Determinants of English Language Proficiency: A Multifaceted Analysis

Panomporn Vajirakachorn [1], Akaraphun Ratasuk [1], Krittiya Anuwong [2]*

[1] Faculty of Food Business Management, Panyapiwat Institute of Management, Nonthaburi 11120, Thailand.

[2] School of Political Science and Public Administration, Walailak University, Nakorn Sri Thammarat 80110, Thailand.

Abstract

This study investigates the determinants of English language proficiency among students at Panyapiwat Institute of Management (PIM) in accordance with the Common European Framework of Reference for Languages (CEFR) standards. The determinant factors under examination encompass students' attitudes, prior English language knowledge, information-seeking behavior, satisfaction with English language learning, teachers' expertise, teacher readiness, teaching methodologies, familial support, environmental factors, and international exposure. Data were gathered through a survey administered to 469 PIM students, and the analysis employed Partial Least Squares Structural Equation Modelling. The findings revealed that five significant factors influence PIM students' English proficiency, namely their prior English language knowledge, inclination toward seeking knowledge, teachers' expertise, classroom environment, and practical language usage experiences. Additionally, the research demonstrated a noteworthy impact of students' Grade Point Average (GPA) and the time dedicated to learning English on their CEFR scores. This study contributes to the field by shedding light on the multifaceted factors influencing English language proficiency among PIM students, offering insights that can inform language education strategies and policies. It emphasizes the importance of prior knowledge, information-seeking behavior, teacher quality, classroom environment, and practical language application in enhancing English language skills.

1- Introduction

English language proficiency is important to the development of Thailand's many industries and its overall economy. English is popular in everyday communication as well as in the academic, business, and entertainment fields. Due to the importance and influence of English, students who acquire proficient English skills have an increased chance of a more prosperous future. English was established as the only working language of the Asian Economic Community (AEC) in 2007 in accordance with Article 34 of the ASEAN Charter in order to improve communication among the ten member nations. Although English is essential to each country and has become an indicator of its competitiveness, according to the World Competitiveness Yearbook (2021) of the International Institute for Management Development (IMD), which ranks countries' performance according to scientific infrastructure and education criteria, Thailand was placed in the 28th position in terms of its economy, 38th in terms of scientific infrastructure, and 56th in the area of educational competitiveness among 64 countries [1].

The annual survey of English Proficiency by the global language education company EF Education First (2021) [2] ranked the Netherlands at the top of the world (663 points), followed by Austria (641 points), Denmark (636 points),

and Singapore (635 points). Among ASEAN countries, Singapore maintained the top ranking in English proficiency level, followed by the Philippines and Malaysia (18th and 28th in the world, respectively). While Vietnam and Indonesia ranked 66th and 80th, respectively, and were regarded as having low proficiency. Myanmar and Cambodia ranked 93rd and 97th, respectively. Thailand ranked 100th with a score of 419 points and was placed as the lowest in ASEAN, excluding Laos and Brunei. In 2019, Thailand also ranked 74th and dropped to 89th in 2020.

In terms of determinant factors affecting English proficiency, this study will focus on two academic works. The first is the study by Jakobovits (1971) [3], which suggests the main factors that make teaching and learning effective are: (1) teaching factors, such as teacher quality, students' learning opportunities, and assessment criteria; (2) Learner factors, including the ability to understand teaching, learners' competence, motivation for achievement, positive attitude towards teachers, and learning strategies; and (3) Social and cultural factors, such as adherence to one's own language, linguistic composition, and biculturalism in society.

The other academic work is by Gardner & Lambert (1972) [4], who assert a theory that includes factors such as learner attitudes, parents' support, socio-economic status, intelligence level of each learner, study habits, prior knowledge, teaching quality, and learning opportunity. Most of the variables from these two theories and ideas will be applied to create a theoretical framework and tested with the students from Panyapiwat Institute of Management, a specialized higher education institution that focuses on education and research in the retail business. To create graduates with academic quality and the ability to work practically, the institute provides teaching and learning according to the work-based education concept. Therefore, all undergraduate students should have knowledge of English language skills at a good level. PIM has implemented a policy for students to test their English language proficiency in accordance with the Common European Framework of Reference for Languages (CEFR) standard once a year. In order to evaluate this policy, this study aims to identify the English language level of students and the determinant factors affecting their ability to reach the desired proficiency levels. The findings of this research will be used as a guideline for teaching and learning development to improve such skills in the future.

1-1- Research Objectives

This study aims to identify the determinants of English language proficiency of Panyapiwat Institute of Management (PIM) students according to CEFR standards. The determinant factors include students' attitudes, their prior knowledge of English, their knowledge-seeking behavior, their satisfaction with learning English, teachers' knowledge, teacher readiness, teaching methods, family support, environmental factors, and international experience.

1-2- Research Importance

The expected benefits of this research include:

- To be able to identify the relationship between student, teacher, and environmental factors and the English language proficiency of Panyapiwat Institute of Management (PIM) students according to CEFR standards.

- To be able to identify the determinants of English language proficiency of PIM students according to CEFR standards.

- Relevant parties in the Panyapiwat Institute of Management (PIM) will utilize the results of research to improve the English language activities in order to enhance the English language skills of PIM students.

2- Conceptual Framework

This research has been studying ideas and theories from Thai and international academics about what influences learning success, such as Srisopha (2022) [5], who argues that the attitude toward learning English, student preparation, student availability, and the learning environment in the classroom are all student-related elements that affect learning success in the English for Communication course. This is in line with the finding of Mupa & Chinooneka (2015) [6], who found that the high failure rate of students in grade seven schools in Zimbabwe is caused by instructors not using several types of teaching techniques, not preparing a variety of teaching and learning media, and limiting teachers' instructional materials to textbooks and curricula. This was also in line with the findings of Adamku (2022) [7], Muftah (2022) [8], Santiwatthanasiri (2018) [9], Hamad (2013) [10], Gardner & Lambert's (1972) theories and ideas [4], stating that the majority of students improved significantly when they were exposed to circumstances that gave them the chance to use communicative language engagement in cross-cultural communication, form bonds with foreign teachers and students, or explore personal or international interests [11]. As a result, the researcher established the following conceptual framework in Figure 1 for the investigation employing the aforementioned concept:
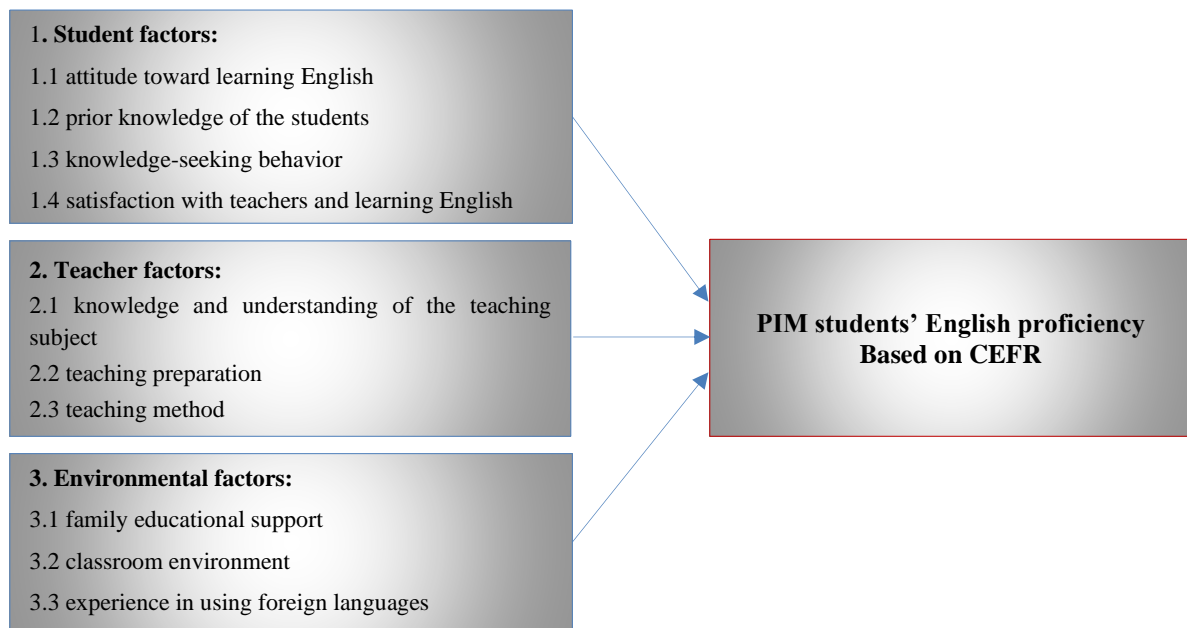
Figure 1. Research Conceptual Framework

