-Stock (1995) and Oxford (1996) reported high indexes of Cronbach alpha reliability (mostly 0.91 to 0.94) for the ESL/EFL version of the SILL across many cultural groups. Table 4 presents the summary of reliability coefficients for the SILL reported in different studies indicating high reliability (above .90) of the SILL, which demonstrates the summary of reliability coefficients for the SILL.

Table 4

Summary of the Reported Reliability of the SILL

Author	Number of Subjects	Cronbach's alpha
Shi (2016)	198 College ESL learners	.78
Tahriri & Divsar (2011)	90 BA junior students	.81
Liu & Chang (2013)	163 university freshmen	.94
Yabukoshi & Takeuchi (2009)	315 8th and 9th graders	.79
Riazi (2007)	120 female Arabic-speaking students	.84
Zareva (2013)	23 1st years and 38 4th students	.87
Nguyen & Godwyll (2010)	75 international students	.899
Kashefian-Naeeini & Maarof (2010)	64 college students	.91
Ghavamnia, Kassaian, & Dabaghi (2011).	80 college students	.91

Regarding content validity, SILL can be used for both English as Second Language (ESL) and English as Foreign Language (EFL) learners, and SILL has been widely used, so the use of SILL is justified.

Data Collection Procedures

With the assistance from students taking English courses at the two ESL programs and several teachers who were teaching in ESL program at the University, 520 students participated in answering the English Language Learning and Classroom Environment Survey in the Spring semester of 2018. With a total number of 898 enrollment in the Spring semester 2018, the response rate is 57.9%. Among all the responses, 445 students' responses are usable. The participants were students from Shorelight Education Program.

The researcher first contacted the head director and coordinators of the ESL program in Shorelight to receive permission to conduct this study with students in the ESL program. After obtaining permission from them, the researcher asked the English instructors' permission to distribute the surveys and assistance in collecting responses from their students. Permission to conduct this research was granted by the Institutional Review Board (IRB) office (see Appendix C).

At the beginning of the data collection process, the participants were informed about three aspects before receiving the English Language Learning and Classroom Environment Survey. First, the purpose of this study, which was to discover the learning strategies that were used and the preferred individualized classroom environment. Secondly, the data they provided may assist teachers in the ESL programs or in a higher education setting as they may find it useful for effective teaching. Thirdly, their participation in this study was

completely anonymous and voluntary. There were no foreseeable risks associated with this study. The participants were asked to honestly report their answer in terms of how well the statement describes them according to their own English learning experience.

It was made clear that there was no right or wrong answer for each item. All the participants were informed that all of the personal information, answers, and responses collected from them would be kept confidential.

Data Analysis Procedures

All collected data were analyzed by using SPSS-PC 22.0. The survey scales were tested for their reliability and yielded Cronbach alpha scores. Both descriptive and inferential statistics were used to analyze the collected data, and the analysis methods were chosen and employed based on each research question. The descriptive analyses were conducted to scrutinize demographic variables, and a one-way MANOVA analysis was used to explore differences of the five subscales of the classroom environment and the six categories of the language learning strategies of male and female learners, respectively. In order to answer the aspects regarding the relationship between preferred classroom environment and language learning strategies, a series of regression were applied to investigate the relationship between the individualized classroom environment set and the language learning strategies set for all the ESL learners.

Summary

This chapter discussed the research methods used to examine the preferred individualized classroom environment and language learning strategies of participants in relation to gender. The population used in this study were students who were enrolled at ESL programs at a public four-year university in the southeast of the United States during the Spring semester of 2018. The instrument used for data collection was the English Language Learning and Classroom

Environment Survey, which was adapted from the Individualized Classroom Environment

(preferred short form) (Fisher & Fraser, 1985), and the version 7.0 of the Strategy Inventory for

Language Learning (SILL) (Oxford, 1990). The descriptive statistics, independent sample t-test,

and canonical correlation were used to analyze the quantitative data. In the following chapter, the

findings and results are presented and addressed based on the research questions.

CHAPTER IV: FINDINGS

Overview

In this chapter, demographic data, results, and findings from data analysis will be presented. The results and findings of each research question are described along with the independent sample t-test and canonical correlation analysis in tables and figures.

Purpose of the Study

This study is a quantitative study designed to focus on ESL learners who enrolled in Shorelight Education Program at a public four-year university in the southeast of the United States in the 2017-2018 school year. This study explored the ESL learners' preferred individualized classroom environment and language learning strategies by conducting individual student surveys in their ESL classrooms. The results were generated from a modified version of the Individualized Classroom Environment Questionnaire (preferred short form), the Strategy Inventory of Language Learning (Version 7.0) and a short demographic questionnaire.

The primary purpose of this study was to identify the preferred individualized classroom environment and language learning strategies of the college-level ESL learners at a public four-year university in the southeast of the United States in relation to gender. In addition, there was an examination on the relationship between the individualized classroom and language learning strategies for the ESL learners. Since there are more international students and more ESL learners on campus, there is more diversities in the classroom and may be easily noticed by both the instructor and the students easily. Finally, there was a follow-up discussion on the

instructional methods in the classroom. The participants were all non-native English speakers, who were being prepared to be admitted to the university for academic study.

Research Questions

The following research questions were used to guide this study:

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners?

2. What are the differences in language learning strategies between male and female college-level ESL learners?

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies?

Demographic Results

A total of 520 students participated in the study. Among the total replies, 445 responses were usable (usable rate equals to 85.6%) and were included in the analysis. Table 5 shows the frequency distribution of the 445 survey participants by each demographic group, while some participants did not identify their demographic information. Among the valid respondents, 305 were male participants (68.5%), and 140 were female participants (31.5%).

Table 5

Demographic Characteristics of Participants

Gender	Male	305 (68.5%)
	Female	140 (31.5%)
Age	>= 23	46 (10%)
	< 23	399 (90%)
Country of Origin	China	410 (92%)
	Taiwan	3 (1%)
	India	6 (1%)
	Korea	7 (2%)
	Vietnam	5 (1%)
	Saudi Arabia	6 (1%)
	United Arab Emirates	5 (1%)
	Nigeria	2 (.5%)
	Colombia	1 (.5%)
Highest Education Level	High school	286 (64.3%)
	Undergraduate	145 (32.6%)
	Graduate	14 (3.1%)

$N = 445$

Reliability

Using the Cronbach Coefficient Alpha test, the results of the tests for the preferred individualized classroom environment and the language learning strategies are presented in Table 6. A value of .70 or higher was considered evidence of reliability, a value between 0.6 and 0.7 is acceptable, a value between 0.5 and 0.6 is considered poor reliability, while a value that below 0.5 is unacceptable (Becker, 2000). The values of Cronbach Alpha's for Personalization, Participation, Independence, Investigation, and Differentiation on the Individualized Classroom

Environment Questionnaire (ICEQ), were .724, .717, .687, .683 and .705, respectively.

Compared with Fraser and Fisher (1986), the values of Cronbach alpha's for Independence and

Differentiation were lower, and the value for Investigation is higher. The values of Cronbach

Alpha's for (A) remembering more effectively, (B) using your mental processes, (C)

compensating for missing knowledge, (D) organizing and evaluating your learning, (E)

managing your emotions, and (F) learning with others in the Strategy Inventory of Language

learning (SILL) were .719, .713, .718, .711, .718 and .711, respectively. Therefore, the values of

these two sets of variables were considered as reliable in this study.

Table 6

Reliability of the Individualized Classroom Environment Questionnaire and Strategy Inventory of Language Learning

	Items	Cronbach's Alpha
Individualized Classroom Environment Questionnaire	25	
Personalization	5	.724
Participation	5	.717
Independence	5	.687
Investigation	5	.683
Differentiation	5	.705
Strategy Inventory of Language Learning	50	
Memory strategy	9	.719
Cognitive strategy	14	.713
Compensation strategy	6	.718
Metacognitive strategy	9	.711
Affective strategy	6	.718
Social strategy	6	.711

Discussion of Findings

An independent sample t-test was used to examine the first two research questions,

respectively. Canonical Correlation Analysis was applied to investigate the following third

research question. Alpha level was set at *p* equals to .05.

Research Question 1: What are the differences of the preferred individualized classroom

environment between male and female college-level ESL learners?

SPSS software was used to perform one-way MANOVA to examine the results of the

ESL learners' opinions on their preferred individualized classroom environment. The five

subscales of ICEQ used to measure the individualized classroom environment is a 5-point Likert

scale, with the sum of each subscale is 25. The mean of the five subscales was Personalization

(17.36), Participation (15.79), Independence (16.00), Investigation (17.45), Differentiation

(16.13), respectively.

