

## **RELATIONSHIP BETWEEN LEARNING STYLES AND ACADEMIC ACHIEVEMENT OF LOW AND HIGH PROFICIENCY STUDENTS IN FOUNDATION ENGLISH OF SRINAKHARINWIROT UNIVERSITY**

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**Abstract:** This research examined the learning styles of low and high proficiency students studying Foundation English at Srinakharinwirot University, studied the relationship between learning styles and academic achievement of low and high proficiency students, compared the learning styles between both groups, and investigated the relationship between learning styles and demographic variables. A total of 425 male and female students participated in this study. The study employed a mixed method research design which was both quantitative and qualitative. The Perceptual Learning Style Questionnaire by Reid (1995) was used to investigate the learning styles of students in the Foundation courses. The results showed that both low and high proficiency students had four major learning styles which included auditory, group, kinesthetic and visual. For low proficiency students, a significant relationship was found between visual learning style and academic achievement and for high proficiency students, a significant relationship was found between tactile learning style and academic achievement. In general, low and high proficiency had similar learning styles, which included auditory, group, kinesthetic and visual, in order of preference. A significant relationship was found between some demographic variables and students' learning styles. There was a significant relationship between tactile learning style and gender, as well as kinesthetic learning style and gender for low proficiency students. There was also a significant relationship between visual as well as auditory learning styles and faculty for low proficiency students. For high proficiency students, a significant relationship was found between kinesthetic learning style and faculty. Results from the research may help provide guidelines in develop teaching methodologies, instructional design, and learning support for English Foundation courses in the future.

**Keywords:** Learning Styles, Academic Achievement, Low Proficiency Students, High Proficiency Students, Foundation English.

### **Introduction**

Due to the establishment of the ASEAN Economic Community in 2015, Thailand has been experiencing rapid changes and challenges. Language learning is indeed one of these challenges, in particular the acquisition of the English language which is the main language of communication among people of ASEAN nations. Therefore, it is vital that educational institutions in Thailand understand the importance of the

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different ways which students acquire information and learn the English language. Knowledge about students' learning styles is of great significance for administrators, educators, and teachers alike. Students learn and gather information in various ways. Learning processes vary due to biological and psychological differences (Abidin et al., 2011). Each person is both with certain tendencies toward a particular style but these biological or inherited characteristics are influenced by culture, personal experiences, maturity level and development (Vaishnav, 2013). In a language classroom, students' learning styles also differ. Moreover, in a study by Benson and Nunan (2005), findings indicated that effective learners developed a high level of autonomy associated with a view of language learning being a tool of communication rather than simply a subject to be studied like other courses. In addition, a study by Wang (1992) showed that learning styles are one of the main learner differences in English language learning.

It has always been a major concern of educators, teachers and administrators to help their students achieve academic success. Chuah Chong-Cheng (1988) stresses the importance of learning styles as being necessary and significant for individuals in the academic environment. While learning a language especially a second language, factors including age, gender, motivation, intelligence, anxiety level, learning strategies and language learning styles determine the academic success of learners (Sharp, 2004).

Through numerous studies, it has been shown that both low and high proficiency students earn higher scores on standardized achievement tests when they are taught within the domain of their learning styles. Whichever learning styles students prefer, understanding their preferences in the way they acquire information may be valuable to teachers in their teaching as well as helping students to perform effectively in the classroom. Sarasin (2006) states that this awareness and understanding has abundant benefits for teachers. This knowledge enables students to understand about strengths and weaknesses of students, the types of activities they prefer or how students participate in the classroom as well as solve problems. Hence, this information may cause teachers and educators to reconsider their teaching methodologies.

In this era of 21<sup>st</sup> century globalization and emerging effects of the ASEAN Economic community, it is imperative that Thai educational leaders, administrators and teachers prepare students to compete effectively, overcome obstacles and learn how to survive. Therefore, an awareness of the relationship between students' English language learning styles and their academic achievement will have far-reaching effects on the policies, leadership, planning, management and classroom teaching of administrators, teachers and educators. To prepare students for a rapidly changing world filled with diverse challenges, administrators, teachers and educational leaders should consider students' preferences in the way they learn, since these preferences may enable them to learn a language more effectively, with more motivation, enthusiasm and dedication, thus paving the road ahead for them to be globally competent leaders in the future.