3- Literature Review and Hypothesis Development

3-1- Attitude toward Learning English and the English Language Proficiency of PIM Students according to CEFR

Students' attitude toward learning is an important factor in learners' goal-setting, problem-solving skills, beliefs about learning, internal and external motivation in the learning process, and overall academic performance. Larasati (2020) [12] states that a positive attitude in learning English will increase students' motivation to improve their proficiency. The study by Imsa-ard (2020) [13] found that Thai EFL students are highly motivated, and they are keen to learn and improve their English. In addition, he also described that students' attitudes are related to their proficiency levels in the language to be learned. Accordingly, Hypothesis 1 was proposed:

Hypothesis 1: Attitude toward learning English is positively related to the English language proficiency of PIM students according to CEFR.

3-2- The Learner's Prior Knowledge and the English Language Proficiency

Brain research by psychologists at Carnegie Mellon College confirms that it is easier to learn something new if we can associate it with something we already know [14]. Other research by Spires & Donley (1998) [15] supports the idea that prior knowledge activation is a crucial step in learning process. In addition, Khataee's (2019) [16] research also found that priority knowledge plays a large role in improving English language learners' academic reading skills. Accordingly, Hypothesis 2 was proposed:

Hypothesis 2: The learner's prior knowledge has a positive relationship with the English language proficiency of PIM students according to the CEFR framework.

3-3- The Learners' Knowledge-seeking Behavior and the English Language Proficiency

The findings by Miraj et al. (2021) [17] show that seeking knowledge has a favorable and significant impact on academic achievement. In addition, according to the study, students who could discover specific information about their educational requirements performed better academically than students who couldn't find precise information about their academic demands. Accordingly, Hypothesis 3 was proposed:

Hypothesis 3: Learners' knowledge-seeking behavior is positively related to the English language proficiency of PIM students according to the CEFR framework.

3-4- Learners' Satisfaction with Teachers and the English Language Proficiency

The research of Prawadlerdruk (2015) [18] finds that students are satisfied with teachers who allow them to ask questions and share ideas, correct mistakes effectively, explain difficult topics clearly, connect their prior knowledge to new content and provide them with good advice. They were also more satisfied with their teachers who are punctual, warm, friendly, emotionally stable, and good at listening to their opinions. The study by Qutob (2018) [19] revealed that the satisfaction of students increases with a language teacher who delivers the best quality of teaching. For example,

teachers using the "flipped classroom" model can improve their student's English speaking ability as stated in Li & Suwanthep's research (2017) [20]. Accordingly, Hypothesis 4 was proposed:

Hypothesis 4: Learners' satisfaction with teachers has a positive impact on the English language proficiency of PIM students according to the CEFR framework:

3-5- Teachers' Knowledge and Understanding of the Teaching Subject and their English Language Proficiency

Teachers are role models and can influence students' achievement. The quality of teachers is very important. Teachers who are lacking in English language proficiency will lead to low proficiency in students. This implies that teacher proficiency is very important for students' acquisition of English as a second language. Pham's (2022) [21] research also supports the necessity of having teachers who are proficient in the language they are teaching. The results showed that student perceived knowledge and understanding of teacher as the most important factor. The finding by Ozcan (2021) [22] also supports that professionalism, serving as a role model, communication, attitude, motivation, and mentoring are all factors that teachers use to influence students' academic success. Accordingly, Hypothesis 5 was proposed:

Hypothesis 5: Teachers' knowledge and understanding of the teaching subject has a positive relationship with the English language proficiency of PIM students according to the CEFR framework.

3-6- Teachers' Teaching Preparation and the English Language Proficiency

The findings of Boyd (2008) [23] indicate that some aspects of teacher training might influence student outcomes. Teacher preparation focuses more on classroom work and allows instructors to research what they will be teaching. Even competent teacher may struggle to fulfill the requirements of English Learner (EL), and many secondary EL instructors report that the preparation and assistance they most desire and need are the least readily available [24]. The research results mentioned in Menken & Holmes (2000) [25] show that teacher quality has a direct influence on student achievement. Accordingly, Hypothesis 6 was proposed:

Hypothesis 6: Teachers' teaching preparation is positively related to the English language proficiency of PIM students according to the CEFR framework.

3-7- Teachers' Teaching Method and the English Language Proficiency

Many writers have conducted studies to determine if learning styles affect how students learn languages. Many experts believe that certain instructors may change their teaching style to better suit the learning style of a specific student or group of them. Others, on the other hand, believe that a mismatch of learning and teaching methods encourages and challenges students to learn more. According to the findings, students may learn English more easily after being aware of their unique learning patterns. Furthermore, it was determined that it is beneficial for teachers to adapt their teaching methods to their student's learning preferences [26]. The study by Reflianto et al. (2021) [27] showed that teachers' ability to create question levels and questioning tactics lends well to unique learning patterns. In addition, language understanding, technological competence, and the habit of asking questions are essential. Accordingly, the following hypothesis was proposed:

Hypothesis 7: Teachers' teaching methods have a positive relationship with the English language proficiency of PIM students according to the CEFR framework.

3-8- Learners' Family Educational Support and the English Language Proficiency

Hill & Chin (2014) [28] found that the economic status of the family can affect students' performance. Liu & Chiang (2019) [29] added that the family has an impact on student achievement. Students who come from a family which could motivate, support, and help them in their academic work will become more successful. According to the findings of the study, children's academic achievement is influenced by their family's educational level in terms of academic support, role modeling, worry, intellect, and motivating aspects [30]. The study by Jalili (2017) [31] supported that children whose mothers with a university degree have a better level of English language competence. Accordingly, the following hypothesis was proposed:

Hypothesis 8: Learners' family educational support is positively related to the English language proficiency of PIM students according to the CEFR framework.

3-9- Learners' Classroom Environment and the English Language Proficiency

Learners' classroom environment is another factor that contributes to learner achievement. The findings by Amiri & Ei Karfa (2021) [32] revealed that environmental factors, such as social, home/family, and school/classroom variables, had a substantial positive/negative relationship with kids' academic outcomes. The studies also demonstrated that the more complex the social environment is, the more likely it is to help EFL students attain academic success. Furthermore,

the greater the cultural resemblance between the students, the more beneficial the learning [33]. Ozcan (2021) [22] found that school environment affects students' academic success in language learning. Accordingly, the following hypothesis was proposed:

Hypothesis 9: Learners' classroom environment positively impacts the English language proficiency of PIM students according to the CEFR framework.

