Learner Autonomy and Interaction in English Language Learning among Thai EFL Undergraduate Students

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ABSTRACT

This study explored the learner autonomy of Thai EFL undergraduates in English language learning and the extent to which they conducted learner-learner interaction, learner-instructor interaction, learner-content interaction, and overall interaction. Moreover, the study investigated whether there was a significant difference in overall interaction for different learner autonomy levels. The sample included 83 English major freshmen enrolling in an online English Phonetics course at a public university in Bangkok, Thailand. The data were collected through an online learner autonomy and interaction questionnaire. Descriptive statistics, one-way ANOVA, and post-hoc Tukey tests were utilized to analyze the data. The findings revealed that the participants possessed a high level of overall learner autonomy. While they had a high level of ability to learn English autonomously, they had a moderate level of responsibility for their learning process. Further, the participants had a high level of overall interaction. Although

they had a high level of learner-content and learner-instructor interaction, they possessed an average level of learner-learner interaction. The participants with a low learner autonomy level had significantly lower overall interaction scores than those with a moderate or high level of learner autonomy.

Keywords: EFL, interaction, learner autonomy, Thai EFL undergraduate students

Introduction

As the most commonly used language for exchanging information and doing business across borders, English is considered essential in our lives. Thus, to communicate with people internationally, learning and understanding English is both necessary and beneficial. In Thailand, people use English as a foreign language (EFL). In contrast to students in countries where English is used as a second language, Thai EFL students are rarely exposed to English outside class. Indeed, they are required to study English as the first foreign language at schools, and those who are educated in formal education at all educational levels must study English as a compulsory subject (Darasawang, 2007). This means that they formally study English for more than a decade before entering university. However, as the EFL environment beyond the classrooms does not encourage the use of English (Tan & Phairot, 2018), most Thai people are still unable to master English effectively.

According to the EF English Proficiency Index 2022, Thailand ranked 97th out of 111 with a ranking of "very low proficiency" (Education First, 2022), which suggests that Thai people are in urgent need of improving their English proficiency level. This leads to the question as to why Thai EFL students fail to learn English despite spending a long time studying it. Studies on English language teaching and learning in Thailand have indicated that one of the major hindrances to English language education among Thai EFL students is teacher-centered instruction since it encourages Thai EFL students to take little responsibility in the learning process and makes them become passive rather than active participants (Chaiyasat & Intakaew, 2022; Thamraksa, 2003). Consequently, Thai EFL students in a teacher-centered environment are likely to have limited interaction with their teacher and fellow students. However, interaction fosters the development of student proficiency because it provides students with opportunities to be exposed to comprehensible input, to negotiate meaning, and to learn in a zone of proximal development (ZPD) (Yassi et al., 2023). Student-centered learning should be encouraged to develop learner autonomy and interaction and thus to enhance the English proficiency of students.

Learner autonomy and interaction are considered vital factors that may affect students' English language learning achievements. As argued by Tuan (2021), learner autonomy is a key characteristic of a successful English language learner. Simply put, students who are good at taking charge of their own learning seem to perform better than those who are not. In terms of interaction, research shows that there is a relationship between students' level of interaction and their learning performance (Miller, 2015; Jung et al., 2002). For these reasons, great effort has been put into fostering learner autonomy and interaction among students in every context. Despite having different functions, these variables are interwoven. Students do not develop learner autonomy by learning in isolation but through collaboration and interdependence (Murray, 2014; Little, 1991). Therefore, learner autonomy and interaction should be simultaneously promoted. In spite of being among the many variables that have been of interest at all educational levels, research on learner autonomy and interaction among Thai EFL students at the tertiary level is limited. Several research (e.g., Chanthap & Wasanasomsithi, 2019), explored Thai EFL students' learner autonomy in relation to the implementation of educational technology, and a few studies (e.g., Jitpaisarnwattana et al., 2021) investigated how language students in the Thai context interacted with peer students in online learning. To provide insights into learner autonomy and interaction among Thai EFL undergraduates, more studies are required. In this regard, this study was conducted, and the research questions were formulated as follows:

1. What are the characteristics of Thai EFL undergraduate students' learner autonomy in English language learning?
2. To what extent do Thai EFL undergraduate students conduct learner-learner interaction, learner-instructor interaction, learner-content interaction, and overall interaction in English language learning?
3. Do students with varying learner autonomy levels differ significantly in terms of overall interaction?