SPSS software was used to perform a one-way MANOVA to examine the differences of

preferred individualized classroom environment based on their gender. Table 7 shows that the

descriptive statics of preferred individualized classroom environment between male students and

female students. Additionally, the difference of the preferred individualized classroom

environment between the male and female college-level learners was not significant. There were

no statistically significant differences in preferred individualized classroom environment based

on gender, $F (5, 439) = .862$, $p = .51 > .05$; Wilk's $\Lambda = 0.99$, partial $\eta 2 = .01$. A whole sample

within-subjects ANOVA was used to determine the differences of the five subscales in

Individualized Classroom Environment Questionnaire (ICEQ). The results showed that there are

significant differences for the five subscales in ICEQ. As the sphericity was violated,

Greenhouse-Geisser correction was used here, $F (3.80, 1686.49) = 66.55$, $p < .001$, partial $\eta 2$

= .130. Specifically, as the descriptive statistics in Table 7 shows, the ESL learners have the

higher score on Investigation (M=17.45) and Personalization (M=17.36) and then Differentiation

(M=16.13), Independence (M=16.00) and Participation (M=15.79) in their preferred classroom

environment. Additionally, there were significant differences (p<.05) between Personalization

and Participation, Personalization and Independence, Personalization and Differentiation,

Participation and Investigation, Independence and Investigation, Investigation and

Differentiation. However, there were no significant differences between Participation and

Independence (p=.985), Participation and Differentiation(p=.148).

Table 7

Differences among Preferred I Classroom Environments

	Mean (SD)	Personalization	Participation	Independence	Investigation	Differentiation
Personalization	17.36 (2.69)	1.00	.000	.000	.000	.000
Participation	15.79 (2.56)	.000	1.00	.985	.000	.148
Independence	16.00 (2.11)	.000	.985	1.00	.000	.000
Investigation	17.45 (2.62)	.000	.000	.000	1.00	.000
Differentiation	16.13 (2.04)	.000	.148	.000	.000	1.00

*Note. N = 445; *p<.05

Research Question 2: What are the differences in language learning strategies between male and female college-level ESL learners?

SPSS software was used to perform the one-way MANOVA to examine the differences of strategy use between the male and female ESL learners. According to Oxford and Burry-Stock (1995), a mean score of all participants in the range of 3.5 to 4.4 (always or almost always used) and 4.5 to 5.0 (usually used) on a SILL item was considered to reflect high use of that strategy, 2.4 to 3.4 (sometimes used) medium use, and 1.0 to 1.4 (never or almost never used) and 1.5 to 2.4 (usually not used) low use.

The results of the one-way MANOVA were illustrated in Table 8. As shown in Table 8, the descriptive statistics showed that the most frequently used strategies by the ESL learners are Metacognitive (mean=3.70) and Social (mean=3.69) strategies, and then Compensation (mean=3.47) and Cognitive strategies(mean=3.44), and the least used are Affective(mean=3.25) and Memory strategies (mean=3.09). Table 10 showed the differences of strategy use between male and female college-level ESL learners was not significant. There were no statistically significant differences in the college-level ESL learners' choices of language learning strategies based on gender, $F_{(6, 438)} = 1.435$, $p = .20 > .0005$; Wilk's $\Lambda = 0.98$, partial $\eta 2 = .02$. A whole sample within-subjects ANOVA was used to determine the differences of the six subscales in Strategy Inventory of Language learning (SILL). The results showed that there are significant differences for the six subscales in SILL. As the sphericity was violated, Greenhouse-Geisser correction was used here, $F_{(4.52, 2008.24)} = 108.935$, $p < .001$, partial $\eta 2 = .197$. Specifically, as the descriptive statistics showed in Table 9, the most often used strategies of ESL learners in this study were Metacognitive (M=3.70) and Social (M=3.69) strategies, then Compensation (M=3.47) and Cognitive (3.44) strategies, finally

Affective (M=3.25) and Memory (M=3.09) strategies. There are all significant differences between any two strategies. (p<.05)

Table 8

Differences among Language Learning Strategies

	Mean (SD)	Memory	Cognitive	Compensation	Meta cognitive	Affective	Social
Memory	3.09 (.60)	1.00	.000	.000	.000	.000	.000
Cognitive	3.44 (.56)	.000	1.00	.000	.000	.000	.000
Compensation	3.47 (.62)	.000	.000	1.00	.000	.000	.000
Metacognitive	3.70 (.67)	.000	.000	.000	1.00	.000	.000
Affective	3.25 (.73)	.000	.000	.000	.000	1.00	.000
Social	3.69 (.73)	.000	.000	.000	.000	.000	1.00

Note. N = 445; *p<.05

Research Question 3: What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies?

Six backward regressions were used to test the influence of five subscales of Individualized Classroom Environment to the six language learning strategies in SILL, with the detailed as follows:

Model 1: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable was Memory strategy.

Model 2: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable was Cognitive strategy.

Model 3: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable was Compensation strategy.

Model 4: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable was Metacognitive strategy.

Model 5: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable was Affective strategy.

Model 6: Independent variables were Personalization, Participation, Independence, Investigation and Differentiation, and dependent variable is Social strategy.

Table 9 showed the summary of model 1. Personalization, Participation, Investigation and Differentiation of the individualized classroom environment were significant predictors in the final model for Memory strategy.

Table 9

Regression Findings – Backward Regression model 1

	R^2	S.E Estimate	r	Semi-partial	Beta
Factor			r	Semi-partial	Beta
Full Model	.101[a]	.5707			
Personalization			-.099	-.104	-.024
Participation			.078	.082	.020
Independence			.070	.073	.023
Investigation			.126	.132	.033
Differentiation			.160	.166	.052
Restricted Model	.096[b]	.5716			
Personalization			-.087	-.091	-.021
Participation			.092	.096	.023
Investigation			.140	.146	.036
Differentiation			.181	.187	.057

Note. N = 445; *p<.05

a-report results from F test

b-report results from F test

Table 10 showed the summary of model 2. Participation, Independence, Investigation and Differentiation of the individualized classroom environment were significant predictors in the final model for Cognitive strategy.

Table 10

Regression Findings – Backward Regression model 2

	R^2	S.E Estimate	r	Semi-partial	Beta
Factor			r	Semi-partial	Beta
Full Model	.194[a]	.5058			
Personalization			.042	.046	.009
Participation			.082	.091	.019
Independence			.089	.089	.027
Investigation			.235	.235	.057
Differentiation			.111	.123	.034

(continued)

Table 10 (continued)

	.192[b]	.5058			
Restricted Model					
Participation			.090	.100	.021
Independence			.098	.109	.029
Investigation			.245	.263	.059
Differentiation			.113	.125	.034

Note. N = 445; *p<.05

a-report results from F test

b-report results from F test

Table 11 showed the summary of model 3. Participation, Independence and Investigation

of the individualized classroom environment were significant predictors in the final model for

Compensation strategy.

Table 11

Regression Findings – Backward Regression model 3

	R^2	S.E Estimate			
Factor			r	Semi-partial	Beta
Full Model	.125[a]	.5872			
Personalization			-.021	-.022	-.005
Participation			.078	.083	.021
Independence			.128	.136	.043
Investigation			.221	.230	.060
Differentiation			-.019	-.020	-.006
Restricted Model	.124[b]	.5861			
Participation			.075	.080	.020
Independence			.126	.133	.040
Investigation			.222	.231	.058

Note. N = 445; *p<.05

a-report results from F test

b-report results from F test

Table 12 showed the summary of model 4. Independence and Investigation of the

individualized classroom environment were significant predictors in the final model for

Metacognitive strategy.

Table 12

Regression Findings – Backward Regression model 4

	R^2	S.E Estimate			
Factor			r	Semi-partial	Beta
Full Model	.198[a]	.5995			
Personalization			-.042	-.046	-.011
Participation			.046	.051	.013
Independence			.125	.139	.045
Investigation			.305	.322	.088
Differentiation			.046	.052	.017
Restricted Model	.193[b]	.5994			
Independence			.148	.163	.050
Investigation			.338	.352	.091

Note. N = 445; *p<.05

a-report results from F test

b-report results from F test

Table 13 showed the summary of model 5. Personalization, Independence and

Investigation of the individualized classroom environment were significant predictors in the final

model for Affective strategy.

