English Language Teaching

Editorial Board

Contents

Translanguaging in the Saudi EMI Classroom:

When University Instructors Talk

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Abstract

The past few decades have witnessed a growing interest in using English as a Medium of Instruction (EMI), especially in higher education. Although the English language has rapidly shifted from being taught as a foreign language to becoming a medium of instruction, empirical research in this area is still limited in the context of the Middle East and North Africa (MENA), especially in Saudi Arabia. Therefore, the present case study explores translanguaging in the EMI classroom. The study used semi-structured interviews to investigate teachers' perceptions and practices regarding translanguaging, the rationale behind such practices, and the pedagogical effect of implementing translanguaging practices. The data was collected from five university professors majoring in medicine, physics, electrical engineering, and computer science using purposive sampling. It was analyzed using thematic qualitative analysis. The findings show that the participants generally have a positive attitude toward translanguaging, as it was triggered by students' limited language proficiency and the contextual and psychological situation of the students in the classroom. The results also indicate that it facilitates content comprehension and aids in raising student engagement and reducing language anxiety. Consequently, adopting translanguaging strategies in EMI classrooms with caution is recommended to provide a wealth of advantages and chances for students' linguistic growth, engagement, and academic success. Professional development programs and assessments of students' needs are necessary to ensure the prudent use of translanguaging in class and improve EMI classrooms.

1. Introduction

With the growing idea of globalization, the English language has gained great popularity in multilingual societies as a lingua franca for professional purposes. It has become the language of choice for international business, trade, and diplomacy. Its widespread use allows people from different linguistic backgrounds to communicate effectively and efficiently. Due to its status as a global language, English is essential for anyone seeking to thrive in the global economy. Therefore, English proficiency has become a highly sought-after skill in many industries, including technology, finance, and tourism. English as a Medium of Instruction (EMI) has emerged as an educational movement to weaponize graduates with efficient, professional knowledge and essential competence in specific fields and has been supported in higher education. This has led to an increasing number of universities and institutions offering courses and programs taught in English.

EMI refers to "the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the language of most of the population is not English" (Macaro et al., 2018, p. 37). The number of EMI studies has risen in recent years, encompassing higher education institutions across various academic disciplines. Globally speaking, research on EMI has not only shed light on curriculum design (Leong, 2017) and policy making (Lie & Hu, 2014) but also on the implementation of EMI in classrooms (Macaro et al., 2018), teachers' perceptions and practices (Jiang, Zhang, & May, 2016), as well as its potential benefits and difficulties, such as students' limited language proficiency and teachers' lack of pedagogical competence (Yuan & Yang, 2020).

1.1 EMI in the Context of Saudi Arabia

Since earlier times, Saudi Arabia's language policy has been mainly influenced by the Arabic language and Islamic culture. Arabic is the only official language used in the country, and all educational levels must be taught in Arabic to preserve the cultural and religious heritage of the country. However, the policy also allows for the acquisition of knowledge from other languages to promote Arabization, spread knowledge, contribute to Islam, and serve humanity (Ebad, 2014; Al Zumor & Abdesslem, 2023). Saudi Arabia has undergone several changes in its pursuit of internationalization and globalization. As part of the educational reform, teaching English has been mandated in public schools starting in Grade 6 since 2003 (Ebad, 2014), and this has now progressed to Grade 1. Since 2004, there has been an increasing emphasis on incorporating English into the curriculum in higher education and promoting English language proficiency. The government perceives the adoption of EMI as part of the internationalization of higher education in Saudi Arabia, which is necessary for developing local human capital and ensuring sustainable economic growth. English language use in these contexts is intended to enhance students' English skills and prepare them for global opportunities, but it is not pervasive across all disciplines or institutions (Al Zumor & Abdesslem, 2023).

As no unequivocal governmental policy defines the use of English to teach science at universities, the decision has been left to individual universities. State universities mostly use English (or maintain they do) to teach computer science, medicine, and engineering, while private universities mostly adopt EMI in teaching science. Therefore, it can be argued that EMI is a de facto educational practice rather than a de jure policy that sprouted in response to domestic and global pressures and considerations (Al Zumor & Abdesslem, 2023). To bridge the gap between Arabic-medium instruction offered by schools and EMI introduced at universities and to foster high school graduates' poor English so that they can be well-prepared to join science programs, most universities have offered a preparatory year program (PYP) to be passed before joining science programs since 2005. PYP aims to provide students with a foundational understanding of the specialization they intend to pursue. University language centers and educational companies frequently administer it. However, a significant percentage of the programs are in English for General Purposes and vocabulary courses in specialized terminology, and the amount of time allocated to these courses varies amongst universities. As Al Zumor & Abdesslem (2023) stated, PYP programs do not adequately support students' experience learning academic disciplines, despite significant efforts being made to improve students' English language proficiency. The amount of English instruction provided to students for specific academic purposes is inadequate. Additionally, most teachers teach English for General Purposes, even though their training is in teaching English as a foreign language. However, these efforts have not been succefull, and English has remained a very foreign language among students.