3-10- Learners' Experience in using Language and the English Language Proficiency

Students will obtain greater experience by learning English outside of the classroom. In the setting of the Department of International Studies at Meisei University in Tokyo, Adamku (2022) [7] performed qualitative research to investigate 13 proficient Japanese EFL learners. The majority of the learners improved significantly when they were in an environment that provided opportunities for communicative language practice [34], conversation with foreign teachers and fellow learners, international relations with teachers and learners from other countries, or exploration of global or personal topics of interest. Namtapi (2022) [35] also conducted a study entitled, "Needs Analysis of English for Specific Purposes for Tourism Personnel in Ayutthaya." This survey included 118 participants from tourism groups. The results of the study stated that, despite having a large technical vocabulary, they had difficulty engaging in regular conversations. This could be because they had few opportunities to utilize English outside of the classroom. Accordingly, the following hypothesis was proposed:

Hypothesis 10: Learners' experience in using language has an impact on the English language proficiency of PIM students according to the CEFR framework.

4- Research Methodology

This study aims to find the relationship between student, teacher, and environmental factors affecting the English language proficiency of Panyapiwat Institute of Management (PIM) students according to the CEFR standards. In addition, it intends to identify the factors affecting the English language proficiency of Panyapiwat Institute of Management (PIM) students according to the CEFR standard. In this study, approaches employed to analyze and test the hypotheses will be discussed in detail, including the population of interest, sample technique, data collection and analysis.

4-1- Population of Interest

This research focuses on PIM students excluding students from the International College and Chinese Graduate School as shown in Figure 2.

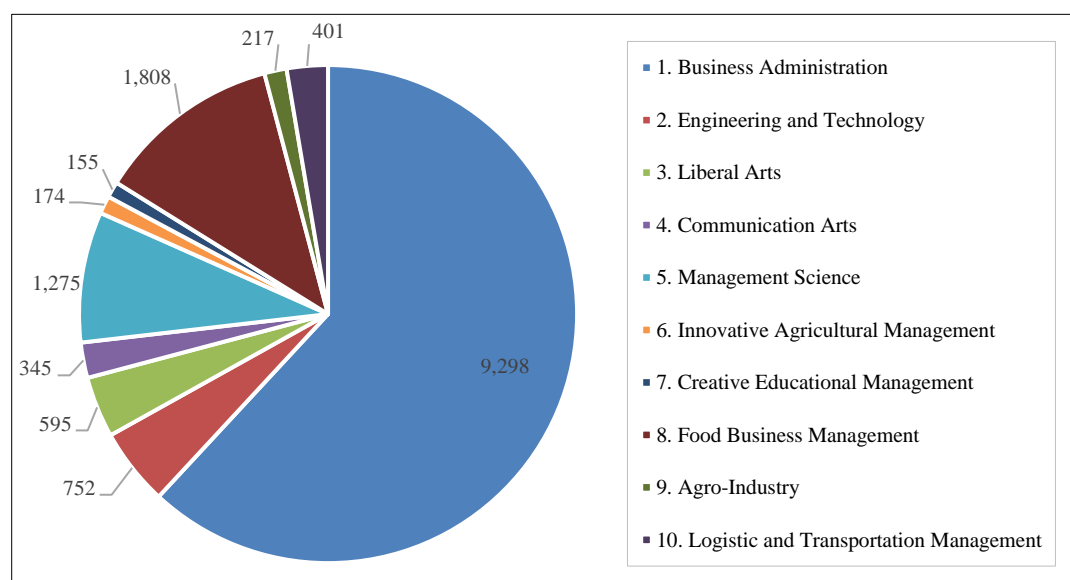**Figure 2. Faculties and student number**

4-2- Sample Selection

The context of this study focuses on first to fourth-year students, aged more than 18 years old from every faculty except students from the International College and Chinese Graduate School. The samples were selected by using a simple random sampling method. In addition, the sampling formula of Yamane (1973) [36] was employed to determine

the sample size of the research. Its error rate is 5%, and the results indicate that the sample number should be 390 or more out of the population of 15,020.

4-3- Data Collection

A questionnaire with structured questions was used as the research tool [37]. The survey was conducted in mid-May 2022 by using a Google form sent to participants. During that period most students were still studying online therefore we sent the questionnaire link to the network of each faculty and asked them to distribute it randomly to the students of each year. In addition, the questionnaire stated clearly the research objectives and instructions. The participants were informed about the anonymity of the data collection. Finally, we received 469 questionnaires from 6 faculty, including Business Administration, Liberal Arts, Management Science, Innovative Agricultural Management, Creative Educational Management, and Food Business Management.

4-4- Estimation Method

This study will use partial least square structural equation modeling (PLS-SEM) to analyze the proposed research model. Structural equation modeling (SEM) has two common approaches, which are Covariance Based SEM (CB-SEM) and Variance Based-SEM (VB-SEM). The CB-SEM method is a popular choice for scholars across disciplines due to its ability to evaluate complex research models using parametric approaches [38]. CB-SEM assumes that the sample size is large enough, and the collected data are normally distributed. However, with these assumptions, CB-SEM limits its own ability to produce good findings; therefore, many researchers prefer using VB-SEM or Partial Least Square Path Modeling (PLS-PM) to overcome the limitations [39].

Several studies revealed that both SEM methods are suitable for different research objectives. CB-SEM is suitable for research models with confirmative purposes [40]. Its error terms require additional specification, particularly the covariation [41]. In addition, CB-SEM has circular relationships and requires a global goodness-of-fit criterion [42]. On the other hand, VB-SEM or PLS-SEM is suitable for research models to predict or identify key constructs. VB-SEM can have only formative constructs included in its structural models. Even though formative constructs can also be included in CB-SEM, they require modifications to include formative and reflective indicators to meet requirements. In addition, VB-SEM works effectively with complex structural models that have many constructs and indicators. Finally, according to Ong & Puteh (2017)[43], VB-SEM or PLS-SEM can perform well with a small sample size lower than 200 samples or with data that are not normally distributed, allowing a researcher to use latent variable scores in subsequent analyses. Rožman et al. (2020) [42] revealed that CB-SEM estimates were inaccurate for small sample size, while VB-SEM or PLS-SEM performed superior and more accurate estimations. On the other hand, CB-SEM has lower variability when estimating a larger sample size. Consequently, VB-SEM or PLS-SEM has been gaining increasing interest among researchers compared to CB-SEM [44, 45].

PLS-SEM combines a principal component analysis, path analysis, and a set of regressions to generate estimates of the standardized regression coefficients for the model's paths and factor loadings for the measurement items [46, 47]. Additionally, PLS does not require a large sample size and normally distributed data. It produces less bias than other structural equation modeling techniques if the sample size is small or the data is not normally distributed [48]. Warp PLS 7.0 program is selected because it is the latest version that has been improved from previous versions in many functions. Before the PLS-SEM proceeds, descriptive statistics, validity and reliability tests, normality tests, multicollinearity tests, and model-fit indices will be conducted to evaluate the model quality.