Table 13

Regression Findings – Backward Regression model 5

	R^2	S.E Estimate	r	Semi-partial	Beta
Factor					
Full Model	.111[a]	.6891			
Personalization			-.127	-.133	-.037
Participation			-.015	-.016	-.005
Independence			.139	.146	.055
Investigation			.208	.208	.065
Differentiation			.067	.070	.026
Restricted Model	.107[b]	.6893			
Personalization			-.128	-.134	-.037
Independence			.159	.166	.060
Investigation			.231	.237	.070

Note. $N = 445$; *$p<.05$

a-report results from F test

b-report results from F test

Table 14 showed the summary of model 6. Personalization, Independence and

Investigation of the individualized classroom environment were significant predictors in the final

model for Social strategy.

Table 14

Regression Findings – Backward Regression model

	R^2	S.E Estimate	r	Semi-partial	Beta
Factor					
Full Model	.138[a]	.6810			
Personalization			.073	.079	.022
Participation			.013	.014	.004
Independence			.121	.129	.048
Investigation			.197	.207	.062
Differentiation			.053	.057	.021

(continued)

Table 14 (continued)

<table>
<tr><td></td><td>.192^b</td><td>.5058</td><td></td><td></td><td></td></tr>
</table>

Restricted Model					
Personalization			.079	.084	.023
Independence			.143	.151	.054
Investigation			.220	.230	.067

Note. $N = 445$; *p<.05

a-report results from F test

b-report results from F test

Summary

The quantitative data addressed the three research questions of the present study:

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners? For Research Question 1, results of one-way MANOVA indicated that college-level ESL learners had no significant difference in their preferred individualized classroom environment. However, the whole sample within-subjects ANOVA showed that there are significant differences for the five subscales in ICEQ. The ESL learners have the higher score on Investigation and Personalization and then Differentiation, Independence and Participation in their preferred classroom environment.

2. What are the differences in language learning strategies between male and female college-level ESL learners? One-way MANOVA also addressed Research Question 2 by demonstrating that there were no significant differences between the college- level ESL male and female learners generally based on the overall scores. However, the whole sample within-subjects ANOVA showed that there are significant differences for the six subscales in SILL. The

most often used strategies of ESL learners in this study were Metacognitive and Social strategies., and then Compensation and Cognitive strategies, finally Affective and Memory strategies.

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies? To answer Research Question 3, six backward regressions illustrated that the influence of individualized classroom environment to college-level ESL learners' choice of language learning strategies. To summarize, Independence and Investigation of individualized classroom environment were significant predictors to Metacognitive language learning strategy. Participation, Independence and Investigation of individualized classroom environment were significant predictors to Compensation language learning strategy. Personalization, Independence, Investigation and Differentiation of individualized classroom were significant predictors to Memory language learning strategy. Participation, Independence, Investigation and Differentiation of the individualized classroom environment were significant predictors to Cognitive language learning strategy. Personalization, Independence and Investigation of the individualized classroom environment were significant predictors to Affective and Social language learning strategy.

.

CHAPTER V: SUMMARY, CONCLUSIONS, IMPLICATIONS, AND

RECOMMENDATIONS

This chapter presents the summary of this study, conclusions based on the data analysis, implications of the findings and results, and recommendations for future research.

Purpose of the Study

This study is a quantitative study designed to focus on ESL learners who enrolled in Shorelight Education Program at a public four-year university in the southeast of the United States in the 2017-2018 school year. This study explored the ESL learners' preferred individualized classroom environment and language learning strategies by conducting individual student surveys in their ESL classrooms. The results were generated from a modified version of the Individualized Classroom Environment Questionnaire (preferred short form), the Strategy Inventory of Language Learning (Version 7.0) and a short demographic questionnaire.

The primary purpose of this study was to identify the preferred individualized classroom environment and language learning strategies of the college-level ESL learners at a public four-year university in the southeast of the United States in relation to gender. In addition, there was an examination on the relationship between the individualized classroom and language learning strategies for the ESL learners. Since there are more international students and more ESL learners on campus, there is more diversities in the classroom and may be easily noticed by both the instructor and the students easily. Finally, there was a follow-up discussion on the

instructional methods in the classroom. The participants were all non-native English speakers, who were being prepared to be admitted to the university for academic study.

Research Questions

The following research questions were used to guide this study:

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners?

2. What are the differences in language learning strategies between male and female college-level ESL learners?

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies?

Summary

Study Overview

To master a foreign language, it may require learners to overcome many difficulties. It is a good choice to learn English in a native English- speaking country and being in a classroom that is a traditional and effective environment to learn a language. However, it usually takes a long time for international ESL learner to adapt to the new learning environment. Students entering the class to learn English may have some knowledge about English language learning and have some related learning experience. This language learning knowledge may require cognitive, affective, and behavioral involvement in various learning environments. Classroom environments are different in different cultures and are the most important environment in different learning environments. Effective utilization of language learning strategies results in

greater self-confidence and greater academic achievements to ESL learners. Fraser's classroom environment theory (1982, 1983, 1985, 1990, 1994, 1998, 2010), Oxford's learning strategy theory (1986, 1989, 1990, 1992, 1994, 1996, 2003) provided the theoretical framework for this study. A quantitative research design was used to address the research questions. The students who were enrolled in the ESL program at a public four-year university in the southeast of the United States participated in this study.

An English language learning and classroom environment survey adapted from the preferred short form of Individualized Classroom Environment Questionnaire (ICEQ) (Fraser, 1985), and the version 7.0 of the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) were used in this study. There were more responses from males than females, and most of the participants were 18-24 in age; Asian and had a high school diploma as a previous educational level. The data were analyzed using descriptive statistics, independent sample t-test and canonical correlation to investigate the relationship between the ESL learners' preferred individualized classroom environment and language learning strategy use.

Findings of Survey

1. What are the differences of the preferred individualized classroom environment between male and female college-level ESL learners? Research Question 1 examined preferred individualized classroom environment in relation to gender in this study. No significant differences were identified from the college-level ESL learners by gender. However, there were significant differences for the five subscales in ICEQ in the whole sample.

2. What are the differences in language learning strategies between male and female college-level ESL learners? Research Question 2 explored ESL learners' strategy use and the

difference of strategy use in relation to gender. However, there were significant differences for six subscales in SILL in the whole sample.

3. What is the relationship between the college-level ESL learners' preferred individualized classroom environment and their language learning strategies? Research Question 3 examined the relationship of ESL learners preferred individualized classroom environment and their language learning strategy use. The results of six regressions showed the influence of some aspects in the college-level ESL learners' preferred individualized classroom environment to language learning strategies. To be more specific, Independence and Investigation of individualized classroom environment were significant predictors to Metacognitive language learning strategy. Participation, Independence and Investigation of individualized classroom environment were significant predictors to Compensation language learning strategy. Personalization, Independence, Investigation and Differentiation of individualized classroom were significant predictors to Memory language learning strategy. Participation, Independence, Investigation and Differentiation of the individualized classroom environment were significant predictors to Cognitive language learning strategy. Personalization, Independence and Investigation of the individualized classroom environment were significant predictors to Affective and Social language learning strategy.

Conclusions

One conclusion of this quantitative study was that the preferred individualized classroom environment of college-level ESL learners enrolled in ESL program had no significant differences in relation to gender but there were some significant predictors in ICEQ to their language learning strategies. The ESL learners have the higher score on Investigation and Personalization and Differentiation, Independence and Participation in their preferred classroom

environment. The most often used strategies of ESL learners in this study were Social and Metacognitive strategies.

There was no significant difference among the college-level ESL learners by gender in individualized classroom environment. Participants did not have strong preferences on the Personalization, Participation, Independence, Investigation, and Differentiation in their individualized classroom environment in relation to gender, which indicated that the teachers and instructors do not need to teach English as a second language differently by gender in ESL classroom. However, the regression results showed that the ESL learners' individualized classroom environment could predict their language learning strategies significantly. From the language learning perspective, the results emphasized Fraser, Aldridge, and Adolphe's cross-national study (2010) which revealed positive associations between the classroom environment and student attitudes to science in both countries.

Overall, there were no significant differences between male and female college-level ESL learners on their language learning strategies. It has similar results with Oxford (1990), Kashefian and Maarof (2010)'s study and Rahimi, and Saif's (2008) research, which found in their research that gender did not have any impact on the students' language learning strategies and on the six strategy categories. It is opposite to the findings that Yabukoshi and Takeuchi's (2009) research to lower secondary language learners in Japan, which indicated that females reported more use of strategies than males. It also has an opposite result with another study in Turkey, which found that Memory and Cognitive strategies were rarely used ones (Tezcan & Deneme, 2015).