### **Objectives of Research**

There are four objectives:

1. To identify the learning styles of low proficiency and high proficiency students in Foundation English at Srinakharinwirot University
2. To examine the relationship between the learning styles of low and high proficiency students and their academic achievement in Foundation English at Srinakharinwirot University
3. To compare the learning styles of low and high proficiency students in Foundation English at Srinakharinwirot University
4. To examine the relationship between learning styles of low and high proficiency students in Foundation English at Srinakharinwirot University and demographic variables

### **Literature Review**

This study was based on Reid's Perceptual Learning Style Preference Model (1995). This section reviewed the definitions, concepts, and theories related to learning styles.

#### *Learning Styles*

Reid (1995) defines learning styles as internally based characteristics of individuals for the intake or understanding of information. Reid explains that learning styles are the learner's cognitive, affective and physiological factors that show how a learner perceives, interacts with and responds to the environment.

Learning style is an individual preferred or habitual way of processing or transforming knowledge Kolb (1984). Keefe (1979) defines learning styles as cognitive, affective and psychological characteristics that serve as indicators of how learners see, interact with and respond to the environment. Moreover, Celcia-Murcia (2001) describes learning styles as general approaches for instance, global or analytic, auditory or visual that learners utilize in learning a new language or subject.

Dunn and Dunn (1986) state that each individual's concentration on mental processes, internalization and retaining of new and complex information arise from his individual learning style. Cohen (1998) mentions that learning styles are processes that are chosen by students which may result in actions taken to develop learning or use of a second or foreign language through storage, retention, recall and application of information about that language. It is often defined as an individual's way of organizing and utilizing a particular set of skills in order to learn information or accomplish a task effectively. Brown (2000) describes learning styles as manners in which people view and process information in learning situations.

#### *Theories of Learning Styles*

##### Reid's Perceptual Learning Style Preference Model

A learning style model called Perceptual Learning Style Preference Model by Reid (1995) has been developed especially for learners of foreign language. Perceptual learning styles are classified into visual, auditory, tactile, kinesthetic, interpersonal and intrapersonal. Visual students are described as students who prefer to read and obtain information from visual stimulation. These learners have a preference for the use of pictures, imageries and spatial perceptions. Auditory students prefer to learn from unembellished lectures, conversations and oral directions. They are comfortable

while learning without visual input. On the other hand, kinesthetic students use the whole body while learning. They usually have a high level of gross motor-skills. Tactile students learn best through the sense of touch. They enjoy using their hands to learn new information. Furthermore, perceptual learning styles include two forms of social learning styles classified as group (interpersonal) and individual (intrapersonal). Students with interpersonal learning styles prefer learning in groups or with other people. In contrast, students with intrapersonal learning styles prefer to work alone and be self-readers.

#### Kolb's Learning Style Inventory

Kolb explains that different people naturally prefer a certain single different learning style. His learning theory (Kolb, 1975) includes four distinct learning styles, which are based on a four-stage learning cycle. He classified the learners based on four categories of preferences on taking and incorporating information such as accommodator, diverger, assimilator and converger. Various factors influence a person's preferred style. For example, social environment, educational experiences, or the basic cognitive structure of the individual.