5- Research Results

The overall aim of this study was to find the determinant factors that affected to PIM students' English proficiency. The data were collected from 469 students by using a self-report survey with structured questions. The questions listed in the questionnaire were organized into two main parts which are 1) characteristics of the sample and 2) factors affecting the students' English proficiency. The characteristics of the sample are summarized in Table 1.

Table 1. Characteristics of the sample

Characteristics	Descriptive statistics
Gender	Male: 337 (71.9%)
	Female: 122 (26%)
	LGBT: 10 (2.1%)
Age	18 years: 3 (0.6%)
	19 years: (8.7%)
	20 years: 87 (18.6%)
	21 years and above: 338 (72.1%)

Faculty	Business Administration: 243 (51.8%)
	Food Business Management: 185 (39.4%)
	Creative Educational Management: 16 (3.4%
	Innovative Agricultural Management: 10 (2.1%)
	Management Science: 10 (2.1%)
	Liberal Art: 4 (0.9%)
Undergraduate year	1st Year: 86 (18.3%)
	2nd Year: 65 (13.9%)
	3rd Year: 272 (58%)
	4th Year: 46 (9.8%)
Grade Point Average	2.01–2.50: 36 (7.7%)
	2.51–3.00: 62 (13.2%)
	3.01-3.50: 147 (31.3%)
	3.51-4.00: 223 (47.5%)
Education level of father/mother or guardian	less than a high school: 216 (46.1%)
	high school: 109 (23.2%)
	higher than a high school: 24 (5.1%)
	Vocational school: 59 (12.6%)
	Bachelor's degree: 55 (11.7%)
	higher than a Bachelor's degree: 6 (1.3%)
Occupation of father/mother or guardian	Freelance: 186 (39.7%)
	Farmer: 91 (19.4%)
	Private business: 76 (16.2%)
	Private employee: 32 (6.8%)
	Government official: 27 (5.8%)
	Student: 15 (3.2%)
	Unemployed: 13 (2.8%)
	State enterprise employed: 8 (1.7%)
	Retired: 3 (0.6%)
	Others: 18 (3.8%)
Period of studying English both in class and outside class	1-3 hours per week: 311 (66.3%)
	4-6 hours per week: 134 (28.6%)
	7-9 hours per week: 14 (3%)
	more than 9 hours per week: 10 (2.1%)
EDP (CEFR) level	A1: 111 (23.7%) A2: 130 (27.7%)
	B1: 90 (19.2%) B2: 108 (23%)
	C1: 22 (4.7%) C2: 8 (1.7%)

To interpret the results as shown in Table 2, "Yes" indicates that the data is normally distributed. On the other hand, "No" indicates that the data is not normally distributed. Therefore, the results show that all of the variables are not normally distributed. This allows PLS analysis to optimize its features and provides solid support to the assumption that PLS is an appropriate analysis method for this research, in addition to the sample size limitation issue [48-50].

Table 2. The normalization of the data

	EDPScore	Atti	PrKnw	KSeek	TCKnw	TCReady	TCMeth	FamSup	Env	InterExp	Sat
Normal-JB	No	No	No	No	No	No	No	No	No	No	No
Normal-RJB	No	No	No	No	No	No	No	No	No	No	No

EDP score = CEFR level, Atti = Attitude, PrKnw = Prior knowledge of the students, KSeek = Knowledge seeking, TCKnw = Teacher Knowledge, TCReady = Teacher Readiness, TCMeth = Teaching method, FamSup = Family support, Env = Environment, InterExp = International Experience, Sat = Satisfactory

A number of measurement model estimations were carried out prior to the structural model being estimated for hypothesis testing. First, factor loading values as reported in Table 3 were used to test convergent validity. The recommended factor loading value is 0.7 or higher [51]. The outcomes were pleasing. The validity of discrimination was examined second. According to Fornell and Larcker (1981) [52], the square root of each construct's average variance extracted (AVE) must be higher than other correlations involving that specific construct. The outcomes shown in Table 4 demonstrate that this condition was satisfied. Finally, the composite reliability and Cronbach's alpha coefficient were used to determine how reliable a measurement tool was. They need to be at least 0.7. The findings in Table 4 demonstrate that this requirement was also satisfied.

Table 3. Factor loading values

	EDPScore	Atti	PrKnw	KSeek	TCKnw	TCReady	TCMeth	FamSup	Env	InterExp	Sat
EDPScore	(1.000)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Atti1	-0.009	(0.828)	0.218	-0.319	-0.321	0.090	0.028	-0.009	0.023	0.084	0.299
Atti2	0.023	(0.891)	0.014	0.088	0.095	0.170	0.101	0.043	0.073	0.031	0.000
Atti3	0.005	(0.811)	0.248	0.070	0.234	0.112	-0.139	0.033	0.028	0.041	-0.224
Atti4	0.020	(0.835)	0.009	0.324	-0.011	-0.016	0.000	-0.006	0.028	-0.076	-0.080
PrKrnw1	0.008	0.171	(0.882)	0.238	0.038	-0.070	0.084	0.017	0.056	-0.092	-0.058
PrKrnw2	0.046	-0.012	(0.887)	-0.044	0.101	-0.106	0.037	0.009	-0.042	-0.010	0.021
PrKrnw3	-0.054	-0.158	(0.889)	0.280	-0.138	0.176	-0.120	-0.026	-0.014	0.101	0.037
KSeek1	0.004	0.059	-0.005	(0.909)	-0.105	-0.091	0.164	-0.039	-0.034	0.137	-0.088
KSeek2	-0.060	-0.060	0.226	(0.900)	-0.078	-0.005	0.000	0.091	0.018	-0.030	-0.047
KSeek3	0.083	0.132	-0.498	(0.716)	0.110	0.127	-0.112	-0.051	-0.019	-0.062	0.082
KSeek4	-0.011	-0.106	0.179	(0.879	0.099	-0.004	-0.079	-0.011	0.033	-0.061	0.072
TCKnw1	-0.002	0.052	-0.014	-0.081	(0.895)	0.052	-0.130	-0.012	0.141	-0.069	-0.045
TCKnw2	0.010	-0.049	0.041	-0.024	(0.906)	-0.168	0.136	0.006	-0.011	0.091	0.131
TCKnw3	-0.008	-0.002	-0.027	0.104	(0.912)	0.115	-0.008	0.006	-0.127	-0.023	0.086
TCReady1	0.014	0.036	-0.024	-0.063	0.028	(0.924)	-0.135	0.030	0.065	0.010	-0.060
TCReady2	0.010	-0.008	0.037	0.075	-0.005	(0.920)	-0.018	-0.002	0.021	-0.065	-0.089
TCReady3	-0.024	0.028	-0.012	-0.012	-0.022	(0.915)	0.155	-0.028	-0.086	0.075	0.150
TCMeth1	-0.001	-0.099	0.060	-0.093	-0.139	0.098	(0.898)	0.008	0.047	0.046	0.166
TCMeth2	0.020	-0.012	-0.035	0.033	0.025	-0.025	(0.910)	-0.048	0.025	0.033	-0.021
TCMeth3	0.008	0.000	-0.167	0.098	0.083	0.011	(0.891)	0.080	-0.044	0.024	-0.053
TCMeth4	-0.033	0.002	0.153	-0.099	-0.186	-0.045	(0.864)	-0.001	-0.095	0.007	0.205
TCMeth5	0.005	0.114	-0.006	0.061	0.220	-0.042	(0.858)	-0.039	0.119	-0.115	-0.304
FamSup1	0.071	0.149	-0.186	0.205	-0.044	0.061	0.161	(0.808)	-0.067	-0.114	-0.088
FamSup2	-0.139	-0.166	0.356	-0.306	-0.069	-0.081	0.027	(0.819)	-0.110	0.195	0.147
FamSup3	-0.081	-0.272	0.316	-0.066	0.115	-0.088	0.116	(0.808)	-0.108	0.177	0.110
FamSup4	0.086	0.202	-0.282	0.040	0.055	0.079	-0.162	(0.828)	0.075	0.000	-0.022
FamSup5	0.064	0.086	-0.203	0.131	0.174	0.028	-0.139	(0.801)	0.212	-0.261	-0.149
Env1	-0.018	-0.069	0.148	-0.120	0.051	-0.029	0.111	0.251	(0.805)	-0.029	0.073
Env2	-0.039	-0.131	0.030	0.109	0.033	0.015	0.005	-0.117	(0.852)	-0.186	0.039
Env3	-0.045	-0.078	0.028	0.065	0.113	-0.038	-0.131	-0.130	(0.861)	0.041	0.052
Env4	-0.021	0.026	0.072	-0.126	0.026	0.079	0.215	0.045	(0.893)	-0.003	0.087
Env5	0.062	-0.007	-0.084	0.048	-0.016	-0.061	0.056	0.016	(0.861)	0.044	-0.128
Env6	0.061	0.254	-0.188	0.022	-0.206	0.030	0.089	-0.052	(0.854)	0.130	-0.123
InterExp	-0.004	-0.063	-0.010	0.079	-0.119	-0.051	0.087	-0.123	0.088	(0.900)	0.031