Despite the growing interest in and increasing proliferation of EMI in academia, research on EMI in the context of Saudi higher education is still at an adolescent stage (Macaro et al., 2017). However, research indicates that implementing EMI in Saudi Arabian higher education has faced several challenges. According to Alanazi (2021), one of the main obstacles is students' difficulty comprehending material or speaking and writing fluently. This is especially the case for students not used to studying courses in English. Other challenges include teachers' complaints of limited class time, which postulates a problem in delving into content. Ebad (2014) highlighted that these challenges and obstacles to promoting EMI in education systems are due to cultural, communication, and connection gaps between students and instructors in typical classroom settings. Research on the Saudi EMI classroom in tertiary education has addressed the phenomenon and pointed out its challenges by investigating the attitudes of learners and instructors. Different studies reported several practices used by instructors to overcome the challenges of EMI and facilitate classroom teaching and learning. Alanazi (2021) and Ebad (2014) postulated that teachers and students used strategies like translanguaging, simplifying the English language, and multimodality. Translanguaging in Saudi EMI classrooms is still debatable in content-based instruction (Ebad, 2014). While some educators may actively encourage translanguaging, others may adopt a more restrictive approach, emphasizing English-only instruction. On the other hand, Al Zumor and Abdesslem (2023) stated that translanguaging scarcely advances critical thinking, deep learning, or language proficiency in both languages.

1.2 Translanguaging as an Educational Practice

To overcome the difficulties of EMI in teaching content courses, some researchers called for translanguaging in the EMI classroom. The term translanguaging is relatively new, as it was first introduced in 1994 by Cen Williams (García & Wei, 2014). During the late twentieth century, views toward multilingualism changed, and consequently, the concept of translanguaging spread across the globe (Zhou, Li, & Geo, 2021). Translanguaging theory postulates a dynamic and functionally integrative use of languages and language resources for knowledge (re)construction in content learning (Yuan & Yang, 2020). In the field of education, translanguaging has been argued to be a beneficial pedagogical practice for improving language learning. It is "the process by which

bilingual students and teachers engage in complex discursive practices in order to 'make sense' of and communicate in multilingual classrooms" (García et al., 2011, p. 389). That is to say, students and teachers use various forms of linguistic resources in different learning and teaching activities to reach the ultimate goal of meaning-making (Zhou et al., 2021). It differs from code-switching as it strategically selects communicative features within a certain linguistic repertoire (García, 2012; García & Wei, 2014; Zhou et al., 2021).

Although translanguaging depends heavily on students' backgrounds and needs as well as the available resources in the classroom context (Yuan & Yang, 2020), such practice is argued for in the field of education, specifically in EMI classrooms, for its potential advantages. Some of its fundamental benefits include: 1) promoting a better understanding of the subject matter; 2) improving the acquisition of the weaker language; 3) improving home-school relationships; 4) integrating fluent students with beginners (Baker, 2001); 5) developing their metalinguistic abilities (Mazak & Herbas-Donso, 2015; Cohen, 2015) as well as their metalingual identities (Celic & Seltzer, 2011; Cohen, 2015). It is also reported that translanguaging decreases the students' anxiety toward language learning in the EMI classroom and provides a safe space for EFL learners (Cenoz, 2022; Lang, 2019; Ahn, Shin, & Kang, 2018).

Global research on the concept of translanguaging is relatively recent and still very limited (Caruso, 2018). In tertiary education, the literature on translanguaging in teaching is also new and still limited. Most of the studies have tackled the English language as the lingua franca that is learned beside different first languages, i.e., in China (Zhou et al., 2021; Pun, 2021), Indonesia (Nursanti, 2021), Europe, and America (Caruso, 2018; Galante, 2020). Yuan & Yang's (2020) case study, contextualized in China, explored using translanguaging in the EMI classroom for teacher education. Their study revealed that translanguaging could be planned or generative, depending heavily on the teaching context. Translanguaging follows three different strategies: the use of academic and daily discourse, verbal and semiotic resources, and, last but not least, using learners' first language. Likewise, questioning the existence and use of translanguaging in higher education, Caruso (2018) explored the context of Portugal. The fact that scientific texts used in education were published in English and the presence of students with different repertoires impose a language choice on professors. Caruso (2018) reported that the professor allows his students to translanguage during lessons to achieve "collective comprehension of content." Moreover, the students are given a "structured multilingual final exam" to motivate and improve their multilingual competence. Zhou et al. (2021) conducted a mixed-method study on an EMI course implemented in an international school in China to explore the students' translanguaging practices and their attitudes toward it. The drawn conclusion reported a positive attitude towards translanguaging. According to the study, translanguaging is usually motivated by "ease of communication," resulting in enhanced content learning.

1.3 Translanguaging in the Context of Saudi Arabia

Hopkyns & Elyas (2022) discussed translingual practices as linked to language policy and planning in the region. According to them, the education system is still dominated by monolingual ideology. Linguistic boundaries between Arabic and English are to be maintained in the classroom. Therefore, English courses in schools are taught in English only, while other courses are taught in Arabic only. When students reach the university level, some genres (i.e., medicine, computer science, engineering, and sciences) are legitimized to be taught using English only, creating a challenge for the students. As a result, higher education instructors are driven to look for mitigation.

In the context of Middle East and North Africa (MENA), research on translanguaging is relatively new. The studies conducted in the context of MENA explored the viewpoints of students or school teachers. For instance, in the United Arab Emirates, Hopkyns, Zoghbor, & Hassall (2021) investigated university students' attitudes and practices concerning translanguaging. On the other hand, Kennetz et al. (2020) studied elementary teachers' identities and willingness to translanguage in EMI classrooms. Their main findings revealed an unexpected pragmatic willingness and enthusiasm among participants to use their first language (L1) in English classrooms. The researchers also discovered evidence of a developing bilingual professional identity that distinguishes participants from their monolingual peers.