#### Oxford's Strategy Inventory for Language Learning (SILL)

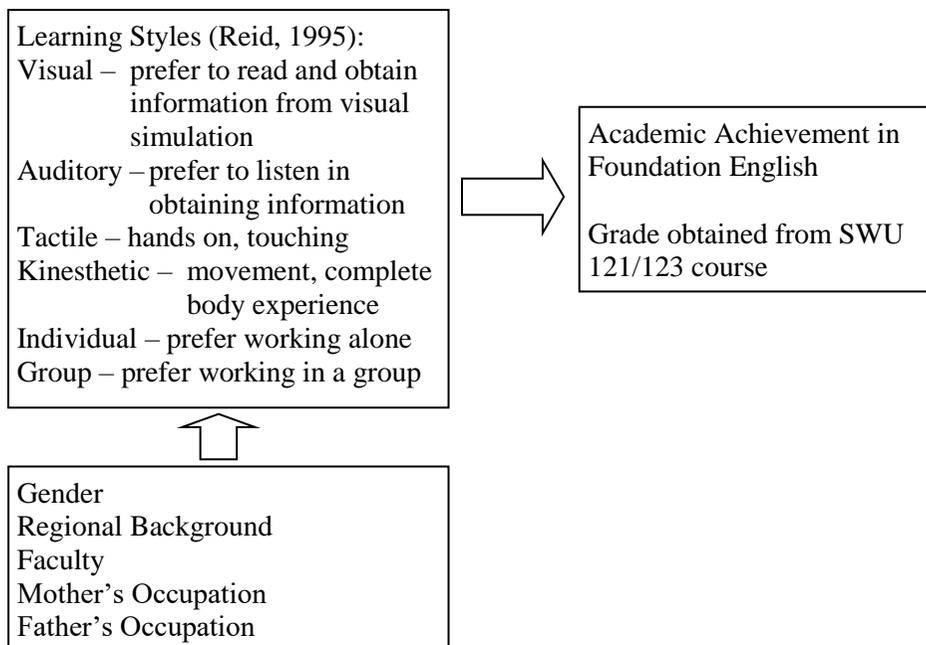
Oxford (1990) classifies learning strategies in to six types of strategies: Memory strategies help learners' link one concept with another but do not necessarily involve a deep level of understanding. Cognitive strategies help learners to manipulate the language in direct ways, for example through reasoning, analysis, note-taking, summarizing, synthesizing, and outlining. Compensatory strategies help learners make up for missing knowledge for instance, by guessing from the context in reading exercises. Metacognitive strategies enable the learner to control cognition e.g. planning for a task, gathering and organizing materials and evaluating task success, evaluating the success of any type of learning strategy and so forth. Affective strategies help learners to regulate emotions, motivations and attitudes. Finally, social strategies help the learners work with others and understand the target culture as well as language. These strategies are interrelated and at times may overlap with one another.

#### McCarthy's Four Learning Styles

Four learning styles have been identified by McCarthy (1990). Innovative learners search for personal meaning while they learn, drawing on values, enjoying social interaction, cooperation with the desire to make the world a better place. Analytic learners have a desire for intellectual development and learning 'important things' to add to the world's knowledge, drawing on facts while learning; patient and reflective. Common sense learners have a desire to find solutions since they value useful things; they are kinesthetic, practical and straightforward and would like to make things happen. Finally, dynamic learners search for hidden possibilities, judge by gut feeling, synthesizing information from diverse sources; are enthusiastic and adventurous.

### **Conceptual Framework**

Figure 1 below shows the conceptual framework of this study.



**Figure 1: Conceptual Framework of This Study**

### Methodology

The study was a mixed methodology research which was both quantitative and qualitative. The researcher identified low and high proficiency students from English Foundation courses at Srinakharinwirot University. The low proficiency students were all the students studying SWU 121 (English for Effective Communication I). The high proficiency students are all the students studying SWU 123 (English for International Communication I) in the first term of the academic year 2014. By simple random sampling method, a total of 425 Srinakharinwirot University students studying the Foundation courses SWU 121 (English for Effective Communication I) and SWU 123 (English for International Communication I) participated in this research. There were 247 female students and 178 male students.

### Research Instrument

In order to collect data, the researcher used the PLSPQ or Perceptual Learning Style Preference Questionnaire developed by Joy Reid (1995) particularly used for learners of foreign languages. The questionnaire was translated into Thai by a lecturer with a degree in Translation, then verified and modified by three bilingual experts (fluency in English and Thai) with more than 5 years of experience in English language teaching. Part I of the questionnaire asked questions about the students' background covering gender, regional background, faculty and occupation of parents. Part II of the questionnaire consists of 30 self-report questions which subjects are expected to indicate how much they agree with each item on a scale of 1-5 when they learn English. Each number shows measurement such as 5) strongly agree, 4) agree, 3)

undecided, (2) disagree and 1) strongly disagree. Reid (1995) classified learning styles as Major, Minor or Negligible. Major is a preferred learning style, Minor is one in which learners can still function well, and Negligible is the one that can do the learning process more difficult. This questionnaire will measure the way students primarily learn with their eyes (visual), with their ears (auditory), by whole body experience (kinesthetic) or hands-on tasks (tactile). In addition, the questionnaire will also measure whether students prefer to work alone or work in a group.

### **Qualitative Part**

Furthermore, interview questions were developed from the review of literature and research, as well as research questions. The interview questions were evaluated by three experts in the field of English language instruction. Some questions were modified based on recommendations by the experts. Questions included content related to the students' learning styles in studying the English foundation course 121 and 123 related to visual, auditory, kinesthetic, tactile, individual or group. In addition, questions also covered learning styles and its possible impact or relationship with academic achievement. Finally, questions will also cover the students' personal background including parents' occupation, regional background, and faculty in order to find out whether there is a relationship between these demographic variables and the students' learning styles. The researcher interviewed 7 students, selected by simple random sampling to answer the above questions.