EDP score = CEFR level, Atti = Attitude, PrKnw = Prior knowledge of the students, KSeek = Knowledge seeking, TCKnw = Teacher Knowledge, TCReady = Teacher Readiness, TCMeth = Teaching method, FamSup = Family support, Env = Environment, InterExp = International Experience, Sat = Satisfactory

Table 4. Correlation among constructs VS" Average Varience Extracted (AVE)

Variables	EDP Score	Atti	PrKnw	KSeek	TCKnw	TCReady	TCMeth	FamSup	Env	InterExp	Sat
EDPScore	(1.000)										
Atti	0.057	(0.842)									
PrKrnw	0.061	0.647	(0.886)								
KSeek	0.014	0.705	0.823	(0.855)							
TCKnw	0.009	0.561	0.405	0.524	(0.90)						
TCReady	0.049	0.533	0.396	0.477	0.773	(0.925)					
TCMeth	0.02	0.565	0.447	0.532	0.772	0.839	(0.885)				
FamSup	0.19	0.529	0.663	0.708	0.456	0.485	0.578	(0.813)			
Env	0.029	0.592	0.519	0.578	0.686	6.684	0.755	0.63	(0.855)		
InterExp	0.009	0.548	0.692	0.722	0.369	0.397	0.451	0.711	0.568	(0.867)	
Sat	0.036	0.607	0.53	0.624	0.745	0.693	0.689	0.515	0.641	0.456	(0.933)
Cronbach's Alpha coefficient	1	0.907	0.916	0.915	0.931	0.943	0.947	0.907	0.942	0.901	0.93
Composite Reliability coefficient	1	0.862	0.863	0.874	0.889	0.909	0.93	0.872	0.926	0.834	0.851

Note: The square rootvalues of AVE are displayed in parentheses.

EDP score = CEFR level, Atti = Attitude, PrKnw = Prior knowledge of the students, KSeek = Knowledge seeking, TCKnw = Teacher Knowledge, TCReady = Teacher Readiness, TCMeth = Teaching method, FamSup = Family support, Env = Environment, InterExp = International Experience, Sat = Satisfactory.

Figure 3 shows the result from PLS-SEM estimation which explains the hypothesis testing, as follows.

Hypothesis 1 proposed a negative relationship between attitude toward learning English and the English language proficiency of PIM students according to the CEFR framework. The results showed a negative relationship between the two variables (β=-0.05, p=0.15). The relationship was also not statistically significant. Thus hypothesis 1 was not supported.

Hypothesis 2 proposed a positive relationship between the learner's prior knowledge and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.14, p<0.01). The relationship was also statistically significant. Thus hypothesis 2 was supported.

Hypothesis 3 proposed a positive relationship between learners' knowledge-seeking behavior and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.08, p<0.05).The relationship was also statistically significant. Thus hypothesis 3 was supported.

Hypothesis 4 proposed a positive relationship between learners' satisfaction with teachers and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.00, p=0.46). However, the relationship was not statistically significant. Thus hypothesis 4 was not supported.

Hypothesis 5 proposed a positive relationship between teachers' knowledge and understanding of the teaching subject and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.10, p<0.05). The relationship was also statistically significant. Thus hypothesis 5 was supported.

Hypothesis 6 proposed a positive relationship between teachers' teaching preparation and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.05, p=0.16). However, the relationship was not statistically significant. Thus hypothesis 6 was not supported.

Hypothesis 7 proposed a negative relationship between teachers' teaching method toward learning English and the English language proficiency of PIM students according to the CEFR framework. The results showed a negative relationship between the two variables (β=-0.01, p=0.40). However, the relationship was not statistically significant. Thus hypothesis 7 was not supported.

Hypothesis 8 proposed a positive relationship between learners'family educational support and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.04, p=0.19). However, the relationship was not statistically significant. Thus hypothesis 8 was not supported.

Hypothesis 9 proposed a positive relationship between learners' classroom environment and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.08, p<0.05). The relationship was also statistically significant. Thus hypothesis 9 was supported.
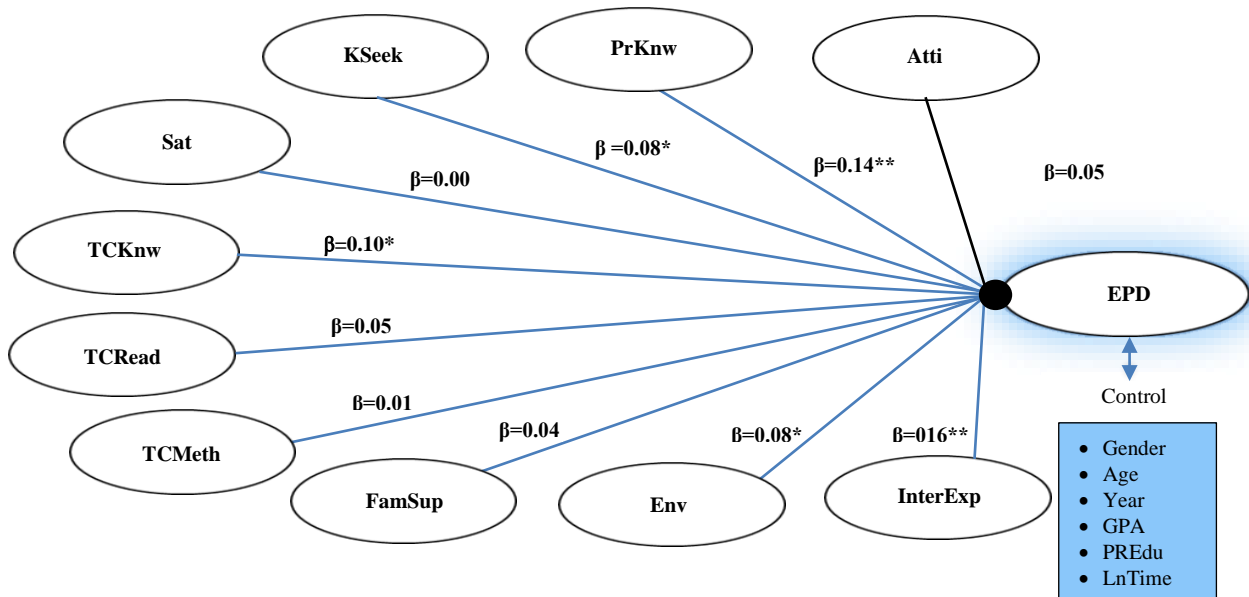
Hypothesis 10 proposed a positive relationship between learners' experience in using language and the English language proficiency of PIM students according to the CEFR framework. The results showed a positive relationship between the two variables (β=0.16, p<0.01). The relationship was also statistically significant. Thus hypothesis 10 was supported.