Literature Review

Definitions of Learner Autonomy

Learner autonomy is a multifaceted concept that has been variously defined in the literature. Holec (1979), for example, defined autonomy as "the ability to take charge of one's own learning" (p.3) which means "to have, and to hold, the responsibility for all the decisions concerning all aspects of this learning" (p.3). He proposed five aspects in which autonomy is involved: 1)

determining the objectives, 2) defining the content and progression, 3) selecting methods and techniques to be used, 4) monitoring the procedure of acquisition, and 5) evaluating what has been acquired. Like Holec, Little (1991) took learners' capacity into account, defining autonomy as "a capacity for detachment, critical reflection, decision-making, and independent action" (p.4). In a similar vein, Benson (2001) referred to autonomy as "the capacity to take control over one's own learning" (p.2). He also argued that autonomy is accepted as a multidimensional capacity that everyone will demonstrate in different forms, and this capacity also varies in the same individual at different times and in different contexts.

Although the term 'autonomy' has been differently conceptualized, those who advocate student autonomy believe that it is a requisite for effective learning. Once learners establish autonomy, not only do they become better language learners, but they also become more responsible and critical people in their societies (Benson, 2001). Influenced by Holec's definition, learner autonomy in this study is conceptualized as learners' perceptions of the ability and responsibility to manage their own learning within and outside the classroom in five aspects: identifying learning objectives, monitoring learning progress, choosing learning techniques, controlling learning processes, and evaluating their learning and achievements.

Studies on Learner Autonomy among EFL Students

Learner autonomy among EFL students has been explored in different contexts. For example, Samaie et al. (2015) explored the level of learner autonomy and gender differences in language learning strategies among Iranian EFL students. Data were collected from 150 Iranian EFL undergraduate and MA students by two questionnaires. It was found that most of the students viewed themselves as autonomous language learners, particularly in terms of monitoring and evaluating themselves, setting learning objectives, and seeking practice opportunities. They perceived they were responsible for their own learning and capable of learning autonomously. Moreover, female students employed learning strategies to a greater extent than their male counterparts.

Ramadhiyah and Lengkanawati (2019) conducted a case study in Indonesia to explore the perceptions of a teacher and 36 senior high school students on learner autonomy and identified how the teacher promoted learner autonomy during EFL curriculum implementation. The study employed classroom observations, an interview, and a questionnaire for data collection. The findings revealed that the teacher had positive views on learner autonomy, perceiving its importance and benefits for EFL learning.

However, the teacher's positive perceptions of learner autonomy were inadequate to sustain the implementation of learner autonomy in practice due to doubts about its feasibility. Regarding the student participants, the results showed that the students did not perceive themselves as autonomous learners because they were accustomed to a teacher-centered learning environment.

Iamudom and Tangkiengsirisin (2020) carried out a study in Thailand using a mixed methods design to investigate the level of learner autonomy, and the use of English learning strategies among Thai EFL students in Thai public schools and international schools. The participants included 200 senior high school students in a tutorial school in Bangkok where 50% were international school students and the other 50% were Thai public-school students. To collect data for the study, a questionnaire and a semi-structured interview were utilized. The results showed that the level of learner autonomy of Thai public-school students, in terms of their level of willingness, self-confidence, motivation, and capacity to learn autonomously, was higher than that of international school students. Further, the Thai EFL students in Thai public schools used learning strategies more than the Thai EFL students in international schools.

Another research was also conducted in Thailand by Swatevacharkul and Boonma (2021) to assess ELT students' learner autonomy in terms of technical, psychological, political-philosophical, and sociocultural dimensions. 19 MA students in an international ELT program were included in the study in which an explanatory mixed-methods design was utilized. To collect the data, a questionnaire and a semi-structured interview were employed. The results revealed that, on average, the students had a high level of learner autonomy in every dimension. Goal setting best contributed to the high level of learner autonomy among the students. They had both intrinsic and extrinsic motivation to learn autonomously, expressing their preference for self-study and collaborative learning with the assistance of the teachers.

In the same year, Tuan (2021) conducted a mixed-methods study on Vietnamese EFL student perceptions and practices of autonomous learning. 50 English-major sophomores in a private university in the Mekong Delta of Vietnam were selected to participate in the study. A questionnaire and a semi-structured interview were employed for data collection. The findings revealed that the students perceived learner autonomy was necessary for their English language learning, but their perceived level of abilities to learn autonomously and the level of practices of autonomous activities were only just above average.