Regression results showed that college-level ESL learners' preferred classroom had significant predictors to their language learning strategies. First, Independence and Investigation

67

of individualized classroom environment were significant predictors to Metacognitive language

learning strategy. The results indicated that ESL learners with a strong preference in

Independence and Investigation in an individualized classroom environment were more likely to

use Metacognitive language learning strategies in their language learning process. Second,

Participation, Independence and Investigation of individualized classroom environment were

significant predictors to Compensation language learning strategy. The results indicated that ESL

learners with a strong preference in Participation, Independence and Investigation in an

individualized classroom environment were more likely to use Compensation, Metacognitive,

Affective and Social language learning strategies in their language learning process. Third,

Personalization, Independence, Investigation and Differentiation of individualized classroom

were significant predictors to Memory language learning strategy. The results indicated that ESL

learners with a strong preference in Personalization, Independence, Investigation and

Differentiation in an individualized classroom environment were more likely to use Memory

language learning strategies in their language learning process. Fourth, Participation,

Independence, Investigation and Differentiation of the individualized classroom environment

were significant predictors to Cognitive language learning strategy. The results indicated that

ESL learners with a strong preference in Participation, Independence, Investigation and

Differentiation in an individualized classroom environment were more likely to use Cognitive

language learning strategies in their language learning process. Finally, Personalization,

Independence and Investigation of the individualized classroom environment were significant

predictors to Affective and Social language learning strategy. The results indicated that ESL

learners with a strong preference in Personalization, Independence and Investigation in an

individualized classroom environment were more likely to use Affective and Social language learning strategies in their language learning process.

The findings of this study were consistent with the literature and positive relationships between classroom environment and strategy use (Meece, et al., 1988). Classroom environment could influence language learners' learning strategies, and learning environment has an association with the motivation and strategies of language learners (Bi, 2013; Razak & Saeed, 2014). Teachers are suggested to choose appropriate teaching techniques and create an appropriate classroom environment for the ESL learners and encourage them to understand and apply certain language learning strategies to improve their language proficiency in an active learning way.

Implications

Important educational implications for educators and administrators in the English as a Second Language Program were suggested as a result of this study, addressing areas for development and improvement for English as a Second Language curriculum, ESL classroom and learning environment, ESL instruction, and teaching methods. Doing so will assist in promoting higher education level and student academic achievement in an ESL program, and improving learners' independence, confidence in the utilization of language learning strategies and enhancing their language ability.

English Language Educators

In an individualized classroom environment, Independence and Investigation are two very important elements in the findings of the study, being the significant predictors to three language learning strategies. An independent learner is someone who can manage his or her own learning to achieve this purpose and who is not wholly dependent on a teacher. Self-monitor and

self-management are very important. Teachers should encourage the students' self-regulation in their language learning process. Teachers can also provide Investigation in the classroom environment, to encourage learners to investigate and solve problems and collaborate on projects. In a classroom with Investigation, the learners could investigate independently, have coaching and guidance from the teachers, finally become an independent investigator. Group Investigation is another related conception. A teacher guides student through the investigation of a topic related to something else being studied in the class. Groups are divided by learner interest. The teacher assists in planning and carrying out the investigation, presenting the findings, and evaluating outcomes (Tomlinson, 2012). All of these teachers' actions in the classroom could lead the ESL learners' choice of Compensation, Metacognitive, Affective and Social language learning strategies.

Classroom Participation is a feature of many course designs. It can result in insightful comments and interesting connections being made by students and can foster a high level of energy and enthusiasm in the classroom learning environment. However, poorly managed participation can also lead to instructor frustration and student confusion. Some teaching strategies are needed to consider using to make your classroom participation more effective.

Personalization refers to Instruction that is paced to learning needs, tailored to learning preferences, and tailored to the specific interests of different learners. In a classroom with Personalization, learners have access to a set of technologies to support their own learning. In practice, the teacher could allow the learners to complete personalized tasks in a specified time. The teacher creates the agenda and gives specified instructions. The learners could determine the order of the tasks and the specified work time. Meanwhile, the teacher could coach the individuals' progress and give instructions to the learners with difficulties (Bray & McClaskey,

70

1982). In an environment that is fully personalized, the learning objectives and content, as well as the method and pace, may all vary. (Limbu, 2012) Individualized instruction is about using teaching strategies that connect with individual student's learning strategies. The ultimate goal is to provide a learning environment that will maximize the potential for student success.

Differentiated instruction is an instructional theory that allows teachers to face this challenge by taking diverse student factors into account when planning and delivering instruction. Differentiation is a philosophy – a way of thinking about teaching and learning (Tomlinson & Imbeau, 2010, p. 13). Differentiation isn't a fad. Differentiation isn't a trend. Differentiation isn't an invitation. Differentiation is meeting the needs of our students. Differentiation is doing what is best for our students. Differentiation is an expectation (Hewitt & Weckstein, 2011, p. 135). All of these teachers' actions about Personalization, Differentiation and Investigation, which was discussed in the last part, in the classroom could lead the ESL learners' choice of Memory strategies.

Teachers need to pay more attention to Participation, Personalization, Investigation and Differentiation aspects in the classroom to encourage the ESL learners' Memory language learning strategy. Memory strategies involve the mental processes for storing new information in the memory and for retrieving them when needed. These strategies entail four sets: creating mental linkages, applying images and sounds, reviewing well and employing action. (Oxford, 1990), which are all the above four aspects of individualized classroom.

Teachers need to pay more attention to Participation, Investigation and Differentiation aspects in the classroom to encourage the ESL learners' Compensation language learning strategy. Compensation strategies as language problem-solving techniques consist of various mental or physical activities carried out by students to resolve any language learning problems

71

they encounter and are divided into guessing intelligently and overcoming limitations in speaking and writing (Oxford, 1990). There are many specific classroom strategies which involve Participation, Investigation and Differentiation, such as guessing I am saying, let's paraphrasing.

Teachers should also be encouraged to pay more attention to Participation, Independence and Investigation and Differentiation in the classroom to lead ESL learners' choice of Cognitive strategy. Cognitive strategy is essential in learning a new language, which also has four sets: practicing, receiving and sending messages, analyzing and reasoning, and creating structures for input and output. Cognitive strategies are typically found to be the most popular strategies with language learners (Oxford, 1990). ESL learners should be encouraged to employ the Cognitive strategy. There are many instructional skills to create Investigation in a language classroom under the Cognitive strategy, such as recognizing and using formulas and patterns, recombining, using resources for receiving and sending messages, reasoning deductively and analyzing contrastively in Cognitive strategy. For classroom activities, there are also many good examples which are from the Investigation concept. For example, the classroom activity *Finding Your Way* requires a combination of many strategies, such as direct strategies like practicing naturalistically, guessing, and using imagery and indirect strategies like paying attention. This activity involves receiving and sending messages, creating a structure for input and output in Cognitive strategy. Another classroom activity *Create a Language Learning Notebook* helps learners create a notebook that will help them throughout their language learning, which is related to the arranging and planning your learning, evaluating your learning in Metacognitive strategy. These activities are all effective to create a classroom environment using Investigation.

ESL teachers should pay more attention to Personalization, Independence and Investigation instruction to encourage the ESL learners' choice of Affective and Social strategies. There are many instructional skills which are related to Personalization in a language classroom under the Affective strategies. For example, the instructional skills like grouping, meditation, and using relaxation, music, and laughter, rewarding yourself, listening to your body under Affective and Social strategies, are all related to the Personalization classroom.

Table 15

Major Strategies VS. specific strategies

Major strategies	Specific strategies
Compensation strategies	Guess what I am saying
	Let's Paraphrasing
Cognitive strategies	Receiving and sending messages
	Analyzing and reasoning
	Creating structure for input and output
Memory strategies	Creating mental linkages
	Applying images and sounds
	Reviewing well
	Employing action
Affective strategies	Lowering your anxiety
	Cooperating with others
	Taking your emotional temperature
Social strategies	Listen and self-talk
	Weigh competitiveness and cooperation
	Debate
Metacognitive strategy	Arranging and planning your learning
	Evaluating your learning

Note: Reproduced from "Language Learning Strategies" from Oxford,1990, p.69 & p.137, Copyright 1990 by Newbury House publishers.

English Language Administrators

English as a Second Language Program administrators needs to raise the ESL instructors' awareness of the influence of classroom environment on the ESL learners' language learning strategies. The ESL learners could learn in a favorable classroom environment so that they could employ effective language learning strategies. Finally, the ESL learners could improve their language achievement. An effective and popular classroom is ideal for language learning, and for the learners' progress. The ESL Program administrators are also suggested to getting to know more about their learners so that they could make a wise decision and issue an effective policy in the Program and help the learners' development.