### **Findings**

#### *Objective 1: To Identify the Learning Styles of Low Proficiency and High Proficiency Students in Foundation English at Srinakharinwirot University*

It was found that the low proficiency (English for Effective Communication I) students had four major learning styles, ranging from auditory, group, kinesthetic and visual in order of preference. In addition, the results indicated that the high proficiency (English for International Communication I) students also had four major learning styles, ranging from auditory, group, kinesthetic and visual in order of preference.

#### *Objective 2: To Examine the Relationship between the Learning Styles of Low and High Proficiency Students and Their Academic Achievement in Foundation English at Srinakharinwirot University*

The results show that there was a positive relationship between visual learning style and the academic achievement of low proficiency or SWU 121 students. Moreover, there was also a positive relationship between tactile learning style and the academic achievement of high proficiency or SWU 123 students. The results indicated that there was not any significant relationship between tactile, auditory, group, kinesthetic and individual learning styles and the academic achievement of low proficiency students. On the other hand, there was not any significant relationship between visual, auditory, group, kinesthetic and individual learning style and the academic achievement of high proficiency students.

**Table 1: Learning Styles and Academic Achievement of Low Proficiency (SWU 121) Students and High Proficiency (SWU 123) Students**

Learning Style	Sig. low proficiency (SWU121)	Sig. high proficiency (SWU123)	Result for low proficiency students (SWU121)	Result for high proficiency (SWU123)
1. Visual	0.002	0.286	Significant relationship	No relationship
2. Tactile	0.625	0.021	No relationship	Significant relationship
3. Auditory	0.067	0.757	No relationship	No relationship
4. Group	0.571	0.339	No relationship	No relationship
5. Kinesthetic	0.321	0.342	No relationship	No relationship
6. Individual	0.617	0.651	No relationship	No relationship

*Objective 3: To Compare the Learning Styles of Low and High Proficiency Students in Foundation English at Srinakharinwirot University*

**Table 2: Comparison of Learning Styles of SWU 121 and 123 Students**

Learning Style	SWU121(%)	SWU123(%)
1. Visual		
Major learning Style Preference	54.30	61.90
Minor learning Style Preference	44.50	38.10
Negligible	1.20	0.00
2. Tactile		
Major learning Style Preference	43.50	37.10
Minor learning Style Preference	53.80	54.60
Negligible	2.70	8.20
3. Auditory		
Major learning Style Preference	75.10	74.20
Minor learning Style Preference	24.60	25.80
Negligible	0.30	0.00
4. Group		
Major learning Style Preference	70.40	73.20
Minor learning Style Preference	28.10	24.70
Negligible	1.50	2.10
5. Kinesthetic		
Major learning Style Preference	64.70	62.90
Minor learning Style Preference	34.10	35.10
Negligible	1.20	2.10
6. Individual		
Major learning Style Preference	24.40	19.80
Minor learning Style Preference	53.90	60.40
Negligible	21.70	19.80

The table shows that in general, there was a similarity between the learning styles of low proficiency and high proficiency students studying Foundation English. The major learning styles of both groups are auditory, group, kinesthetic, and visual, in the order of preference.

*Objective 4: To Examine the Relationship between Learning Styles of Low and High Proficiency Students in Foundation English at Srinakharinwirot University and Demographic Variables*

Table 3 indicated that there was a significant relationship between some demographic variables and students' learning styles. A significant relationship was found between tactile learning style and gender, as well as kinesthetic learning style and gender for low proficiency students. In addition, there was a significant relationship between visual as well as auditory learning styles and faculty for low proficiency students. For the high proficiency students, there was a significant relationship between kinesthetic learning style and faculty. Other demographic variables such as region, mother's occupation and father's occupation did not have any relationship with the students' learning styles.