Although different aspects of learner autonomy were explored in the above-mentioned studies, responsibility and ability were among the most common dimensions of learner autonomy investigated and emphasized. The

studies revealed that EFL students had positive perceptions of learner autonomy even though their levels of learner autonomy varied.

Definitions of Interaction

Interaction, as described by Anderson (2003), is considered a complex and multifaceted concept in all forms of education. It has been viewed and conceptualized in various ways in the literature. For example, Brown (2001) referred to interaction as "the collaborative exchange of thoughts, feelings, or ideas between two or more people, resulting in a reciprocal effect on each other" (p.165). Thurmond (2003) defined interaction as "the learner's engagement with the course content, other learners, the instructor, and the technological medium used in the course" (p.238). Muirhead and Juwah (2004), described interaction as "a dialogue or discourse or event between two or more participants and objects which occurs synchronously and/or asynchronously mediated by response or feedback and interfaced by technology" (p.13).

Despite the various definitions of interaction, Moore (1989) suggested that at least three types of interaction should be distinguished: learner-content, learner-instructor, and learner-learner interaction. According to Moore (1989), learner-content interaction is the process by which learners interact with the content or subject that they are studying, and after learners have undergone this process, changes in their understanding, perceptions, or cognitive structures occur. When differentiating learner-instructor interaction from learner-learner interaction, he stated that learner-instructor interaction is a process that takes place when learners interact with the instructor of the course they are taking, whereas learner-learner interaction is a process through which learners interact with each other separately or in groups, with or without their instructor in real-time. He also stated that learner-instructor interaction can take many forms such as demonstration, evaluation, and encouragement while learner-learner interaction exists in many learning activities such as group presentations and peer discussions.

With the growing trend of distance learning, Moore's (1989) construct was extended. Hillman et al. (1994) proposed another element of interaction, learner-interface interaction to describe the process of manipulating tools to complete a task in a distance education context. Such interaction occurs when learners interact with some kind of technology used to deliver instruction. When addressing interactions in the context of communications technologies, Anderson and Garrison (1998) extended Moore's construct, postulating three other forms of interaction: teacher-teacher, teacher-content, and content-content interaction. While teacher-teacher interaction occurs when teachers interact with each other to improve their teaching proficiency,

teacher-content interaction exists when teachers interact with the learning content in various ways such as websites that allow teachers to access other learning resources. Content-content interaction refers to the way intelligent programs used for education interact with each other.

Although various constructs of interaction have been proposed, the researchers utilized Moore's framework since it is applicable to any form of education whereas the others focus on an online learning environment, which is beyond the scope of the study. In this study, interaction refers to the extent to which learners interact with the course content, the instructor, and their classmates.

Studies on Interaction among EFL Students

A small number of studies have been conducted to investigate the three types of interaction among EFL students. One study was carried out by Osorno and Lopera (2012) to report on the most common interaction in a web-distance reading comprehension course and the positive and negative effects of each type of interaction, namely learner-content, learner-teacher, learner-learner, and learner-system interaction. A case study approach was adopted as the research methodology. The participants in the study consisted of a teacher and 21 EFL graduate students who enrolled in a web-based reading comprehension course at a university in Colombia. To gather data, questionnaires, observations, in-depth interviews, the teacher's journal, focus group discussion, and tools from the platform 'Moodle' were employed. The results revealed that the students had a high level of interaction with the content. They reported improvements in regard to the subject matter and obtained good scores. Additionally, the students perceived that they were allowed to have individualized interactions with the teacher. Despite having a high level of interaction with the content and the teacher, the students had little interaction with each other because they were afraid of making mistakes in public and felt inferior to their peers in terms of their level of proficiency in English. Moreover, the lack of co-learning opportunities, such as group work and pair work, was considered to be the main cause of the low level of interaction among the students. Regarding the interaction with the system, some students perceived that the platform Moodle was a friendly environment. They felt motivated due to the variety of tools offered by the platform.

A more recent study was conducted by Ha et al. (2021) in a Vietnamese context. The study was conducted with 49 EFL university students majoring in International Business at a university in Ho Chi Minh City, Vietnam to investigate learner-content, learner-learner, and learner-instructor engagement in an emergency remote teaching (ERT) environment

due to the Covid-19 pandemic. A five-point Likert scale questionnaire with open-ended questions, online classroom observations, and in-depth interviews were employed for data collection. The results showed that learner-instructor interaction was the highest among the three categories whereas learner-learner interaction was the lowest. However, the lack of human interaction in the synchronous learning platform was identified as a fundamental reason for superficial learner-learner and learner-instructor interaction.