Predagogical translanguaging as a phenomenon in tertiary education has recently caught the attention of researchers in Saudi Arabia. Elashhab (2020) investigated its impact on learners' language development. Employing several qualitative and quantitative instruments, she attempted to describe Saudi medical students' translanguaging strategies and how they improved their communication in English. The study reveals that students with lower English proficiency use more translanguaging strategies, primarily for simple tasks and activities. Intermediate-level students use L1 to clarify grammatical rules and group discussions, while advanced-level students use Arabic less. Translanguaging creates a dynamic learning environment for EFL

students, enhancing language awareness, cognitive development, and content comprehension. Effective multilingual instruction aims to develop students' language awareness and input/output variations. Moreover, Almayez (2022) investigated English language teachers' attitudes towards pedagogical translanguaging and their reflected practices. A hundred and one teachers from a Saudi university responded to the questionnaires for the study. Findings reported a discrepancy between attitudes and practices, highlighting constraints hindering adoption. Furthermore, Alwaznah (2022) investigates the use of translation theory in postgraduate translation and interpreting training in Arabic-speaking countries. It further examines whether Arab instructors use EMI or translanguaging. A mixed method was used, including a questionnaire distributed to 60 instructors and interviews with three professors. The study found that most participants use translation theory for practical courses, as it provides a solid foundation for problem-solving and decision-making. However, they also exercise translanguaging, as the specific terminology in these theories may not be easily understood in English alone. The paper provides a baseline for using translation theory in EMI higher education in selected Arab countries, potentially impacting bilingual instruction.

Although these studies have pointed out translanguaging as a powerful tool in EMI classrooms, there is still a scarcity of research on translanguaging implementation from the viewpoint of teachers, especially in the specific context of Saudi EMI classrooms (Almayez, 2022). Such exploration is essential as a starting point for further research on translanguaging in the EMI classroom and how it could be positively exploited. To the best of the researcher's knowledge, the present study is one of the few studies to focus on translanguaging practices in EMI classes in Saudi Arabia from the viewpoint of teachers.

Considering such a research gap, this study explores Saudi university instructors' perceptions and implementation of translanguaging in EMI classrooms. It seeks to answer the following questions:

(1) How do Saudi university instructors implement translanguaging in the EMI classroom?

(2) What are the reasons behind their practices?

(3) What are the pedagogical benefits of such practices?

(4) How do they perceive translanguaging in the EMI classroom?

2. Method

The present study adopts a qualitative case-study approach. A case study approach is used to study a certain phenomenon in a certain context (Baxter & Jack, 2008). The participants of the study are five university professors (4 males and 1 female) selected through purposive sampling, in which participants are recruited because they have the characteristics that serve the purpose of the study (Thomas, 2017), i.e., teaching an EMI course for at least one year and using translanguaging in the classroom with the students. They are majoring in physics, medicine, electrical engineering, and computer science. The participants belong to three Saudi universities. Only one of the universities has a clear and strict language policy for using English in instructing the targeted courses. The participants in this study have teaching experience at their universities ranging from 1 to 22 years. They are all Saudi instructors born and partially educated in Saudi Arabia and have spent some time studying abroad (from 1 to 7 years). Their first language is Arabic, and they have a good command of English as their second language (L2). As for the students, they are undergraduate students, their L1 is Arabic, and their proficiency in English ranges from beginner to lower advanced students. All the professors teach content courses in their fields (e.g., logic design, physics, surgery, and information systems). They teach students at different levels. The main language of education is English. It is used in course material (i.e., books, handouts, presentations) and examinations. However, in course delivery and classroom discussion, the main language is academic English, with several translanguaging practices into everyday English and the student's first language.

Before collecting the data through semi-structured interviews, consent was obtained, and the participants' confidentiality, anonymity, and voluntariness were guaranteed through written consent. The semi-structured interview was deliberately chosen as an effective way to elicit and document the participants' feelings, beliefs, attitudes, and values about their own experiences (Edwards & Holland, 2013). The instructors responded to the questions in the interview with a specific focus on translanguaging to investigate the teachers' perceptions of translanguaging, its triggers, their practices, and the roles and functions of translanguaging in EMI courses.

The instrument was adapted from Yuan & Yang (2020), who investigated translanguaging practices in an EMI teacher education course and used García & Wei (2014) as its framework. Only two questions concerning students' anxiety and their L2 development as related to translanguaging were added to meet the objectives of the study. These questions were: 'What do you think about switching languages when teaching? How does it influence the classroom environment?' 'Do you see the use of L1 in EMI classes as interference or help in

language development? How?'. The instrument was first validated through content validity and face validity by two specialized professors in the field to ensure that the interview protocol was acceptable. Based on their suggestions, necessary modifications were made, and the number of questions was limited, so the interview would not take as long as the instructors'. After that, the instrument was piloted by three EMI instructors to ensure its clarity and reliability and achieve data saturation. The data from the pilot study showed that the interview questions were clear and appropriate for the aim of the study. Then, the actual data collection process started with individual interviews conducted in English and audio-recorded. The number of participants is limited to five, as the collected data reached a point of saturation where no additional new information was revealed.