**Table 3: Relationship between Learning Styles of SWU 121 and SWU 123 Students and Demographic Variables**

(Demographic variables)	(Learning Styles)	Low proficiency (SWU121)		High proficiency (SWU121)	
		Pearson Chi-Square Asymp. Sig. (2-sided)	0.05 level	Pearson Chi-Square Asymp. Sig. (2-sided)	0.05 level
1. Gender	1. Visual	0.337		0.732	
	2. Tactile	0.040	Significant	0.732	
	3. Auditory	0.701		0.864	
	4. Group	0.522		0.220	
	5. Kinesthetic	0.002	Significant	0.939	
	6. Individual	0.854		0.090	
2. Regional Background	1. Visual	0.321		0.570	
	2. Tactile	0.743		0.748	
	3. Auditory	0.192		0.434	
	4. Group	0.108		0.184	
	5. Kinesthetic	0.158		0.344	
	6. Individual	0.436		0.191	
3. Faculty	1. Visual	0.023	Significant	0.490	
	2. Tactile	0.200		0.484	
	3. Auditory	0.001	Significant	0.732	
	4. Group	0.074		0.574	
	5. Kinesthetic	0.087		0.029	Significant
	6. Individual	0.215		0.074	

**Table 3: Relationship between Learning Styles of SWU 121 and SWU 123 Students and Demographic Variables**

(Demographic variables)	(Learning Styles)	Low proficiency (SWU121)		High proficiency (SWU121)	
		Pearson Chi-Square	0.05 level Asymp. Sig. (2-sided)	Pearson Chi-Square	0.05 level Asymp. Sig. (2-sided)
4. Mother's Occupation	1. Visual	0.447		0.781	
	2. Tactile	0.373		0.599	
	3. Auditory	0.384		0.680	
	4. Group	0.609		0.954	
	5. Kinesthetic	0.395		0.735	
	6. Individual	0.622		0.433	
5. Father's Occupation	1. Visual	0.493		0.934	
	2. Tactile	0.228		0.913	
	3. Auditory	0.340		0.141	
	4. Group	0.414		0.195	
	5. Kinesthetic	0.550		0.669	
	6. Individual	0.335		0.935	

### Interview Results

#### *Low Proficiency Students (SWU 121)*

Most of the low proficiency students had a variety of learning styles ranging from visual, auditory, kinesthetic, tactile and group learning styles. Individual learning style was not emphasized. They mentioned that visual learning style is the most important in acquiring information and learning the English language. Seeing the content on power point, textbooks, whiteboards help students to remember the content more effectively. In addition, kinesthetic learning styles such as activities, role plays, games, and contests help English learning to be more active and enjoyable.

#### *High Proficiency Students (SWU 123)*

Most of the high proficiency students had a variety of learning styles ranging from visual, auditory, kinesthetic, tactile and group learning styles. They mentioned that they prefer tactile and kinesthetic learning style, rather than visual and auditory learning styles, meaning that they would rather engage in hands on projects in which they can use their creativity as well as whole body movement activities such as role plays and group presentations in learning and acquiring knowledge rather than listening to lectures and reading textbooks.

### Discussion

In this section, the results are divided according to the objectives, and are as follows:

### *Learning Styles of Low and High Proficiency Students*

The results showed that the low proficiency Thai students studying the Foundation course SWU 121 had four major learning styles which include the highest being auditory (39.58), followed by group (39.24) and then kinesthetic (38.47). On the other hand, for the higher proficiency Thai students studying the Foundation course SWU 123 the highest being auditory (39.30), followed by group (38.87), followed by kinesthetic (38.60), and followed by visual (38.39). According to Khmakien (2012), Thai University EFL students with age range of 18-20 years preferred auditory learning style the most, followed by kinesthetic, group, tactile, visual and individual learning. Tuan's (2011) research showed that students with shorter length of studying English had a variety of preferred learning styles, except for individual style. However, students with higher levels of English preferred kinesthetic and tactile learning. Srichanyachon's (2012) study found that there was a positive relationship between students' English background knowledge, learning styles and learning motivation. Students with higher background in English were found to have a greater variety of learning styles as well as more motivation to learn English.

Furthermore, Brahmakaskikara (2013) identified the learning styles of Thai students studying English III in university, and the results indicated that the majority of the students are auditory/verbal learners.

### *Relationship between Learning Styles and Academic Achievement of Low and High Proficiency Students*

The research results indicate that among the six learning styles, there are only two learning styles, visual learning style and tactile learning style that have a statistically significant relationship with academic achievement or student grades. In other words, visual learning style affects the academic achievement of low proficiency (SWU 121) students and tactile learning style affects the academic achievement of high proficiency (SWU 123) students. It appears that students with lower proficiency prefer learning by reading, looking at pictures or gathering information visually from images. They want to see what they need to learn in order to remember the information effectively. These students tend to focus and rely on teacher to provide the contents well for students' understanding. "Seeing" not just "believing" but it also "remembering and understanding". Therefore, teachers teaching lower proficiency students should provide content with visual stimulation so that students can acquire the information and also achieve academic success.