Another study was carried out by Jitpaisarnwattana et al. (2021) in a Thai context. The study investigated how learners interacted with other learners in and out of a language MOOC on English presentation and explored factors promoting and impeding learner-learner interaction. One hundred and thirty-six learners participated in the study. The data were collected through the course's learning analytics system, a questionnaire, and a semi-structured interview. The results of the study revealed that the level of learner-learner interaction in the language MOOC environment was quite low. A sense of belonging to the group and confidence in their English ability were reported to be the major factors that encouraged more active learners to interact with others. On the other hand, a preference for face-to-face interaction, time constraints, and the lack of English proficiency were cited as the reasons preventing the less active learners from interacting with other learners.

A similar finding from the above-mentioned studies was that EFL students had demonstrated low levels of learner-learner interaction in online language learning. However, it remains unclear to what extent EFL students had opportunities to interact with the content and instructors. Therefore, to offer good insights into these aspects, more studies to explore EFL student interaction are needed.

Methodology

Participants

The 83 participants of this study were selected by employing convenience sampling from the whole population of 105 English major freshmen at a public university in Bangkok, Thailand. The sample size at a 95% of confidence level and ±5% precision was determined based on Yamane's (1967) sample size calculation. The participants were aged between 18 and 21. There were 60 females and 23 males. Most of the participants (66.3%) had studied English in formal education for more than 10 years. As required by the General Education Department, they took the university's English Placement Test based on the Common European Framework of

Reference for Languages (CEFR) to measure their English proficiency levels. Most of the participants (62.7%) were independent users (learners at B1 and B2 levels). The rest (37.3%) were basic users (learners at A1 and A2 levels). All of them were enrolled in an English Phonetics course delivered online. Every participant participated in this study voluntarily and anonymously.

Instruments

The learner autonomy and interaction questionnaire utilized in this study consists of 42 items. All items are scored on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It is an online questionnaire consisting of four sections. The first section is instructions introducing the researcher's objective and ensuring the anonymity of the participants and the confidentiality of their information. The second section is demographic information including age, gender, years of experience in formal English education, and English proficiency. The third section is the learner autonomy scale adapted from Chan et al.'s (2002) questionnaire. The fourth section is the interaction scale adapted from Kuo et al.'s (2014) interaction scale.

To assess the content validity of the questionnaire, three English language teaching experts were requested to complete evaluation forms to compute the index of item-objective congruence (IOC). Items with an IOC index greater than .50 are considered valid (Ismail & Zubairi, 2022), whereas items with an IOC index below this standard were revised according to the experts' feedback. After the invalid items were revised, the forward and backward translation of the questionnaire was conducted. To measure the reliability of the final version of the questionnaire, a pilot study was conducted with 37 students in the same context as the participants of the study. After conducting the reliability analysis in SPSS 21, the Cronbach's Alpha was .938 indicating a high level of internal consistency for the questionnaire. The reliability information regarding the subscales of the learner autonomy scale and the interaction scale are depicted in Table 1.

Table 1

Reliability Information from the Pilot Study

Subscales	Number of Items	Cronbach's Alpha
Learner autonomy scale		
Abilities	9	.828
Responsibilities	14	.893
Interaction scale		

Learner-learner interaction	9	.881
Learner-instructor interaction	6	.721
Learner-content interaction	4	.866

Procedure

The data collection was conducted after the midterm examination week. The online questionnaire was distributed by the course instructor via LINE, an instant messaging app. Before completing the questionnaire, the participants were informed that their information was anonymous and confidential. The students were requested to complete the questionnaire within 20 minutes.

Results

The General Characteristics of Thai EFL Undergraduate Students' Learner Autonomy in English Language Learning

To answer Research Question 1: "What are the characteristics of Thai EFL undergraduate students' learner autonomy in English language learning?", descriptive statistics in regard to the students' scores for learner autonomy were computed. Table 2 presents the criteria for the mean value interpretation in this study where the students' levels of learner autonomy are categorized into five levels: very low (1.00-1.80), low (1.81-2.60), moderate (2.61-3.40), high (3.41-4.20), and very high (4.21-5.00).