Recommendations for Future Research

The following are recommendations for future research:

1. Further studies are needed to clarify ESL learners and EFL learners' strategy use in their English language learning.

2. Further studies are needed to clarify the traditional learners and adult learners' strategy use in their English language learning.

3. Further studies are suggested to distinguish the different strategy use between the English majors and non-English majors, or among other student groups.

4. Further research with a larger number of participants in a larger community to examine the language learning strategy and classroom environment.

5. Teachers' perspectives of classroom environment can be investigated together with students' perspectives of the individualized classroom.

6. Qualitative studies can be combined with quantitative studies to further explore learners' individual preference of classroom environment, language learning strategies and academic achievement in an ESL program.

References

Adamski, A., Fraser, B. J., & Peiro, M. M. (2013). Parental involvement in schooling, classroom environment and student outcomes. *Learning Environments Research*, *16*(3), 315-328.

Afari, E., Aldridge, J., & Fraser, B. (2012). Effectiveness of using games in tertiary-level mathematics classrooms. *International Journal of Science & Mathematics Education*, *10*(6).

Aldridge, J. M., Ala'i, K. G., & Fraser, B. J. (2016). Relationships between school climate and adolescent students' self-reports of ethnic and moral identity. *Learning Environments Research*, 19(1), 1-15.

Aldridge, J. M., & Fraser, B. J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research*, 19(2), 291-307.

Aldridge, J. M., Fraser, B. J., Fozdar, F., Ala'i, K., Earnest, J., & Afari, E. (2016). Students' perceptions of school climate as determinants of wellbeing, resilience and identity. *Improving Schools*, 19(1), 5-26.

Alkharusi, H. (2015). An evaluation of the measurement of perceived classroom assessment environment. *Int J Instruct*, 8, 45-54.

Altunay, D. (2014). Language learning strategies used by distance learners of English: A study with a group of Turkish distance learners of EFL. *Turkish Online Journal of Distance Education*, 15(3), 291-305.

Bagheri, F. (2015). The relationship between critical thinking and language learning strategies of EFL learners. *Journal of Language Teaching and Research*, 6(5), 969-975.

Baron, R. A., & Byrne, D. (1977). Understanding human interaction (2nd ed.). Boston: Allyn and Bacon.

Behroozizad, S., Nambiar, R. M., & Amir, Z. (2012). The relationship between language learning strategies and teacher's mediating role. *3L; Language, Linguistics and Literature,* The Southeast Asian Journal of English Language Studies., 18(2), 35-48. Cambridge: Cambridge University Press.

Bi, X. (2015). Associations between psychosocial aspects of English classroom environments and motivation types of Chinese tertiary-level English majors. *Learning Environments Research*, 18(1), 95-110.

Brophy, J., & Good, T. L. (1984). Teacher behavior and student achievement. Occasional Paper No. 73.

Caine, G., & Caine, R. N. (1994). Making connections: Teaching and the human brain. Menlo Park: Addison-Wesley.

Cavanagh, R. F. (2015). A unified model of student engagement in classroom learning and classroom learning environment: one measure and one underlying construct. *Learning Environments Research*, 18(3), 349-361.

Cejda, B. D., & Hoover, R. E. (2010). Strategies for faculty-student engagement: How community college faculty engage Latino students. *Journal of College Student Retention: Research, Theory & Practice,* 12(2), 135-153.

Chamot, A. U. (1998). Teaching learning language strategies to language students. (Report No. EDO-FL-025-976). ERIC Clearinghouse on Language and Linguistics: Washington, D.C. (ERIC Document Reproduction Service No. ED433719).

Cheung, A. C., & Slavin, R. E. (2016). How methodological features affect effect sizes in

education. *Educational Researcher*, 45(5), 283-292.

Chionh, Y. H., & Fraser, B. J. (2009). Classroom environment, achievement, attitudes and self-esteem in geography and mathematics in Singapore. *International Research in Geographical and Environmental Education*, 18(1), 29-44.

Christie, D., Tolmie, A., Thurston, A., Howe, C., & Topping, K. (2009). Supporting group work in Scottish primary classrooms: improving the quality of collaborative dialogue. *Cambridge Journal of Education*, 39(1), 141-156.

Clayton, K., Blumberg, F., & Auld, D. P. (2010). The relationship between motivation, learning strategies and choice of environment whether traditional or including an online component. *British Journal of Educational Technology*, 41(3), 349-364.

Cohen, A. D. (1995). Second language learning and use strategies: Clarifying the issues. (Report No. EDO-FL-023-639). ERIC Clearinghouse on Language and Linguistics: Washington, D.C. (ERIC Document Reproduction Service No. ED393307).

Cohn, S. T., & Fraser, B. J. (2016). Effectiveness of student response systems in terms of learning environment, attitudes and achievement. *Learning Environments Research,* 19(2), 153-167.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Crose, B. (2011). Internationalization of the higher education classroom: Strategies to facilitate intercultural learning and academic success. *International Journal of Teaching and Learning in Higher Education*, 23(3), 388-395.

Ding, X. W. (2016). The Effect of WeChat-assisted problem-based learning on the critical thinking disposition of EFL learners. *International Journal of Emerging Technologies in*

Learning, 11(12).

Domakani, M. R., Roohani, A., & Akbari, R. (2012). On the relationship between language learning strategy use and motivation. *3L; Language, Linguistics and Literature*, The Southeast Asian Journal of English Language Studies., 18(4), 131-144.

Dorman, J. P. (2009). Some determinants of classroom psychosocial environment in Australian Catholic high schools: A multilevel analysis. Journal of Catholic Education, 13(1).

Dorman, J. P., & Fraser, B. J. (2009). Psychological environment and affective outcomes in technology-rich classrooms: Testing a causal model. *Social Psychology of Education*, 12, 77–99.

Dorman, J. P. (2014). Classroom psychosocial environment and course experiences in pre-service teacher education courses at an Australian university. *Studies in Higher Education*, 39(1), 34-47.

Ensslin, A. (2006). Literary hypertext in the foreign language classroom: A case study report. *Language Learning Journal*, 33(1), 13-21.

Facione, N. C., & Facione, P. A. (1996). Externalizing the critical thinking in knowledge development and clinical judgment. Nursing Outlook, 44(3), 129-136.

Faulk, J., & Evanshen, P. (2013). Linking the Primary Classroom Environment to Learning. *YC Young Children,* 68(4), 40.

Fisher, D. L., & Fraser, B. J. (1983). A comparison of actual and preferred classroom environments as perceived by science teachers and students. *Journal of Research in Science Teaching,* 20(1), 55-61.

Fisher, D. L., & Fraser, B. J. (1985). Using short forms of several classroom environment scales to assess and improve classroom psychosocial environment.

Fowler, F. J. (2009). *Survey research methods* (4th ed.). Thousand Oaks, CA: Sage.

Fraser, B. J. (1982). Development of short forms of several classroom environment

scales. Journal of Educational Measurement, 19(3), 221-227.

Fraser, B. J. (1990). *Individualised classroom environment questionnaire*. Melbourne, Australia:

Australian Counsil for Educational research.

Fraser, B. J. (1994) Research on classroom and school climate. In D. Gabel (ed) *Handbook of*

Research on Science Teaching and Learning (pp. 493-541). New York: Macmillan.

Fraser, B. J., Aldridge, J. M., & Adolphe, F. G. (2010). A cross-national study of secondary

science classroom environments in Australia and Indonesia. *Research in Science*

Education, 40(4), 551-571.

Fraser, B. J., & McRobbie, C. J. (1995). Science laboratory classroom environments at schools

and universities: A cross-national study. *Educational Research and Evaluation,* 1(4),

289-317.

Fraser, B. J. (1998). Science learning environments: assessment, effects and

determinants. *International handbook of science education*, 527-564.

Fraser, B. J. (2002). Learning environments research: yesterday, today and tomorrow. In Studies

in educational learning environments: An international perspective (pp. 1-25).

Fraser, B. (2015). Classroom learning environments. *In Encyclopedia of Science Education* (pp.

154-157). Springer Netherlands.

Fraser, B. J. (2012). Classroom learning environments: retrospect, context and prospect.

In Second international handbook of science education (pp. 1191-1239). Springer

Netherlands.

Fraser, B. J., & Butts, W. L. (1982). The relationship between perceived levels of classroom

individualization and science-related attitudes. *Journal of research in Science Teaching*, 19(2), 143-154.

Ferguson, P. D., & Fraser, B. J. (1998). Student gender, school size and changing perceptions of science learning environments during the transition from primary to secondary school. *Research in Science Education*, 28(4), 387-397.

Galluzzi, E. G., Kirby, E. A., & Zucker, K. B. (1980). Students' and teachers' perceptions of classroom environment and self-and others-concepts. *Psychological Reports*, 46(3), 747-753.