Vaishnav's (2013) research found that very negligible positive correlation between Visual Learning Style and academic achievement of secondary school students. Brahmakasikara's study (2013) found out that there was no statistically significant relationship between learning styles and academic achievement. In addition, in Renou's (2004) study of perceptual learning styles and achievement in a university level foreign language course, the findings indicated that there is no statistically significant relationship between learning styles and grades. Moreover, Gappi (2008) investigated the learning style preferences of freshman students and found out that there was no correlation between the academic achievement of students and their learning styles.

*Comparison between the Learning Styles of Low and High Proficiency Students in English Foundation Course*

In general, it can be noted that there is a similarity between the learning styles of both low and high proficiency students, with both groups preferring auditory, group, kinesthetic and visual (in order of preference). Khmakiens' study (2012) showed that Thai EFL learners preferred auditory learning style over other learning styles. Whether low or high proficiency, Thai students tend to prefer listening to the teacher and participating in activities that are auditory in nature such as lectures, listening exercises, etc. This may be due to their learning experience from high school in which students are used to following the teacher's advice, content and methods rather than deciding themselves what is to be learned. Thai education system has placed a lot of emphasis on rote learning and dependence on teachers' knowledge rather than individual creativity (Cheng et al., 2006) The students' preference for group learning style may be related to the collectivist nature of Thai society. The nature of Thai society has been essentially collectivist and hierarchical (Holmes and Tangtongtavy, 1995) However, recently, kinesthetic learning style has become becoming more important as classes in high school and university has become more "student centered" in nature following the National Education Act of 1999 which emphasizes learning activities that are derived from real experiences.

*Learning Styles of Low Proficiency and High Proficiency Students and Demographic Variables*

The results from the research show that there was a relationship between tactile and kinesthetic learning styles and gender for low proficiency students. According to Naserieh, Reza, and Sarab (2013), the perceptual strengths of males tend to be visual, tactile, and kinesthetic while females tend to be more auditory. Furthermore, the results from Khmakien's study found that there was not any significant difference between Thai students' perceptual learning styles and gender differences. In a study by Knight et al., (1997) results indicated that there were not any significant differences between male and female learning styles. According to Shuib et al., (2015), gender does not play any role in the differentiation of learning styles of Malaysian students who study English as a second language. Srichanyachon's (2012) study concluded that there were not any differences found in EFL students' learning styles and learning motivation in gender.

The results also indicated that there was a significant relationship between visual and and faculty for low proficiency students. The Physical Education students were the most visual, followed by Economics and Public Policy, and then followed by Social Sciences students. In addition, there was also a significant relationship between auditory learning style and faculty for low proficiency students. Science students were the most auditory, followed by Social Sciences students, and then Physical Education students. On the other hand, there was a significant relationship between kinesthetic learning style and faculty for high proficiency students. The Social Sciences students were the most kinesthetic, followed by Engineering, and then followed by Medical students. There was not any significant relationship for the other learning styles and faculty. Khmakhien's (2013) study showed that there was a significant relationship between kinesthetic learning style and field of study. Other

learning styles were not differentiated by field of study or faculty. Srichanyachon's (2012) research showed that there were not any differences in learning styles in EFL students' field of study. Fazarro and Martin's (2004) study showed that learning style preferences differ according to different majors. Moreover, Al Khatib et al., (2013) concluded that students in education fields were more tactile than students in other fields of study. All in all, it is interesting to note that different faculties may not have the same learning styles according to the results of this research, and an awareness of these differences may help students to learn English more effectively in an environment that is conducive to their learning style preferences.

### **Conclusion**

This study demonstrates that an awareness and understanding of students' learning styles as well as their relationship to academic achievement is important in helping Thai university students learn English effectively with enthusiasm and enjoyment. In light of the challenges that the AEC era brings, an appreciation of the diverse learning styles of high and low proficiency students will help teachers in developing teaching methodologies, instructional design, course materials, and evaluation for Foundation English courses. Moreover, it can help in problem solving and learning support for students with language learning problems. It is recommended that research is conducted on the teaching styles of teachers of Foundation English courses at Srinakharinwirot University to order to match the teaching styles with learning styles in order to develop a model on Teaching and Learning Styles for Foundation English at Srinakharinwirot University.

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