For the sake of anonymity, the respondents are given labels (i.e., participant 1, participant 2,... and so on) before data analysis. A total of 110-minute recordings were transcribed verbatim for analysis. Thematic analysis was used to analyze the data. It is an analysis process that "characterizes the collection of generic qualitative analytical moves that are applied to establish patterns in the data" (Dornyei, 2007, p. 245). Following the qualitative thematic analysis, core themes were conceptualized, compared, and validated based on the prominent themes in the domain. Such themes and codes were defined and cross-checked with one of the specialists in the field. The resulting themes were further interpreted and elaborated on within the conceptual framework of translanguaging (García & Wei, 2014; Li, 2018). Interrater reliability was calculated and found to be 90% similar in most themes.

3. Results

The results of the current study were presented in terms of themes. The reported themes were mainly classified into four categories. These categories include the reasons behind translanguaging in EMI classrooms, strategies, pedagogical benefits, and professors' perceptions of translanguaging.

3.1 Teachers' Translanguaging Practices

Regarding the first question of the present study about the instructor's implementation of translanguaging in the EMI classroom, one prominent theme is considered, i.e., strategies of implementing translanguaging, which are the ways instructors use in EMI classes. Four main subthemes were revealed from the interviews. They include integrating English with students' L1, academic English with a simplified form of English, planned translanguaging, and unplanned translanguaging.

As for the first subtheme, English is the language of textbooks, presentations, and examinations. It is also the main language of lecturing. The incidents where translanguaging occurs are confined to class discussions and, sometimes, while lecturing when the professor believes it is necessary to translanguage because the students do not fully understand a concept. According to Participant P1, "I use English to explain the concepts, the definitions, the mathematical laws, and problem-solving. However, when it comes to the discussion, I would shift into Arabic." Participant P2 remarked, "The teaching material is all in English, and translanguaging is involved in interactive discussions. So, the primary language in the classroom is English. I use it in lecturing as well as it is the language of the video clips. Like when explaining the videos, sometimes I do some translanguaging. When explaining the medical term 'transplantation,' I use the term transfer and transfer of organs like a simplified language, and in Arabic we use 'زراعة'"

Participant P3 also commented, "using the Arabic language to clarify the concept or to give a real-life example, but I usually go back to English as the main language."

He explains the idea by giving an example that happened in one of his recent classes, saying, "I was explaining to the students the differentiation between two classifications of collision. In physics, there are elastic collisions and inelastic collisions. In an inelastic collision, after an collision happens, the two colliding objects are deformed. So, I was explaining to the students what happens if these two objects were tangled or coupled together. So, I felt that they did not get the idea of deformation. So, I already switched to Arabic and told them that:

لو حصل تشويه في جسمين بحيث أنه الجسمين بعد التصادم تداخلا مع بعض أو ارتبطا مع بعض حصل لهم تغيير في الشكل مو شرط أنه يكون deformationتغيير في الشكل كامل إنما يكون تغيير في الجسمين قبل التصادم وبعد التصادم أصبحوا جسم واحد بغض النظر عن ماهية ال 'اللي حاصل.

These translanguaging practices are sometimes planned, but most of the time, they are driven by the contextual needs in the classroom. All of the participants showed that they considered the students' English level while planning their lessons and lectures. This is evident in the parts where they move from academic English to the simplified everyday form of English. Participant P2 assured that "definitely, I take their level of proficiency [into

account] when I plan my lectures. I try to make the terms as clear and easy as possible. That is why sometimes I move from academic English into a simplified form of English." Participant P3 and Participant P4 also explained this and pointed out that they also prepared the Arabic translation of some terms and sometimes real-life examples in Arabic. The response of Participant P3 regarding this was, "Absolutely, I take the students' level into consideration while planning… Sometimes, I use the translation for some concepts." According to Participant P4, "When I prepare my lecture, I prepare it in English, but, at the same time, I know that some parts would be impossible for the students to understand if explained only in English because they have so many details. So, I prepare some stuff and examples in Arabic to help them understand." Participant P2 admitted that he deliberately prepares the translation of some terms into Arabic because he thinks that students need to know them as they will deal with patients who are native speakers of Arabic.

On the other hand, the participants highlighted that most of the incidents are brought up depending on the situation in the classroom. They accidentally use translanguaging when they notice that students struggle to comprehend the exact meaning of a piece of information or a concept. According to Participant P1, "I do not consider this in lesson planning because I do all my notes and everything in English. But, in the lecture, I would have to switch into Arabic when I notice that the students are struggling to understand something to save time and engage the students. For example, when I come across a definition which is concise and precise, I use words that are not typically used, like when I come to the term 'associative,' I would say:

"تراه يدخل بال (associative) هنا وتقدر تستخدمه بالطريقة هذي أو الطريقة هذي"

[It goes under "associative" here, and you can use it this way or that way.]

Participant P2 explained that such incidents of accidental translanguage happen as he tries to go along with the students in the discussions. He confirmed that "normally, this switching and translanguaging is initiated by the students. It is not me who initiated it. It is usually started and guided by the students."

The main translanguaging strategy highlighted is integrating academic discourse with everyday discourse to help the students comprehend content. Moreover, L1 is used as a semiotic resource to promote knowledge attainment. The instructors could deliberately plan these translanguaging practices. However, it is often incidental and spontaneous, depending heavily on the contextual circumstances inside the classroom. Such findings coincide with Yuan & Yang (2020), Caruso (2018), and Zhou et al. (2021). Moreover, they align with García & Wei's (2014) proposition of translanguaging as an explicit affirmation of the bilingual's linguistic practices. It demonstrates the complex and dynamic relationship between the bilinguals' linguistic systems, from which they select depending on interactional, topical, and contextual elements.