Table 2

The Criteria for the Mean Value Interpretation

Mean value	Meaning
1.00 - 1.80	Very low
1.81 - 2.60	Low
2.61 - 3.40	Moderate
3.41 - 4.20	High
4.21 - 5.00	Very high

Table 3 indicates the means and the standard deviations of the students' learner autonomy scores. The results in Table 3 show that the average score for overall learner autonomy was 3.47. Hence, the level of overall learner autonomy for the participants was considered high. Concerning the two subscales of learner autonomy, the students had a high

level of autonomous learning abilities (M=3.77, SD=.62), and they had a moderate level of responsibility for their learning process (M=3.28, SD=.40).

Table 3

Means and Standard Deviations of Learner Autonomy Scores

Learner Autonomy Subscales	Mean	SD	Level
1) Abilities	3.77	.62	High
2) Responsibilities	3.28	.40	Moderate
Overall	3.47	.35	High

Table 4 shows the means and the standard deviations of students' responses to the individual items on the learner autonomy scale. Regarding autonomous learning abilities, the top three aspects that they perceived they were highly capable of doing included the following: evaluating the effectiveness of the course (M=4.01, SD=0.83), evaluating their learning (M=3.90, SD=0.86), and selecting appropriate learning techniques for doing out-of-class learning activities (M=3.80, SD=0.89). The two aspects they perceived they could perform the least well included setting their own in-class learning objectives (M=3.61, SD=0.81) and selecting appropriate learning techniques for doing in-class learning activities (M=3.61, SD=0.87). Considering responsibilities for their learning process, the top two aspects for which they perceived they were highly responsible included choosing activities or techniques to use to learn English (M=4.27, SD=0.78) and evaluating the effectiveness of the course (M=4.25, SD=0.84). The participants moderately agreed that their teacher was responsible for monitoring their out-of-class learning progress (M=3.08, SD=1.15).

Table 4

Means and Standard Deviations of Student Responses to Individual Items on the Learner Autonomy Scale

Item No.	Mean	SD	Level
Learner autonomy - abilities			
1. I can set my own in-class learning objectives.	3.61	0.81	High
2. I can set my own out-of-class learning objectives when being assigned to do	3.75	0.79	High

tasks/activities/homework outside class.			
3. I can select appropriate learning techniques for doing learning activities in class.	3.61	0.87	High
4. I can select appropriate learning techniques for doing out-of-class learning activities when being assigned to do tasks/activities/homework outside class.	3.80	0.89	High
5. I can decide how long to spend on each learning activity.	3.76	0.92	High
6. I can evaluate my learning by determining whether it is effective or not.	3.90	0.86	High
7. I can evaluate the effectiveness of the course I take.	4.01	0.83	High
8. I can monitor my learning progress during lessons.	3.76	0.85	High
9. I can monitor my out-of-class learning progress.	3.72	0.89	High
Learner autonomy - responsibilities			
1. It is my responsibility to set my learning objectives.	3.88	0.89	High
2. It is my teacher's responsibility to set my learning objectives.	3.80	0.98	High
3. It is my responsibility to monitor my learning progress during lessons.	4.13	0.78	High
4. It is my teacher's responsibility to monitor my learning progress during lessons.	3.59	0.91	High
5. It is my responsibility to monitor my out-of-class learning progress.	4.18	0.77	High
6. It is my teacher's responsibility to monitor my out-of-class learning progress.	3.08	1.15	Moderate
7. It is my responsibility to choose activities or techniques to use for learning English.	4.27	0.78	Very high
8. It is my teacher's responsibility to choose activities or techniques to use for learning English.	3.66	1.03	High
9. It is my responsibility to decide how long to spend on each activity.	4.12	0.82	High
10. It is my teacher's responsibility to decide how long to spend on each activity.	3.47	1.03	High

11. It is my responsibility to evaluate my learning by determining whether it is effective or not.	4.12	0.80	High
12. It is my teacher's responsibility to evaluate my learning by determining whether it is effective or not.	3.67	0.96	High
13. It is my responsibility to evaluate the effectiveness of the course I take.	4.25	0.84	Very high
14. It is my teacher's responsibility to evaluate the effectiveness of the course I take.	3.80	1.00	High

Learner-Learner, Learner-Instructor, Learner-Content, and Overall Interaction in English Language Learning among Thai EFL Undergraduate Students

To answer Research Question 2: "To what extent do Thai EFL undergraduate students conduct learner-learner interaction, learner-instructor interaction, learner-content interaction, and overall interaction in English language learning?", descriptive statistics were used to analyze the interaction scale scores of the students. Based on the criteria for the mean value interpretation mentioned previously, the students' levels of interaction are categorized into five levels: very low (1.00-1.80), low (1.81-2.60), moderate (2.61-3.40), high (3.41-4.20), and very high (4.21-5.00).