Ghavamnia, M., Kassaian, Z., & Dabaghi, A. (2011). The relationship between language learning strategies, language learning beliefs, motivation, and proficiency: A study of EFL learners in Iran. *Journal of Language Teaching and Research*, 2(5), 1156-1161.

Good, T. L., & Brophy, J. E. (2000). Teacher expectations, Looking in Classrooms (pp. 74-121).

Green, J., & Oxford, R. L. (1995). A closer look at learner strategies, L2 proficiency, and gender. *TESOL Quarterly*, 29, 261-297.

Hamada, M., & Hassan, M. (2017). An interactive learning environment for information and communication theory. *Eurasia Journal of Mathematics, Science & Technology Education*, 13(1).

Hasan, A., & Fraser, B. J. (2015). Effectiveness of teaching strategies for engaging adults who experienced childhood difficulties in learning mathematics. *Learning Environments Research,* 18(1), 1-13.

Hong-Nam K.& Szabo S. (2012). Korean university students' language learning strategy use: EFL vs. ESL contexts. *College Reading Association Yearbook*;2012, Vol. 35, 333

Huang, J. (2009). What happens when two cultures meet in the classroom? *Journal of*

instructional psychology, 36(4), 335-343.

Kameli, S., Mostapha, G. B., & Baki, R. B. (2012). The influence of formal language learning

environment on vocabulary learning strategies. *Journal of Language Teaching and*

Research, 3(1), 23-29.

Karimian, Z., & Talebinejad, M. R. (2013). Students' use of translation as a learning strategy in

EFL classroom. *Journal of Language Teaching and Research*, 4(3), 605-610.

Kashefian-Naeeini, S., & Maarof, N. (2010). Language learning strategies used by ESL

university students. *International Journal of Learning*, 17(8).

Kiper, A., & Tercan, S. S. (2012). The usage of information technologies in classroom

environment among primary school teachers and their perception on in-service training

programs on it (Sample of Sakarya). *TOJET: The Turkish Online Journal of Educational*

Technology, 11(3).

Kittigosin, R., & Phoocharoensil, S. (2015). Investigation into learning strategies and delexical

verb use by Thai EFL learners. *3L; Language, Linguistics and Literature*, The Southeast

Asian Journal of English Language Studies., 21(2), 63-72.

Koh, N. K., & Fraser, B. J. (2014). Learning environment associated with use of mixed mode

delivery model among secondary business studies students in Singapore. *Learning*

Environments Research, 17(2), 157-171.

Kyle, D. W., & McCutcheon, G. (1984). Collaborative research: development and issues. *J.*

Curriculum Studies, 16(2), 173-179.

Lai, C. L., & Hwang, G. J. (2016). A self-regulated flipped classroom approach to improving

students' learning performance in a mathematics course. *Computers & Education*, 100,

126-140.

Lai, H. R., Chou, W. L., Miao, N. F., Wu, Y. P., Lee, P. H., & Jwo, J. C. (2015). A comparison of actual and preferred classroom environments as perceived by middle school students. *Journal of School Health,* 85(6), 388-397.

Lee, S. S., & Fraser, B. J. (2002). Laboratory Classroom Environments in Korean High Schools.

Lee, K. R., & Oxford, R. (2008). Understanding EFL learners' strategy use and strategy awareness. *Asian EFL Journal,* 10(1), 7-32.

Lewin, K. (2013). *Principles of topological psychology*. Read Books Ltd.

Lin, T. C. (2016). An investigation of the relationship between in-class and out-of-class efforts on student learning: empirical evidence and strategy suggestion. *Journal of the Scholarship of Teaching and Learning,* 16(4), 14-32.

Liu, H. J., & Chang, C. H. (2013). A study on language learning strategy use and its relation to academic self-concept: The case of E FL students in Taiwan. *Journal of Language Teaching and Research*, 4(2), 260-268.

Liu, L. (2012). An international graduate student's ESL learning experience beyond the classroom. *TESL Canada Journal*, 29(1), 77-92.

Liyanage, I., & Bartlett, B. J. (2012). Gender and language learning strategies: Looking beyond the categories. *The Language Learning Journal*, 40(2), 237-253.

Menzies, J. L., & Baron, R. (2014). International postgraduate student transition experiences: the importance of student societies and friends. *Innovations in Education and Teaching International,* 51(1), 84-94.

Miklowitz, D. J., & Clarkin, J. F. (1999). Balancing internal and external validity. *Prevention & Treatment*, 2(1), doi:10.1037/1522-3736.2.1.24c

McRobbie, C. J., & Fraser, B. J. (1993). Associations between student outcomes and

psychosocial science environment. *The Journal of Educational Research*, 87(2), 78-85.

Moos, R.H., & Trickett E.J. (1974). *Classroom Environment Scale manual*. Palo Alto, CA: Consulting Psychologists Press.

Naiman, N. (1975). The Good Second Language Learner. *Tesl Talk*, 6(1), 58-76.

Mortazavi, M. A., & Barjesteh, H. (2016). Exploring EFL learners' preferences, perceived needs, and perceptions about language learning strategies. *Journal of Language Teaching and Research,* 7(6), 1128-1135.

Murray, H. A. (1938). Explorations in personality.

Nguyen, N., & Godwyll, F. (2010). Factors influencing language-learning strategy use of English learners in an ESL context. *Mid-Western Educational Researcher*, 23(4).

Nijhuis, J., Segers, M., & Gijselaers, W. (2007). The interplay of perceptions of the learning environment, personality and learning strategies: A study amongst International Business Studies students. *Studies in Higher Education*, 32(1), 59-77.

Nikoopour, J., Salimian, S., Salimian, S., & Farsani, M. A. (2012). Motivation and the choice of language learning strategies. *Journal of Language Teaching and Research*, 3(6), 1277-1283.

Noriega, A. E., & Ventosa-Santaulària, D. (2007). Spurious regression and trending variables. *Oxford Bulletin of Economics & Statistics*, 69(3), 439-444. doi:10.1111/j.1468-0084.2007. 00481.x

O'Malley, J. M., & Chamot, A. U. (1990). Learning strategies in second language acquisition. Cambridge: Cambridge University Press.

O'Malley, J. M., Chamot, A. U., Stewner-Mazanares, G., Russo, R. P., & Kupper, L. (1985).

Osterholt, D. A., & Dennis, S. L. (2014). Assessing and addressing student barriers: Implications

for today's college classroom. *About Campus*, 18(6), 18-24.

Oxford, R. L. (1990). Language learning strategies (Vol. 210). New York: Newbury House.

Oxford, R. L. (1994). Language learning strategies: An update. ERIC Digest. (Report No. EDO-FL-95-02). ERIC Clearinghouse on Language and Linguistics: Washington, D.C. (ERIC Document Reproduction Service No. ED376707).

Oxford, R., & Burry-Stock. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the Strategy Inventory for Language Learning (SILL). *System,* 23, 153-175.

Oxford, R. L., Cho, Y., Leung, S., & Kim, H. (2004). Effect of the presence and difficulty of task on strategy use: An exploratory study. *International Review of Applied Linguistics*, 42, 1-47.

Oxford, R. L., & Cohen, A. D. (1992). Language learning strategies: crucial issues of concept and classification. *Applied Language Learning*, 3, 1-35.

Oxford, R. L., Lavine, R. Z., & Crookall, D. (1989). Language learning strategies, the communicative approach, and their classroom implications. *Foreign Language Annals*, 22(1), 29-39.

Peer, J., & Fraser, B. J. (2015). Sex, grade-level and stream differences in learning environment and attitudes to science in Singapore primary schools. *Learning Environments Research,* 18(1), 143-161.

Peoples, S. M., O'Dwyer, L. M., Wang, Y., Brown, J. J., & Rosca, C. V. (2014). Development and application of the elementary school science classroom environment scale (ESSCES): Measuring student perceptions of constructivism within the science classroom. *Learning Environments Research*, 17(1), 49-73.

Perks, T., Orr, D., & Al-Omari, E. (2016). Classroom re-design to facilitate student learning: A case study of changes to a university classroom. *Journal of the Scholarship of Teaching and Learning,* 16(1), 53-68.

Phoocharoensil, S. (2010). Language universals and learning strategies in L2 relative clause acquisition. *International Journal of Learning*, 17(2).

Ping, A. M., Baranovich, D. L., Manueli, M. K., & Siraj, S. (2015). Promoting self-regulation in vocabulary learning among Chinese EFL learners: A needs analysis. *The Asia-Pacific Education Researcher,* 24(1), 137-146.