Figure 3. PLS results (Note: - ** and * means p-value <0.01 and <0.05)

Regarding the effects of the control variable, the results showed that all control variables have a significant influence on EDP score: Gender has a negative association with EDP score (β=-0.08, P=0.05), age has a negative impact on the score (β=-0.11, P=0.01), the undergraduate year has a positive impact on the score (β=0.19, p<0.01), GPA has a positive impact on the score (β=0.11, p<0.01), parents' education has a negative impact on the score (β=-0.10, P=0.01), learning time has a positive impact on the score (β=0.11, P=0.01).

6- Results and Discussion

The objective of this research was to identify the determinants of English language proficiency of PIM students according to CEFR standards. The determinant factors include students' attitudes, their prior knowledge of English, their knowledge-seeking, their satisfaction with learning English, teachers' knowledge, teacher readiness, teaching method, family support, environmental factors, and international experience.

The results from PLS-SEM estimation supported only five out of ten hypotheses proposed in this study. According to the results, the determinants of English language proficiency of PIM students were students' prior knowledge, students' knowledge-seeking, teachers' knowledge, environmental factors, and international experience. The findings are also in line with previous research which found that students' prior knowledge affected the students' English proficiency [53-55]. For example, according to Tawalbeh & Al-zuoud (2013) [54], students' writing issues in research papers are shown by looking into their most recent performance in the many English courses they took before writing research papers. At Jordan's Hashemite University, the sample population consisted of forty nursing students. It was discovered that students who had prior English-language training outperformed those who didn't in producing research projects. The lowest grades in the research course were earned by certain students with poor English performance. Their study objectives, organizational structure, references, findings, and literature review are only a few examples of where they committed several mistakes.

Reading comprehension requires a complex interaction between the content and the student's prior knowledge. The most important element in understanding, according to Khataee's (2019) [16] research, is background information. To investigate the reading comprehension of the EFL learners, the researcher employed a mixed-methods approach to look into the THIEVES technique. THIEVES is a seven-step activating technique designed to give pupils the background knowledge they need before reading the book. The technique aids students in using prior information. This method has students skim the text before reading it cover to cover, stealing knowledge from the Title, Headings, Introduction, every first phrase, Visuals/Vocabulary, End-of-Chapter Questions, and Summary. 63 advanced students from an English language school in Iran participated in the event. According to the findings, THIEVES can assist individuals in overcoming their comprehension issues.

In the context of PIM students' prior knowledge, students who initially access what they already know, learn more effectively. This may be because their prior knowledge can help them enhance their learning ability in English.

The findings also indicated that students' knowledge-seeking can affect PIM students' achievement in English. The result is consistent with previous research [17, 55]. For example, the findings by Miraj et al. (2021) [17] showed that seeking knowledge had a favorable and significant impact on academic achievement. In addition, students who could discover specific information about their educational requirements performed better academically. Kusuma & Asmiyanto (2021) [56] supported this idea, finding that students' knowledge-seeking behavior will increase their knowledge and develop themselves to meet the demands of work. It can generate a motivational outcome. In the context of students' knowledge-seeking, enthusiastic behavior facilitates learning. This might be because they emphasize the structure of the lesson, which in turn aids in the encoding and retrieval of the text.

Moreover, the result of teachers' knowledge adds more support for Ozcan's (2021) [22] previous study, which found that students' academic achievement depended on teacher competency, being a role model, communication, attitude, motivation, and guidance. This finding was also in accordance with the study by Pham (2022) [21], which supports the idea that a competent English background is a quality of a good Foreign Language (EFL) teacher. Teachers can influence students' achievement, so the quality of teachers is very important. That is the reason why teachers who are lacking in English language proficiency will lead to low proficiency in students. In the context of teachers' knowledge, students who are motivated and satisfied with their teacher competency will tend to get higher EDP scores. This may be the result of the teacher's efforts or the teacher's instructional beliefs, which relate to their choice of teaching method in order to make learning interesting for their students [57].

Further, this study's result showed that environmental factors, including family educational support, classroom environment, and experience in using foreign language content, improved the learner's achievement [22, 55]. For example, the findings by Ozcan (2021) [22] stated that families that help their children succeed academically in the early years, maintain good communication with the school, and pay close attention to the educational system will see their children's achievements rise. Specifically, the result complements Amiri & El Karfa's (2021) [32] research, which demonstrated that there was a significant positive/negative association between the environmental elements, such as social, home/family, and school/classroom variables, and children's academic outcomes. The research also showed that the likelihood of an EFL student succeeding academically increases with the complexity of the social setting. The result is also in line with the research of Vorayossri (2001) [55], showing that social factors, including educational promotion at home, had a positive relationship with English language learning achievement.

In the context of frequent exposure to an English environment, students who have opportunities to practice their conversations with foreigners will increase their English efficiency. These results add more support for Adamku (2022) [7], Muftah (2022) [8], Santiwatthanasiri (2018) [9], Hamad (2013) [10], and Gardner & Lambert's (1972) theories and ideas [4]. For example, Adamku (2022) [7] found that the majority of students made significant gains when they were exposed to situations that allowed them to practice communicative language, interact with foreign instructors and students, develop relationships with educators and students from other nations, or investigate personal or global interests. Moreover, social media, according to Muftah (2022) [8], significantly improved English language learning during the COVID-19 pandemic. Additionally, it might be able to help students communicate, study, read, write, and advertise more effectively.

From the theoretical perspective, the findings from this research are concurrent with the predictions suggested by the theories and ideas of Shakespeare & Jakobovits (1971) [3] and Gardner & Lambert (1972) [4], which stated that there were three factors affecting English speaking among students: 1) teaching factors, 2) student factors, and 3) environmental factors.

According to the results of the control variable, females tend to have a higher score than males, and younger students tend to have a higher score than older students. The result also reported that those in a higher undergraduate year can get higher scores than the lower ones. Students with higher GPA scores can get higher EDP scores. The parent's education did not affect the students' EDP scores. Finally, students who use more learning time tend to have higher EDP scores.

7- Conclusion

This research aimed to uncover the determinants of English language proficiency of PIM students according to the CEFR standards. Through PLS-SEM estimation, we found that students' prior knowledge, students' knowledge-seeking behavior, teachers' knowledge, environmental factors, and international experience significantly affect the English language proficiency of PIM students. These findings align with previous research and emphasize the importance of these determinant factors for language learning outcomes.