3.2 Reasons for Translanguaging

Two main themes were highlighted when considering the reasons behind translanguaging practices. The first is linguistic ability, which is related to the student's linguistic ability. The second is contextual needs, which refers to the surrounding circumstances within the classroom. One main subtheme under "linguistic abilities" is the student's limited L2 proficiency. All the professors have a consensus that it is their main drive to use translanguaging in the classroom. The students enrolled in EMI classrooms are not well-equipped with the necessary academic English language to understand the language of science. This is evident in Participant P1's words in the following quote: "The main reason is breaking down the language barrier for the students, helping them to understand faster rather than thinking how to understand because students are not prepared very well." Participant P1 was not the only one to draw upon this fact. Participant P2 also agreed with him, as his statement shows, "If you give a term that the students do not know about, you have to explain it in English and Arabic sometimes because of the proficiency of the students and their lack of English vocabulary."

Such a typical picture of the student's proficiency level creates concerns about the student's ability to understand the content the professors try to deliver. Therefore, the professors resort to translanguaging depending on their assessment of contextual needs. Three main subthemes contribute to this main theme. The first subtheme is to simplify the idea and remove confusion, or to ensure that all students understand the content in the correct way without leaving anyone at a disadvantage. This is exemplified in Participant P1's response: "I would shift into Arabic because some of the students would get the information faster when it is in Arabic. This shift to Arabic is only for the benefit of students." Participant P4 pointed that out, saying, "I use Arabic because I need to make sure that they got the information correctly, and they have it in the book written in English."

Participant P2 also explained that, saying, "The communication is not always leveled. I mean, sometimes, the meaning of the vocabulary that we say is not always understood by the students the way we want or the way it should be."

He explained by mentioning a specific example from his own experience, saying, "For example, when it comes to the term 'transplantation.' The students would confuse it a lot... You need to explain what you mean—is it the donor? Is it the organ itself? Is it the process of transferring an organ from one body to another? Then you have to explain it in Arabic as well."

The other two subthemes related to contextual needs and motivating translanguaging are breaking boredom in the classroom and grabbing students' attention. The responses of Participant P2 and Participant P4 revealed that translanguaging is genuinely motivated by their assessment of the situation during the lecture. Participant P2 said, "Definitely, the psychological aspects, like the students getting bored or losing their interest in the lecture, matter because their proficiency in English does not help them to understand what I am trying to convey."

Participant P4 commented, "If I do not shift into Arabic, I would be surprised at the middle of the class that they are not on the same page."

The other focus of the present study is the rationale behind translanguaging in the EMI classroom. The results show that translanguaging emerges for several reasons. The main reason is the student's level of proficiency, which results in translanguaging to enhance meaning-making and ensure knowledge attainment. The teachers' focus on the target of meaning-making aligns with García & Wei (2014), who postulated that bilingual teachers are building on complex resources to ensure meaning-making and promote students' entire repertoire by using several complex linguistic practices and pedagogical strategies. Moreover, translanguaging is motivated by the contextual and psychological conditions of the students inside the classroom. Such aspects as seeking ease of communication, breaking classroom monotony, and grabbing the students' attention are sufficient reasons for instructors to initiate a translanguaging practice. These findings align with Zhou et al. (2021), who highlighted that translanguaging is motivated by ease of communication and contextual resources. Muguruza, Cenoz, & Gorter (2020) explained that students with low levels of English proficiency can face difficulties in both comprehension and production. However, the study also showed that using flexible language policies (such as incorporating translanguaging pedagogies) can help mitigate these difficulties while still providing students with exposure to English.

3.3 Translanguaging Pedagogical Benefits

Regarding the third research question about the teaching benefits of such practice, one main theme surfaced: creating a positive classroom environment. It refers to setting a climate that helps students learn and grow. Three key subthemes were observed. The first is that translanguaging is a tool to speed up the teaching process, clear up confusion, and enhance content learning. Participant P1 mentioned a specific example: "When I notice the students are confused, the switch will solve the problem in ten seconds. For example, when we are solving a problem that is related to proofs, I would say that it could be solved using the distributive property or associative property. When the students looked confused, I would continue explaining:

نوزع الضرب على الجمع

The students immediately say, 'Aha! It is clear now,' and we move on to the next point." Participant P2 commented, "To translanguage is always a help. Whatever works for the students to understand the lecture is always a help. The content remains a priority."

The second subtheme is that translanguaging is a tool to reduce students' anxiety in the classroom. All the participants agree that translanguaging is helpful, especially for junior students. Participant P2 commented, "If you are very strict with English-only teaching… They might prefer not to ask questions, especially at junior levels in medical schools, because the English language is a challenge for them." Participant P1 also explained that "because they are not forced to speak in a certain way or specific language, whether this language is English or Standard Arabic. So, the problem for them is smaller, and, therefore, their anxiety will be smaller, of course."

The third subtheme is crucial for raising students' engagement in the classroom. All the participants agree that translanguaging is a beneficial tool to increase the interactivity between the professor and the students in the classroom. Participant P4 admitted that she purposefully shifted to Arabic to encourage the students to ask questions and engage in discussions. Participant P2 stressed the importance of interactivity in the classroom. According to Participant P2, "The level of interactivity of the students with the lecturer remains a priority… We noticed that with junior students. It is a plus for the lecturer to switch to Arabic because this raises the level of their interactivity in class and also allows some way of better communication with the lecturer."