Table 5 presents the means and the standard deviations of the interaction scores for the students. The results indicate that the average score for overall interaction was 3.52. Therefore, the level of overall interaction among the participants was considered high. The students had a high level of learner-content and learner-instructor interaction, but their level of learner-learner interaction was moderate.

Table 5

Means and Standard Deviations of Interaction Scores

Interaction Subscales	Mean	SD	Level
1) Learner-learner interaction	3.38	.68	Moderate
2) Learner-instructor interaction	3.43	.71	High
3) Learner-content interaction	3.96	.76	High
Overall	3.52	.55	High

Table 6 presents the means and the standard deviations of students' responses to the individual items on the interaction scale. Considering learner-learner interaction, the top two aspects perceived to enable the

participants to interact with peers included group activities during class (M=3.86, SD=1.11) as well as appropriate class activities (M=3.78, SD=1.00). They perceived the activity in which they engaged the least to interact with peers was asking their classmates questions (M=2.95, SD=1.07). Regarding learner-instructor interaction, the top two activities that enabled the students to interact with their teachers included being regularly given topics by teachers for discussion (M=3.98, SD=0.73) and being given enough feedback by teachers (M=3.67, SD=0.94). The participants perceived that the activity they did the least to interact with their teachers was asking teachers questions during class (M=2.71, SD=1.17). In terms of learner-content interaction, the usefulness of course materials in helping them to have a better understanding of class content (M=4.13, SD=0.76) was perceived as the highest aspect that enabled them to interact with content. However, the components of course materials to stimulate the students' interest (M=3.76, SD=0.98) were considered as the aspect that least helped them to interact with the content.

Table 6

Means and Standard Deviations of Student Responses to Individual Items on the Interaction Scale

Item No.	Mean	SD	Level
Learner-learner interaction			
1. In my experience, I had numerous interactions related to course contents with my classmates.	3.58	0.99	High
2. In my experience, my classmates commented on my ideas.	3.25	0.91	Moderate
3. In my experience, I commented on my classmates' ideas.	3.42	1.01	High
4. In my experience, I discussed course contents with my classmates during class.	3.08	0.93	Moderate
5. In my experience, I answered the questions of my classmates during class.	3.05	1.02	Moderate
6. In my experience, I asked my classmates questions during class.	2.95	1.07	Moderate
7. In my experience, I shared my ideas about any lecture and its application with my classmates during class.	3.43	1.00	High

8. In my experience, group activities during class gave me chances to interact with my classmates.	3.86	1.11	High
9. In my experience, appropriate class activities led to more interactions with my classmates.	3.78	1.00	High
Learner-instructor interaction			
1. In my experience, I had numerous interactions with teachers during class.	3.18	1.01	Moderate
2. In my experience, I asked teachers questions during class.	2.71	1.17	Moderate
3. In my experience, teachers replied to my questions immediately.	3.63	1.17	High
4. In my experience, teachers regularly asked students questions for discussion.	3.98	0.73	High
5. In my experience, I replied to my teacher's questions.	3.39	1.06	Moderate
6. In my experience, I received enough feedback from teachers when I needed it.	3.67	0.94	High
Learner-content interaction			
1. In my experience, course materials helped me understand class contents better.	4.13	0.76	High
2. In my experience, course materials stimulated my interest in courses.	3.76	0.98	High
3. In my experience, course materials helped relate my personal experience to new concepts or new knowledge.	3.86	1.01	High
4. In my experience, it was easy for me to access course materials.	4.08	0.90	High

Differences in Overall Interaction of Students at Different Levels of Learner Autonomy

To answer Research Question 3: "Do students with varying learner autonomy levels differ significantly in terms of overall interaction?", the participants were categorized into three groups based on their scores on the learner autonomy scale. The students with a low level of learner autonomy accounted for the bottom 25% of the score distribution, the students with a high level of learner autonomy accounted for the top 25%, and the students with a moderate level of learner autonomy accounted for the remaining 50%.

Table 7 presents the distribution of the students in the three levels of learner autonomy and the descriptive statistics on their interaction. Considering overall interaction, the students with a low level of learner autonomy had the lowest mean value (M=3.11, SD=.50) whereas the students with a moderate level of learner autonomy had the highest mean value (M=3.68, SD=.41).