Notably, students who possess prior knowledge of English are better positioned to excel in their language proficiency; moreover, those who actively seek knowledge tend to achieve higher academic results. Furthermore, the competency and effectiveness of teachers play a crucial role in students' language proficiency. Environmental factors, including family support and exposure to an English-speaking environment, have a significant impact on language learning success. These results underscore the multifaceted nature of language learning, which is influenced by a combination of teaching factors, student characteristics, and the surrounding environment. Additionally, certain demographic factors, such as gender, age, undergraduate year, GPA, and learning time usage, were found to be associated with superior English language proficiency.

In conclusion, this research provides valuable insights for educators, institutions, and policymakers seeking to enhance the English language proficiency of PIM students. By recognizing and addressing these influential factors, we can create more effective language learning environments and support students in achieving higher language proficiency levels.

7-1- Suggestion for Future Research

There are some suggestions for future research that need to be explored. Firstly, it is suggested that investigations carried out at other universities may have different findings. Additionally, the EDP score was used in this study to evaluate the students' English proficiency levels, so results from other English proficiency tests may vary. Secondly, the other variables should be employed, for example, motivation, cultural intelligence, and self-efficacy. Lastly, to avoid biases, the time series data should be used to estimate values at the time of the cross-section and then compare these with the cross-sectional data. The time series data will show the improvement of the students while studying English.

8- Declarations

8-1- Author Contributions

Conceptualization, P.V. and K.A.; methodology, P.V. and K.A; software, A.R.; validation, P.V., A.R., and K.A.; formal analysis, K.A.; investigation, P.V. and K.A.; resources, P.A.; data curation, A.R. and K.A.; writing—original draft preparation, P.V. and K.A; writing—review and editing, P.V.; visualization, P.V.; supervision, P.V. and K.A.; project administration, P.V.; funding acquisition, P.V. and K.A. All authors have read and agreed to the published version of the manuscript.

8-2- Data Availability Statement

The data presented in this study are available in the article.

8-3- Funding

8-4- Institutional Review Board Statement

The research has been approved and certified by Institutional Review Board (IRB) of Panyapiwat Institute of Management, approved reference no. PIM-REC 048/2021.

8-5- Informed Consent Statement

Informed consent was obtained from all subjects involved in the study, certificate number PIM-REC 048/2021.

8-6- Conflicts of Interest

The authors declare that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

9- References

[1] IMD. (2023).World Competitiveness Yearbook 2021. International Institute for Management Development (IMD), Lausanne, Switzerland. Available online: https://www.imd.org/centers/world-competitiveness-center/ (access on October 2023).

[2] Education First. (2021). EF English Proficiency Index: A Ranking of 100 Countries and Regions by English Skills. Lucerne, Switzerland. Available online: https://www.ef.co.th/epi/regions/asia/thailand/ (access on October 2023). (In Thai).

[3] Jakobovits, L. A. (1970). Foreign Language Learning; A Psycholinguistic Analysis of the Issues. Newbury House, Massachusetts, United States.

[4] Gardner, R. C., & Lambert, W. (1972). Attitude and motivation in second language learning. Newbury House Publishers, Massachusetts, United States.

[5] Srisopha, K. (2022). Factors Affecting Students' Achievement in English Language Learning at Thailand National Sports University of Central Region. Education Quarterly Reviews, 5(2), 59–66. doi:10.31014/aior.1993.05.02.468.

[6] Mupa, P., & Chinooneka, T. I. (2015). Factors contributing to ineffective teaching and learning in primary schools: Why are schools in decadence? Journal of Education and Practice, 6(19), 125–132.

[7] Adamku, S. (2022) Proficient Japanese International Communications majors' perceptions of successful EFL learning strategies: Self-reported comparisons of learning experiences in K-12 education and Meisei University's International Communications program. Available online: https://meisei.repo.nii.ac.jp (access on October 2023). (In Japenese).

[8] Muftah, M. (2022). Impact of social media on learning English language during the COVID-19 pandemic. PSU Research Review. doi:10.1108/prr-10-2021-0060.

[9] Santiwatthanasiri, M. T. (2018). Factors affecting the English speaking ability of Thai university students. Master Thesis, Thammasat University, Bangkok, Thailand.

[10] Hamad, M. M. (2013). Factors negatively affect speaking skills at Saudi colleges for girls in the south. English Language Teaching, 6(12), 87–97. doi:10.5539/elt.v6n12p87.

[11] Nunes, C., Beatriz-Afonso, A., Cruz-Jesus, F., Oliveira, T., & Castelli, M. (2022). Mathematics and Mother Tongue Academic Achievement. Emerging Science Journal, 6(Special Issue), 137-149. doi:10.28991/ESJ-2022-SIED-010.

[12] Larasati, A. A., & Simatupang, M. S. (2020). Relationship Between English Language Attitude and Proficiency. Advances in Social Science, Education and Humanities Research, 509, 63–68. doi:10.2991/assehr.k.201215.010.

[13] Imsa-ard, P. (2020). Motivation and Attitudes towards English Language Learning in Thailand: A Large-Scale Survey of Secondary School Students. REFLections, 27(2), 140–161. doi:10.61508/refl.v27i2.247153.

[14] Ferlazzo, L., & Sypnieski, K. H. (2018). Teaching English Language Learners: Tips from the Classroom. American Educator, 42(3), 12.

[15] Spires, H. A., & Donley, J. (1998). Prior knowledge activation: Inducing engagement with informational texts. Journal of Educational Psychology, 90(2), 249–260. doi:10.1037/0022-0663.90.2.249.

[16] Khataee, E. (2019). The effect of THIEVES strategy on EFL learners' reading comprehension. International Journal of Instruction, 12(2), 667–682. doi:10.29333/iji.2019.12242a.

[17] Miraj, M., Chuntian, L., Mohd Said, R., Osei-Bonsu, R., & Rehman, R. ur. (2021). How Information-Seeking Behavior, Essential Technologies, and Resilience Enhance the Academic Performance of Students. Frontiers in Psychology, 12, 1-13. doi:10.3389/fpsyg.2021.651550.

[18] Prawadlerdruk, M. N. (2015). Students'satisfaction towards Learning Foreign Languages with Native Teachers at a Private Language School. Thammasat University, Bangkok, Thailand.

[19] Qutob, M. M. (2018). The Relationship Between EFL Learners' Satisfaction Within the Classroom Environment and Their Speaking Skills. English Language Teaching, 11(7), 116. doi:10.5539/elt.v11n7p116.

[20] Li, S., & Suwanthep, J. (2017). Integration of Flipped Classroom Model for EFL Speaking. International Journal of Learning, 3(2), 118–123. doi:10.18178/IJLT.3.2.118-123.

[21] Pham, A. T. (2022). What makes a good EFL teacher: A reference for language teacher education. Journal of Language and Linguistic Studies, 18(1), 150–159. https://bit.ly/3Xe8VQF

[22] Ozcan, M. (2021). Factors Affecting Students' Academic Achievement according to the Teachers' Opinion. Education Reform Journal, 6(1), 1–18. doi:10.22596/erj2021.06.01.1.18.

[23] Boyd, D. J., Grossman, P. L., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement. Educational Evaluation and Policy Analysis, 31(4), 416–440. doi:10.3102/0162373709353129.

[24] Santibañez, L., & Snyder, C. (2018). Teaching English Learners in California: How Teacher Credential Requirements in California Address Their Needs. Technical Report. Getting Down to Facts II. Policy Analysis for California Education, (PACE), Berkeley, United States.