Regarding the pedagogical benefits and function of translanguaging in EMI classrooms, the findings clearly illustrate the role of translanguaging in involving all students in class and encouraging them to engage in discussions and raise questions. It follows that translanguaging is an indispensable tool to facilitate

meaning-making and enhance knowledge acquisition while maintaining students' engagement and reducing anxiety. These findings concurred with the findings of many studies (Caruso, 2018; Ahn et al., 2018; Lang, 2019; Cenoz, 2022; Nursanti, 2021; Elashhab, 2020) pointing out the role of translanguaging in raising students' engagement in the class, reducing their anxiety toward learning the English language, and promoting the process of meaning-making to reach an ultimate and deeper comprehension of content. Moreover, Alwaznah (2022) stated that translanguaging is sometimes necessary to explain some terms as they are difficult to understand through an explanation in English alone. According to Zhou et al. (2021) and Pun (2021), it is among the affordances of translanguaging that it develops students' metacognitive skills, allowing them to interact fluently in a confident and safe atmosphere while enhancing knowledge acquisition. Muguruza, Cenoz, & Gorter (2020) reported that the consistent use of a flexible language policy by the teacher and materials in EMI courses, based on the use of pedagogical translanguaging, allowed students to follow the content of the course with lower levels of anxiety.

3.4 Instructors' Overall Attitude towards Translanguaging

However, concerning their general view of the role of translanguaging in improving the students' L2, the participants' responses varied. One of the participants remarked that such variation in viewpoints toward the beneficiary role of translanguaging on the part of improving language proficiency is field-specific. Some fields need both languages, and therefore, translanguaging helps both sides. Others see that translanguaging, if not controlled and minimized, would eventually be detrimental to the students' L2 proficiency. They argue that it is a fact that English is the language of science and postgraduate studies. It is also required for academic tasks, graduation projects, and professional purposes. Therefore, students must improve their English proficiency.

Based on such justification, three main themes were observed. The first theme was a positive attitude, i.e., the positive perspective of L2 instructors regarding the use of translanguaging in the EFL classroom. The main subtheme is that it is assisting the students linguistically. Participant P2, who specializes in medicine, sees the direct relationship between translanguaging and students' L2 attainment. According to him, translanguaging works as a facilitator for students' L2 acquisition. Participant P2 commented, "From my personal point of view, we [instructors] have to include the two languages as we are graduating as doctors who are going to treat patients and have to communicate directly with them. That is why translanguaging is a plus [linguistically for the students]."

On the other hand, the second main theme was negative attitude, which refers to the opponent's viewpoint of using translanguaging in EMI classrooms. The main subtheme was that translanguaging is a hindrance to L2 attainment. Participant P1, a professor in electrical engineering, doubted the benefit the students would accomplish at the L2 level. He noted, "On the part of the language, I am not sure that this is beneficial to the classroom overall, but it is a temporary fix for a permanent problem. We are not solving anything by this [translanguaging], but we will have to move on teaching the course." He thinks that translanguaging is like "a bandage" that does not fix anything.

The third theme that surfaced in the analysis is the limited use of translanguaging, i.e., the use of translanguaging is supported within the classroom, but to a certain extent. One main subtheme is that translanguaging is effective if controlled. Participant P3 and Participant P4, professors in physics and computer science, respectively, appreciate the role of translanguaging. However, from their point of view, this practice should be limited and controlled to avoid a negative impact on the students' L2 because they might depend on it. Participant P3 said, "If you keep [translanguaging] to a minimum level, it will be helpful for them. As freshmen students, absolutely, but it should not take a long time because otherwise, they will take it as an excuse for not understanding or not performing tasks."

Despite its aforementioned and vital role in the EMI classroom, the participants' responses toward its role in students' L2 attainment varied. While some participants expressed their concerns about the drawbacks of this strategy, others appreciated the controlled use of L1 in the EMI classroom to help enhance L2 attainment. Such varied responses coincide with those of Zhou et al. (2021), who reported some reservations about accepting translanguaging as a formal linguistic practice that is widely accepted and used. Moreover, the relationship between the two languages as one functioning to learn the other contradicts Al Zumor and Abdesslem (2023), who stated that translanguaging hardly promotes language learning. However, such a relationship agrees with Cohen (2015) and Baker (2001), who advocate the importance of using L1 in L2 classrooms to serve as "a cognitive and metacognitive tool, as a strategic organizer, and as a scaffold for language development" (p. 333). Therefore, it is suggested to use translanguaging in a controlled and minimized way to avoid any drawbacks. Such findings disagree to a certain extent with Hopkyns & Elyas (2022), who advocate legitimizing

translanguaging as a practice in educational domains as it is commonplace. They called for a vital policy change toward endorsing translingual identities across domains to bolster genuine language identities.