Ping, W. A. N. G. (2009). Language learning strategies of distance learners. *Journal of Jiangxi Normal* University (Philosophy and Social Sciences Edition), 5, 030.

Porter, K. E., & MDRC. (2016). Statistical power in evaluations that investigate effects on multiple outcomes: A guide for researchers. *MDRC Quarterly*, 19(3), 557-584.

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M.

L. Kamil, et al. (Eds.), *Handbook of Reading Research* (pp.545-561). Mahwah, NJ: Lawrence Erlbaum Associates.

Rahimi, M., Riazi, A., & Saif, S. (2008). An investigation into the factors affecting the use of language learning strategies by Persian EFL learners. *Canadian Journal of Applied Linguistics/Revue canadienne de linguistique appliquée*, 11(2), 31-60.

Razak, N. A., & Saeed, M. A. (2014). Collaborative writing revision process among learners of English as a foreign language (EFL) in an online community of practice (CoP). *Australasian Journal of Educational Technology*, 30(5).

Riazi, A. (2007). Language learning strategy use: Perceptions of female Arab English majors. *Foreign Language Annals*, 40(3), 433-440.

Roehl, T. (2012). Disassembling the classroom–an ethnographic approach to the materiality of education. *Ethnography and Education*, 7(1), 109-126.

Rubin, J. (1975). What the" good language learner" can teach us. TESOL quarterly, 41-51.

Russell, A. M. (2010). Assessment of strategy inventory of language learning (SILL) in students learning a second language.

Sato, T. (1996). Type I and Type II error in multiple comparisons. *The Journal of Psychology: Interdisciplinary and Applied,* 130(3), 293-302. doi:10.1080/00223980.1996.9915010

Setiyadi, A. B. (2014). Skill-based categories: an alternative of language learning strategy measurement. *Journal of Language Teaching and Research*, 5(2), 360-370.

Shea, P., & Bidjerano, T. (2016). A national study of differences between online and classroom-only community college students in time to first associate degree attainment, transfer, and dropout. *Online Learning*, 20(3), 14-15.

Shih, S. S. (2015). The relationships among Taiwanese adolescents' perceived classroom environment, academic coping, and burnout. *School Psychology Quarterly*, 30(2), 307.

Shochet, I. M., & Smith, C. L. (2014). A prospective study investigating the links among classroom environment, school connectedness, and depressive symptoms in adolescents. *Psychology in the Schools*, 51(5), 480-492.

Shollen, S. L. (2016). Cultivating intellectual safety in a women and leadership course. *Journal of Leadership Education,* 15(3).

Sieber, S. D. (1973). The integration of field work and survey methods. *American Journal of Sociology,* 78, 1335–1359.

Sohrabi, B., & Iraj, H. (2016). Implementing flipped classroom using digital media: A comparison of two demographically different groups perceptions. *Computers in Human*

Behavior, 60, 514-524.

Spelman, M., Bell, D., Thomas, E., & Briody, J. (2016). Combining professional development & instructional coaching to transform the classroom environment in PreK–3 classrooms. Publication of National University, 30.

Stern, G.G. (1970) People in context: Measuring person-environment congruence in education and industry. New York: Wiley.

Su, C. Y. (2015). Language use or strategy use? Strategies for learning to speak English in a foreign language environment. 英語教學期刊, 39(1), 99-125.

Tabatabaei, O., & Hoseini, H. S. (2014). EFL and ESP learners' use of language learning strategies: A study of collocations. *Journal of Language Teaching and Research*, 5(1), 112-120.

Tahriri, A., & Divsar, H. (2011). EFL learners' self-perceived strategy use across various intelligence types: A case study. *Journal of Pan-Pacific Association of Applied Linguistics,* 15(1), 115-138.

Taylor, B. A., & Fraser, B. J. (2013). Relationships between learning environment and mathematics anxiety. *Learning Environments Research*, 16(2), 297-313.

Tezcan, S., & Deneme, S. (2015). A study on language learning strategy use of young Turkish learners. *Journal of Language Teaching and Research*, 7(1), 42-48.

Thomas, G. P., & Mee, D. A. K. (2005). Changing the learning environment to enhance students' metacognition in Hong Kong primary school classrooms. *Learning Environments Research*, 8(3), 221-243.

Trickett, E. J., & Moos, R. H. (1973). Social environment of junior high and high school classrooms. *Journal of educational psychology*, 65(1), 93.

Velayutham, S., Aldridge, J., & Fraser, B. (2012). Gender differences in student motivation and self-regulation in science learning: A multi-group structural equation modeling analysis. *International Journal of Science & Mathematics Education*, 10(6).

Walberg, H. J., & Anderson, G. J. (1968). Classroom climate and individual learning. *Journal of educational Psychology,* 59(6p1), 414.

Wenden, A. (1987). Conceptual background and utility. Learner strategies in language learning, 3-13.

Yabukoshi, T., & Takeuchi, O. (2009). Language learning strategies used by lower secondary school learners in a Japanese EFL context1. *International Journal of Applied Linguistics,* 19(2), 136-172.

Yang, X. (2013). Investigation of junior secondary students' perceptions of mathematics classroom learning environments in China. *Eurasia Journal of Mathematics, Science & Technology Education*, 9(3), 273-284.

Yin, H., & Lu, G. (2014). Development and validation of an instrument for assessing mathematics classroom environment in tertiary institutions. *The Asia-Pacific Education Researcher,* 23(3), 655-669.

Zareva, A. (2013). Strategy use of Russian pre-service TEFL university students: using a strategy inventory for program effectiveness evaluation. *International Journal of English Studies,* 13(1), 69-88.

Zhai, L. (2016). A study on Chinese EFL learners' vocabulary usage in writing. *Journal of Language Teaching and Research,* 7(4), 752-759.

APPENDIX A

English Language Learning and Classroom Environment Survey

DIRECTIONS: The following questions are about your learning styles, language learning strategies and preferred individualized classroom environment. Remember there is no right or wrong answers, please answer each question as accurately as possible by circling the correct answer or filling in the space provided. If you have any questions about the survey, don't hesitate to contact the researcher.

Part I Demographic Information

Please answer some questions about yourself. Your answer will be treated confidentially and only identified to the researcher of this study.

1. Gender:
   o Male
   o Female

2. Age:
   o Under 18 years old
   o 19-29 years old
   o 29-49 years old
   o 50 years and over
   o
(If you are younger than 18, please stop; If you are a8 or older, please continue…)

3. What is your ethnicity?

   o White
   o African American
   o Hispanic islanders
   o Asian
   o Something else (please specify)

   _____

4. What is your native country?

   Please specify _____

5. What is your native language? _____

6. How many years have you been learning English?

   o Less than 5 years
   o 5-10 years
   o 10-15 years
   o More than 15 years

Part II Strategy Inventory for Language Learning (SILL)

Please read each statement and check the box that best describes how you feel:
1= Never or almost never true of me to 5= Always or almost always true of me

	1. Never or almost never true of me	2. Usually not true of me	3. Somewhat true of me	4. Usually true of me	5. Always or almost always true of me
1. I think of relationships between what I already know and new things I learn in English.					
2. I use new English words in a sentence, so I can remember them.					
3. I connect the sound of a new English word and an image or picture of the word to help me remember the word.					
4. I remember a new English word by making a mental picture of a situation in which the word might be used.					
5. I use rhymes to remember new English words.					
6. I use flashcards to remember new English words.					
7. I physically act out new English words.					
8. I review English lessons often.					
9. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.					
10. I say or write new English words several times.					
11. I try to talk like native English speakers.					
12. I practice the sounds of English.					
13. I use the English words I know in different ways.					
14. I start conversations in the English.					
15. I watch English language TV shows spoken in English or go to movies spoken in English.					
16. I read for pleasure in the English.					
17. I write notes, messages, letters, or reports in the English.					
18. I first skim an English passage (read over the passage quickly) then go back and read carefully					

19. I look for words in my own language that are similar to new words in the English.					
20. I try to find patterns in the English.					
21. I find the meaning of an English word by dividing it into parts that I understand.					
22. I try not to translate English word for word.					
23. I make summaries of information that I hear or read in the English.					
24. To understand unfamiliar English words, I make guesses.					
25. When I can't think of a word during a conversation in the English, I use gestures.					
26. I make up new words if I do not know the right ones in English.					
27. I read English without looking up every new word.					
28. I try to guess what the other person will say next in English.					
29. If I can't think of an English word, I use a word or phrase that means the same thing.					
30. I try to find as many ways as I can to use my English.					
31. I notice my English mistakes and use that information to help me do better.					
32. I pay attention when someone is speaking English.					
33. I try to find out how to be a better learner of English.					
34. I plan my schedule, so I will have enough time to study English.					
35. I look for people I can talk to in English.					
36. I look for opportunities to read as much as possible in English.					
37. I have clear goals for improving my English skills.					
38. I think about my progress in learning English.					
39. I try to relax whenever I feel afraid of using English.					
40. I encourage myself to speak English even when I am afraid of making a mistake.					
41. I give myself a reward or treat when I do well in English.					