Table 7

Descriptive Statistics on the Interaction of Students with Different Levels of Learner Autonomy

Level of Learner Autonomy	N	Learner-Learner Interaction		Learner-Instructor Interaction		Learner-Content Interaction		Overall Interaction	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
Low	21	2.98	.69	3.03	.61	3.51	.77	3.11	.50
Moderate	41	3.49	.56	3.67	.57	4.12	.48	3.68	.41
High	21	3.56	.76	3.33	.85	4.10	1.00	3.60	.64

To examine whether there are significant differences in overall interaction due to varying levels of learner autonomy, one-way ANOVA was performed. Table 8 provides the one-way ANOVA results of the effect of learner autonomy levels on the students' overall interaction scores. The means plot is displayed in Figure 1. The results show that significant differences between the mean scores of overall interaction were found for at least two of the three groups of students with different learner autonomy levels ($F = 9.37$, $p < .05$).
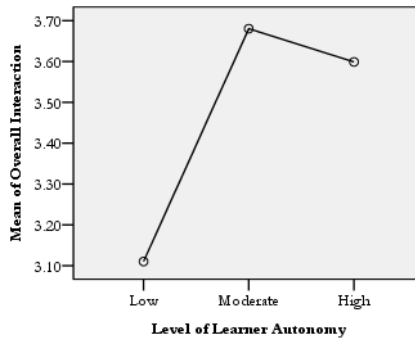
Table 8

The One-Way ANOVA Results of the Effect of Learner Autonomy Levels on Overall Interaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.71	2	2.35	9.37	.00*
Within Groups	20.11	80	.25		
Total	24.82	82			

*$p < .05$

Figure 1

The Means Plot of Three Different Groups

Post-hoc Tukey tests were subsequently conducted to determine which pairs of means were significantly different. The post-hoc Tukey results are shown in Table 9. The results revealed that the mean for the overall interaction of the students with a low level of learner autonomy was significantly lower than that of the students with a moderate and high level of learner autonomy. However, the mean for overall interaction of the students with a moderate level of learner autonomy and that of the students with a high level of learner autonomy were not significantly different.

Table 9

Comparison of Differences in Overall Interaction by Students at Different Levels of Learner Autonomy Based on Post-Hoc Tukey Tests

		Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Low	Moderate	-.57*	.13	.00	-.89	-.25
	High	-.49*	.15	.01	-.86	-.12
Moderate	Low	.57*	.13	.00	.25	.89
	High	.08	.13	.82	-.24	.40
High	Low	.49*	.15	.01	.12	.86
	Moderate	-.08	.13	.82	-.40	.24

Note. The mean difference is significant at the 0.05 level.

Discussion

The findings were discussed in response to the research questions of this study. Considering research question 1, the findings revealed that the students possessed a high level of overall learner autonomy which is in line

with Swatevacharkul and Boonma's (2021) study. The students also demonstrated a high level of ability to learn autonomously. This result is different from that of Tuan's (2021) research which demonstrated that EFL students' level of ability to learn autonomously was only just above average. In this study, the students proved to be highly confident that they could learn autonomously especially when they were involved in evaluating the effectiveness of the course and their own learning and selecting appropriate learning techniques for doing out-of-class learning activities. However, what they were least able to perform was setting their own in-class learning objectives and selecting appropriate learning techniques for doing learning activities in class. This could be a result of the students' familiarity with the conventional teacher-centered approach i.e., they were accustomed to learning practices in the conventional teaching approach in which teachers are dominant in class. Generally, students in traditional classrooms are not allowed to make decisions as to what to learn and how to do learning activities (Tuan, 2021). Further, the results revealed that the students had a moderate level of responsibility for their learning process. They seemed to share the responsibilities of their learning process with their teachers. Almost all aspects of the responsibilities for their learning process were controlled by themselves and their teachers. However, the aspects where they gave more responsibility to themselves than their teachers were monitoring their out-of-class learning progress, choosing activities or techniques to use for learning, and evaluating the effectiveness of the course. These results are to some extent consistent with those of Spratt et al.'s (2002) study, which suggested that EFL students had "a notion of shared responsibility" (p.251) with their teacher due to their expectations in regard to the teacher's role. Moreover, as stated by Spratt et al. (2002), EFL students considered themselves more responsible for outside-class learning activities, which is congruent with the results shown in this study that the students assigned more responsibility for tracking out-of-class progress to themselves than their teachers. To promote Thai EFL undergraduates' learner autonomy in terms of their responsibilities for their learning process, students should take more responsibility for their learning, particularly inside the classroom.