4. Conclusion

The findings of this study contributed to the field by showing a deeper view of what happened inside EMI classrooms from instructors' perspectives and a thorough analysis of the point of view of university professors in Saudi Arabia. It focuses on the viewpoint of Saudi professors toward translanguaging concerning four main aspects: its drive, its pedagogical benefits, the teachers' practices, and their overall perceptions towards it. The findings are summarized in the following Figure (1):
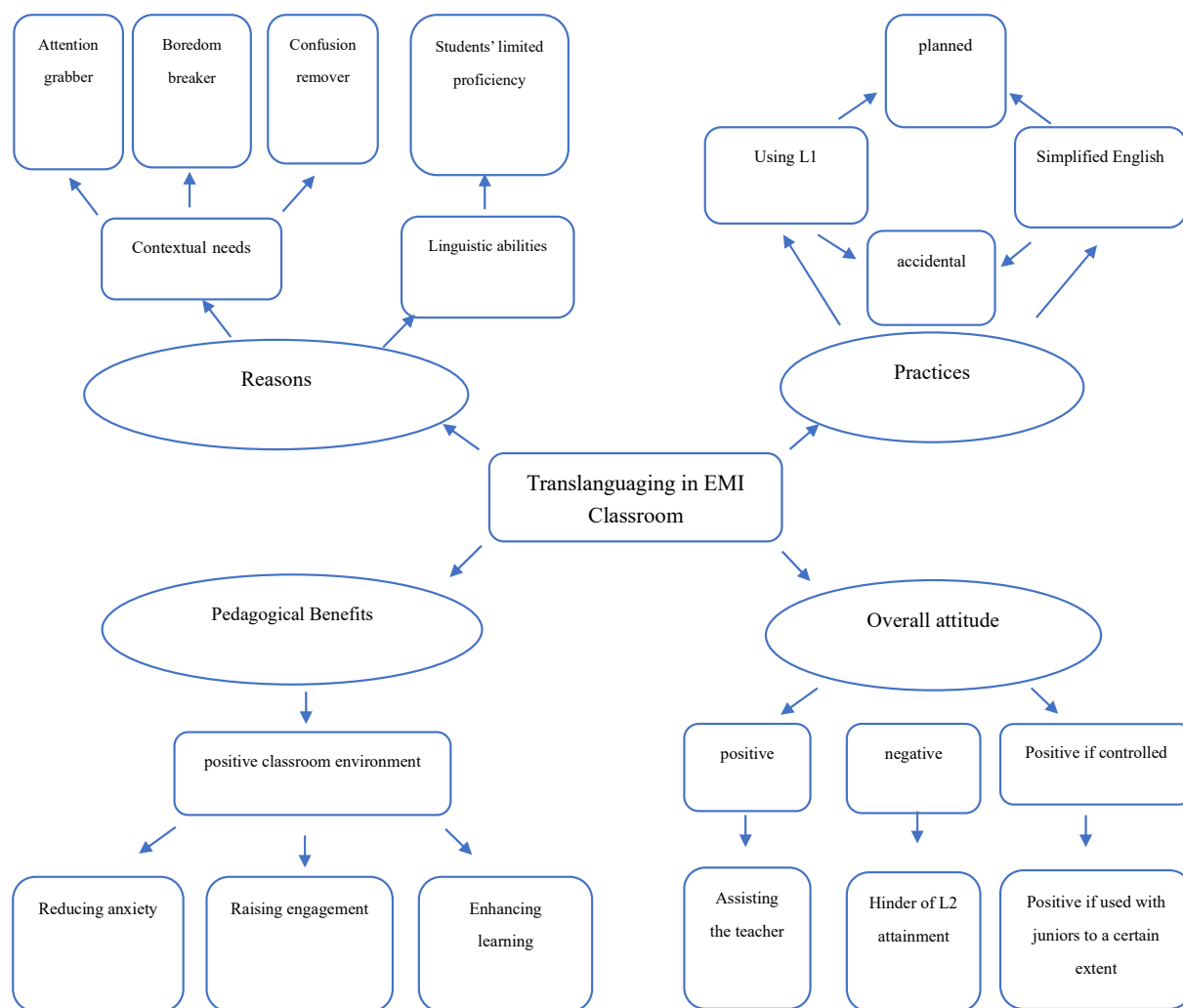
Figure 1. Translanguaging in the EMI classroom

Considering the results and discussion above, in EMI classrooms in tertiary education in Saudi Arabia, translanguaging is mainly triggered by students' limited proficiency level in English and the instructors' concerns about appropriate content delivery. It is also triggered by contextual and psychological status in the classroom, e.g., class monotony. Translanguaging is exemplified in the planned and accidental use of simplified everyday English and students' L1. Pedagogically speaking, it enhances academic success and facilitates comprehension by exploiting or utilizing the students' full linguistic repertoire. Moreover, it provides ease of communication, fosters the process of meaning-making, raises students' engagement, and reduces students' language anxiety. However, the findings show variation in participants' responses concerning the role of translanguaging in facilitating L2 attainment. Such variation is field-specific. Therefore, it could be recommended that policymakers consider translanguaging as an accepted pedagogical practice and consult content instructors when designing program policies. University instructors are further advised to consider their students' needs and level of proficiency when using translanguaging. Teachers should value their pupils' linguistic resources and promote

language negotiation and strategic code-switching. The employment of translanguaging in the EMI classroom is advised with caution to help narrow the gap of communication between the instructor and the students without affecting the students' motivation and attainment in L2. Therefore, programs for professional development should be made available to help teachers utilize translanguaging successfully. Embracing translanguaging in EMI classrooms can create inclusive and effective learning environments that promote bilingualism and academic success.