	1 ALMOST NEVER	2 SELDOM	3 SOMETIMES	4 OFTEN	5 VERY OFTEN
42. I notice if I am tense or nervous when I am studying or using English.					
43. I write down my feelings in a language learning dairy.					
44. I talk to someone else about how I feel when I am learning English.					
45. If I do not understand something in English, I ask the other person to slow down or say it again.					
46. I ask English speakers to correct me when I talk.					
47. I practice English with other students.					
48. I ask for help from English speakers.					
49. I ask questions in English.					
50. I try to learn about the culture of English speakers.					

Part III Individualized Classroom Environment Questionnaire (Preferred Short From)

Please read each statement and check the box that best describes how you feel:

1= Almost Never true of me to 5= Very Often true of me

Remember you are rating preferred classroom practices

	1 ALMOST NEVER	2 SELDOM	3 SOMETIMES	4 OFTEN	5 VERY OFTEN
51. The teacher would talk with each student.					
52. Students would give their opinions during discussions.					
53. The teacher would decide where students sit.					
54. Students would find out the answers to questions from textbooks rather than from investigations.					
55. Different students do different work.					
56. The teacher would take a personal interest in each student.					
57. The teacher would lecture without students asking or answering questions.					
58. Students would choose their partners for group work.					

59. Students would carry out investigations to test ideas.					
60. All students in the class would do the same work at the same time.					
61. The teacher would be unfriendly to students.					
62. Students' ideas and suggestions would be used during classroom discussion.					
63. Students would be told how to behave in the classroom.					
64. Students would carry out investigations to answer questions coming from class discussions.					
65. Different students would use different books, equipment and materials.					
66. The teacher would help each student who is having trouble with the work.					
67. Students would ask the teacher questions.					
68. The teacher would decide which students should work together.					
69. Students would explain the meanings of statements, diagrams and graphs.					
70. Students who work faster than others would move on to the next topic.					
71. The teacher would consider students' feelings.					
72. There would be classroom discussion.					
73. The teacher would decide how much movement and talk there should be in the classroom.					
74. Students would carry out investigations to answer questions, which puzzle them.					
75. The same teaching aid (e.g. Blackboard or Overhead Projector) would be used for all students in the class.					

Survey adapted from the version 7.0 of the Strategy Inventory for Language Learning (SILL) (Oxford, 1990), the Individualized Classroom Environment Questionnaire (ICEQ) Fraser (1982) and Fraser & Fisher (1983).

APPENDIX B Information Letter of the Survey for this Study

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)

INFORMATION LETTER
"Exploring the Relationship between the ESL Learners' Preferred Classroom Environment and Language Learning Strategies"

You are invited to participate in a research study to investigate *the preferred classroom environment and language learning strategies for the college-level ESL learners* in order to help the program administrators and educators to adjust their training plans and strategies to make the program adapt to new challenges and circumstances in their classroom teaching. This study is being conducted by Yanyan Gao, a PhD student from the Department of Educational Foundations, Leadership, and Technology, Auburn University, under the direction of Dr. Maria Witte, a professor of the Department of Educational Foundations, Leadership, and Technology at Auburn University. You were selected as a possible participant because you are currently studying in an ESL Program at the Auburn University, and you are **age 19 or older**.

 If you decide to participate in this study, you will be asked to finish an *English Language Learning and Classroom Environment Survey* in your language learning classroom. Your responses to the survey will be collected by the instructor and kept confidentially. Your total time commitment will be approximately 10 minutes.

Your participation in this study is completely anonymously and voluntarily. There are no any foreseeable risks in associated with this study. However, if you feel uncomfortable answering these questions, you can withdraw from the survey at any time. Your decision about whether or not to participate will not jeopardize your future relationships with the Department of EFLT and Auburn University.

.
There will be no costs to participation or compensation. Information collected through your participation may be used for dissertations, publication or professional presentations.

The Auburn University Institutional Review Board has approved this Document for use from
12/22/2017   to   12/21/2020
Protocol #   17-439 EX 1712

AUBURN UNIVERSITY

COLLEGE OF EDUCATION

EDUCATIONAL FOUNDATIONS, LEADERSHIP AND TECHNOLOGY

If you have questions about this study, please ask now or contact Yanyan Gao at yzg0022@auburn.edu.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334)-844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____   _____
Participant's signature   Date   Investigator obtaining consent   Date

_____   _____
Printed Name   Printed Name

4036 Haley Center, Auburn, AL 3684-5221; Telephone: 334-844-4460; Fax: 334-844-3072

w w w . a u b u r n . e d u

APPENDIX C
Approved Email from Office of Research Compliance of Auburn University

From: IRB Administration
Sent: Wednesday, March 1st, 2018, 2:40 pm
To: Yanyan Gao
Copy: Maria Witte
Subject: Approval, Exempt Protocol #17-439 EX 1712

Dear Yanyan,

Your protocol entitled " Exploring the Relationship between the ESL Learners' Preferred Classroom Environment and Language Learning Strategies" has been approved by the IRB as "Exempt" under federal regulation 45 CFR 46.101(b)(2).

Official notice:
This e-mail serves as official notice that your protocol has been approved. A formal approval letter will not be sent unless you notify us that you need one.   By accepting this approval, you also accept your responsibilities associated with this approval. Details of your responsibilities are attached. Please print and retain.

Consent document/Information Letter:
Attached is a scan of your new, stamped consent or information letter. You must provide a copy for each participant to keep. Also attached is a scan of your approved protocol.

Expiration – Approval for three year period:
Your protocol will expire on **December 21, 2020.**   About three weeks before that time you will need to submit a renewal request.

When you have completed all research activities, have no plans to collect additional data and have destroyed all identifiable information as approved by the IRB, please notify this office via e-mail. A final report is no longer required for Exempt protocols.

If you have any questions, please let us know.

Best wishes for success with your research!

IRB Admin
Office of Research Compliance
115 Ramsay Hall
Auburn University, AL 36849
334-844-5966

APPENDIX D
Authorization Letter from Shorelight Education Program

Date, 7/20/2017

Benjamin Felix Jelen
Associate Academic Director
Auburn Global
332 Foy Hall
Auburn University
Auburn, AL 36849

Dear IRB members,

After reviewing the proposed study, "Exploring the Relationship between the ESL Learners' Preferred Classroom Environment and Language Learning Strategies," presented by Yanyan Gao. I have granted authorization for sending the survey through the Auburn Global.

The purpose of the study is to investigate the ESL learners' preferred classroom environment and language learning strategies in a ESL program in order to help the program administrators and teachers to adjust their training plans and to make the program adapt to new challenges and circumstances. Yanyan Gao will conduct the survey and keep all the data confidentiality. It is understood that this project will be conducted in the Fall semester, 2017 after getting their IRB approval.

To ensure that the participants are protected, Yanyan Gao have agreed to provide me a copy of any Auburn University IRB-approved, stamped consent document before the participants are recruited. They have agreed to provide a copy of their study results, in aggregate, to our organization.

If the IRB has any concerns about the permission being granted by this letter, please contact me at felix.jelen@auburnglobal.org

Sincerely,

_____ (signature)

Benjamin Felix Jelen
Associate Academic Director
Auburn Global

APPENDIX E
Authorization Letter from the Instruments Authors

Authorization from Dr. Rebecca Oxford for the Strategy Inventory of Language Learning (SILL)

Rebecca Oxford <rebeccaoxford@gmail.com>
Tue 2/21/2017 11:38 AM
To: Yanyan Gao ≫

> Flag for follow up. Start by Tuesday, February 21, 2017. Due by Tuesday, February 21,

Dear Yanyan,

You have my permission to use the SILL in your dissertation.

All best,
Dr. Oxford
...

Authorization from Dr. Barry Fraser for the Individulized Classroom Environment Questionnaire (ICEQ)

Yanyan

You have my permission to use the ICEQ. Good luck with your research.

Just checking – do you know my review chapter on learning environment in Springer's Second International Handbook of Science Education?>

Dr Barry J Fraser

FIAE FTSE FASSA FAAAS FAERA FACE

John Curtin Distinguished Professor

Science and Mathematics Education Centre

School of Education