Regarding research question 2, the results indicated that the students possessed a high level of overall interaction. They proved to have a high level of learner-content and learner-instructor interaction, but they demonstrated a moderate level of learner-learner interaction. Based on the findings about the students' level of interaction, it appears that learner-learner interaction in English language learning among the students was less encouraged than learner-content and learner-instructor interaction. This implication is consistent with Ha et al. (2021)'s study which indicated that learner-learner interaction was the least frequently observed among the three categories.

Furthermore, the results suggested that although the students had high levels of interaction in many ways, they had inadequate interaction with their teachers and classmates in particular aspects, such as asking questions and giving answers to their teachers and peers during class. The students' unwillingness to communicate with their teachers and peers during class might be due to the continuation of teacher-centered instruction in English language classes in Thailand, which does not encourage the students to speak up and become active participants. Students' silence in English language classes was similarly observed in the research conducted in a Thai university context by Chaiyasat and Intakaew (2022), who suggested that students' silent behavior in the classroom was probably due to the lack of engagement in the traditional Thai EFL classroom context in which a teacher-centered approach is widely employed.

Regarding research question 3, the results suggested that the students with a low learner autonomy level had significantly lower overall interaction scores than those with a moderate and a high level of learner autonomy. Simply put, the students who demonstrated a low level of learner autonomy had significantly less interaction than those who possessed a moderate and a high level of learner autonomy. However, the students with a moderate level of learner autonomy and the students with a high level of learner autonomy did not differ significantly in terms of the overall level of interaction. These results remind us of the notion that learner autonomy is socially constructed (Murray, 2014). As argued by Little (1991), learner autonomy does not signify learning in isolation. Indeed, students develop learner autonomy through learner interdependence and collaboration (Murray, 2014). Instead of studying alone, autonomous learners need interaction with their peers and teachers (Fotiadou et al., 2017). Moreover, learner autonomy is significantly related to both learner-learner and learner-instructor interaction (Fotiadou et al., 2017). The more the students develop learner autonomy, the more they can interact with their peers and instructors. Based on these concepts, it could be inferred that students with a low level of learner autonomy might require more assistance and support from their teachers and peers so that they can become more autonomous in language learning.

Conclusion

This study aimed to investigate the general characteristics of Thai EFL undergraduate students' learner autonomy in English language learning, and the extent to which they had learner-learner interaction, learner-instructor interaction, learner-content interaction, and overall interaction. Additionally, it explored whether there was a significant difference in overall interaction for different learner autonomy levels. The results of this study

revealed that Thai EFL undergraduate students possessed a high level of overall learner autonomy and interaction. They demonstrated a high level of ability to learn autonomously, but the level of their responsibility for their learning was found to be moderate. Thus, students should be given more opportunities to take responsibility for their learning, especially inside the classroom. The results also indicated that although the students had a high level of learner-content and learner-instructor interaction, they had a moderate level of learner-learner interaction. Therefore, it is advisable to enhance peer interaction among Thai EFL undergraduate students. Moreover, the results showed that students with a low learner autonomy level had significantly lower levels of overall interaction than those with a moderate or high level of learner autonomy. However, the overall level of interaction of the students with a moderate level of learner autonomy did not differ significantly from that of the students with a high level of learner autonomy. Accordingly, it seems that more interaction should be encouraged for those who have a low learner autonomy level. Further, it could be inferred from the results of this study that Thai EFL students have a positive perception of learner autonomy and interaction even though they encounter some difficulty in learning autonomously and interactively due to their familiarity with teacher-centered practices. To enhance the learner autonomy and interaction of Thai EFL students, implementing active learning approaches that cultivate a student-centered environment is recommended to enable students to acquire knowledge independently with support from their teachers and peers.

Some limitations in this study should be noted. This study was carried out only in a particular public university in Bangkok. Based on the use of convenient sampling, there was a limited number of participants in this study, and all the participants were English major freshmen. Moreover, the study was questionnaire-based, and the participants' honesty when completing the self-report questionnaire employed in this study cannot be assured. To increase the generalizability of the findings and the credibility of the data, it is recommended that future research should include more participants in various contexts and employ other qualitative measures to triangulate the data.

Acknowledgments

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