[25] Menken, K., & Holmes, P. (2000). Ensuring English language learners' success: Balancing teacher quantity with quality. Framing effective practice: Topics and issues in educating English Language Learners, 41-52.

[26] Akobirova, S. T., & Sayfiyeva, K. K. (2022). Importance of Learning Styles: How does Students' Awareness of Learning Styles affect their Proficiency in Second Language Acquisition (SLA). International Journal of Early Childhood Special Education, 14(1), 802–807. doi:10.9756/int-jecse/v14i1.221094.

[27] Reflianto, Setyosari, P., Kuswandi, D., & Widiati, U. (2022). English teachers' competency in flipped learning: Question level and questioning strategy in reading comprehension. International Journal of Instruction, 15(1), 965–984. doi:10.29333/iji.2022.15155a.

[28] Hill, H. C., & Chin, M. (2018). Connections Between Teachers' Knowledge of Students, Instruction, and Achievement Outcomes. American Educational Research Journal, 55(5), 1076–1112. doi:10.3102/0002831218769614.

[29] Liu, R., & Chiang, Y. L. (2019). Who is more motivated to learn? The roles of family background and teacher-student interaction in motivating student learning. Journal of Chinese Sociology, 6(1), 1–17. doi:10.1186/s40711-019-0095-z.

[30] Dai, C. P., & Ke, F. (2022). Educational applications of artificial intelligence in simulation-based learning: A systematic mapping review. Computers and Education: Artificial Intelligence, 100087. doi:10.1016/j.caeai.2022.100087.

[31] Jalili, S. (2017). Parents' Educational Level and Children's English Language Proficiency. Language Teaching Research Quarterly, 3, 25–39. doi:10.32038/ltrq.2017.03.03.

[32] Amiri, E., & El Karfa, A. (2021). The Impact of Learning Environment on EFL Students' Academic Achievement: A study of Socio-Cultural Factors Affecting Academic Achievement. Arab World English Journal, 12(4), 387–400. doi:10.24093/awej/vol12no4.25.

[33] Cohen, A., Soffer, T., & Henderson, M. (2022). Students' use of technology and their perceptions of its usefulness in higher education: International comparison. Journal of Computer Assisted Learning, 38(5), 1321-1331. doi:10.1111/jcal.12678.

[34] Kasneci, E., Seßler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., ... & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and individual differences, 103, 102274. doi:10.1016/j.lindif.2023.102274.

[35] Namtapi, I. (2022). Needs Analysis of English for Specific Purposes for Tourism Personnel in Ayutthaya. LEARN Journal: Language Education and Acquisition Research Network, 15(1), 409-439.

[36] Yamane, T. (1973). Statistics: An introductory analysis. Harper & Row, New York, United States.

[37] Bell, E., Bryman, A., & Harley, B. (2022). Business research methods. Oxford University Press, Oxford, United Kingdom. doi:10.1093/hebz/9780198869443.001.0001.

[38] Mikulić, J., & Ryan, C. (2018). Reflective versus formative confusion in SEM based tourism research: A critical comment. Tourism Management, 68, 465–469. doi:10.1016/j.tourman.2018.05.002.

[39] Mohamad, M., Afthanorhan, A., Awang, Z., & Mohammad, M. (2019). Comparison between CB-SEM and PLS-SEM: Testing and confirming the maqasid syariah quality of life measurement model. The Journal of Social Sciences Research, 5(3), 608-614. doi:10.32861/jssr.53.608.614.

[40] El Maalmi, A., Jenoui, K., & El Abbadi, L. (2022). Comparison Study Between CB-SEM and PLS-SEM for Sustainable Supply Chain Innovation Model. Advanced Technologies for Humanity. ICATH 2021. Lecture Notes on Data Engineering and Communications Technologies, 110, Springer, Cham, Switzerland. doi:10.1007/978-3-030-94188-8_48.

[41] Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. Technological Forecasting and Social Change, 173, 121092. doi:10.1016/j.techfore.2021.121092.

[42] Rožman, M., Tominc, P., & Milfelner, B. (2020). A comparative study using two SEM techniques on different samples sizes for determining factors of older employee's motivation and satisfaction. Sustainability (Switzerland), 12(6), 2189. doi:10.3390/su12062189.

[43] Ong, M. H. A., & Puteh, F. (2017). Quantitative data analysis: Choosing between SPSS, PLS, and AMOS in social science research. International Interdisciplinary Journal of Scientific Research, 3(1), 14-25.

[44] Abdelwahed, N. A. A., Soomro, B. A., & Shah, N. (2022). Determining employee satisfaction, intrapreneurship and firm growth among managers of Pakistan. Heliyon, 8(3), e09097. doi:10.1016/j.heliyon.2022.e09097.

[45] Purwanto, A., Asbari, M., & Santoso, T. I. (2021). Analisis Data Penelitian Marketing: Perbandingan Hasil antara Amos, SmartPLS, WarpPLS, dan SPSS Untuk Jumlah Sampel Besar. Journal of Industrial Engineering & Management Research, 2(4), 216-227.

[46] Chin, W. W. (1998). The partial least squares approach to structural equation modeling. Modern Methods for Business Research, 295(2), 295-336, Taylor & Francis, New York, United States.

[47] Lin, H. M., Lee, M. H., Liang, J. C., Chang, H. Y., Huang, P., & Tsai, C. C. (2020). A review of using partial least square structural equation modeling in e-learning research. British Journal of Educational Technology, 51(4), 1354–1372. doi:10.1111/bjet.12890.

[48] Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the Academy of Marketing Science, 40(3), 414–433. doi:10.1007/s11747-011-0261-6.

[49] Ringle, C. M., Sarstedt, M., Sinkovics, N., & Sinkovics, R. R. (2023). A perspective on using partial least squares structural equation modelling in data articles. Data in Brief, 48, 109074. doi:10.1016/j.dib.2023.109074.

[50] Suthatorn, P., & Charoensukmongkol, P. (2018). Cultural intelligence and airline cabin crews members' anxiety: The mediating roles of intercultural communication competence and service attentiveness. Journal of Human Resources in Hospitality & Tourism, 17(4), 423–444. doi:10.1080/15332845.2018.1449559.

[51] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis. Pearson, New York, United States.

[52] Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research, 18(1), 39. doi:10.2307/3151312.

[53] Short, D., & Echevarria, J. (2004). Teacher skills to support english language learners. Educational Leadership, 62(4), 8–13.

[54] Tawalbeh, A., & Al-zuoud, K. M. (2013). The Effects of Students' Prior Knowledge of English on Their Writing of Researches. International Journal of Linguistics, 5(3), 156. doi:10.5296/ijl.v5i3.3330.

[55] Vorayossri, N. (2001). Factors related to students' achievement in English language learning at Rajamangala Institute of Technology, Southern Bangkok Campus. Master Thesis, Srinakharinwirot University, Bangkok, Thailand.

[56] Kusuma, I. P., & Asmiyanto, T. (2021). Understanding Information-Seeking Behaviour of Undergraduate Extension Program Students in Faculty of Administrative Science, Universitas Indonesia. Library Philosophy and Practice, 1-16.

[57] Phuong, H. Y., Tran, L. K. H., & Le, T. T. (2023). Teaching Beliefs as a Dominant Factor Affecting English Instructors' Choice of Techniques to Teach Young Language Learners. International Journal of Instruction, 16(3), 573–596. doi:10.29333/iji.2023.16331a.