Regarding limitations, the present study is a case study of Saudi EFL university instructors teaching EMI classes. It sheds light on a specific phenomenon in the EMI classroom: translanguaging. It uses semi-structured interviews to collect qualitative data. Therefore, further research is recommended using observation as a supportive instrument to obtain rich data and draw in-depth conclusions about the teachers' actual practices in the classroom. More studies are needed to investigate translanguaging practices in EMI classes in Saudi Arabia among teachers and students in secondary international schools. Moreover, it is suggested that the viewpoints of university students on a micro level towards translanguaging be considered in future research. Other countries in MENA are highly recommended to be investigated to compare their results with those of the present study. Finally, the present study highlights the benefits of translanguaging in EMI tertiary classrooms. Further research is needed to explore its long-term impact on language development, academic achievement, and the integration of students' linguistic repertoire.

5. Declarations

5.1 Competing Interests

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

5.2 Consent

The author confirms that informed consent was obtained from all participants for the study.

5.3 Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Appendix A

Semi-structured Interview Questions

The following are the interview questions:

(1) In general, an appendix is appropriate for materials that are relatively brief and that are easily presented in print Can you give a general introduction about your professional backgrounds and experience?

(2) What is your teaching philosophy as a teacher educator? Can you give some examples?

(3) How do you often plan for your teacher education courses in terms of the teaching materials and tasks?

(4) Normally, how do you interact with your students in your classrooms?

(5) What is the medium of instruction in your classrooms? Do you switch languages when you teach students from diverse linguistic backgrounds?

(6) What is your university's policy on the medium of instruction? Does this policy have any influence on your teaching?

(7) According to what you have mentioned, you frequently use (depends on the couse of the conversation), how does that help your teaching and students' learning?

(8) According to this discussion, you usually introduce different academic terms and then use simpler languages to explain them. Why do you do this?

(9) From your point of view, do you see the use of L1 in EMI classes as interference or a help in terms of language development? How?

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Towards a Comprehensive Framework of Motivation to Learn:

a Validation Study

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Abstract

Motivation has been an important construct in second language acquisition and received extensive attention on how it affects learning and performance. The aims of this current review paper are multifaceted. 1) It aims to provide a comprehensive overview of the major motivation theories in the past decades. 2) Motivation theories specific to second/foreign learning context are to be included and explain the current state of the different domains of motivation theories. 3) It provides a critical evaluation of the rich body of motivation theories. 4) it also gives directions to propose a framework for motivation to learn a second/foreign language based on the major theories and approaches developed in the past. With this proposed comprehensive framework for motivation to learn a second/foreign language, it is hoped that a fuller picture of how different aspects and factors can be of significance to a learner's motivation to learn. For educators, this framework can shed light on the pathways to effective teaching and learning by understanding what affects a learner's motivation to learn English. For researchers, this paper would like to offer a future research direction for effectuation, validation, and modification of this proposed comprehensive framework.

Keywords: motivation, motivation theories, validation, motivation framework

1. Introduction

Motivation has been an important construct in learning and teaching English as a second/foreign language education and received extensive attention on how it affects learning and performance. The purpose of this paper is not intend to provide a comprehensive list of motivation theories but to focus on reviewing and comparing the major motivation theories and approaches in the 19th century, then identify key intersections and distinctions among the theories under each approach, develop a comprehensive framework for ESL/EFL learning, and lastly validate the framework empirically to shed lights on future ESL/FL motivation and second/foreign language acquisition studies. With the validation of a comprehensive motivation framework, educators will have a foundation of understanding and explaining learners' behaviour and performances hence a modification of pedagogy to drive students towards their learning goals as well as deliver intended learning outcomes.

2. Definition of Motivation

The term motivation has been a complicated one and its origin is derived from the Latin *movere* (to move). That is, motivation serves as a force or a drive to get people going and keep people moving. However, there has been no agreement over the precise nature of motivation just as Galloway, Rogers & Armstrong (1998) claimed that it would be uninteresting if motivation was a straightforward concept.

The reason why motivation is difficult to define is because of its complex compositions, and its fluid and complicated nature. Dornyei & Schmidt (2001) previously pointed out that 1) motivation is abstract and not directly observable; 2) motivation is a multidimensional construct; and 3) motivation is inconstant.

To review how scholars define motivation, this paper tries to review the meaning of motivation from past studies. In early studies, researchers defined motivation from a biological perspective. Murray (1938) believed motivation could be seen as a force of "press". That is, motivation is an urge to release tension and satisfy needs. Maslow (1954) also saw motivation to fulfil biological needs as the most fundamental.

Apart from defining motivation from a biological perspective, researchers on the other hand also illustrate the

definition of motivation from a psychological point of view. Petri (1996) also indicated that motivation is the forces acting on or within people to initiate and direct their behaviour. Williams & Burden (1997:121) also proposed motivation may be construed as "a state of cognitive and emotional arousal, which leads to a conscious decision, and which gives rise to a period of sustained intellectual and/or physical effort in order to attain a previously set goal." Viewing motivation from a biological and psychological perspective may be deemed rather simple. These definitions embrace neither the function nor the fluidity of motivation.

Later, researchers also further expanded the scope of defining motivation with the social facet. Dornyei (2001:9) explained the functions and roles motivation play in the learning process. He wrote, motivation "concerns the direction and magnitude of human behaviour, that is: the choice of a particular action, the persistence with it, the effort expended on it," and defined motivation as "the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritized, operationalised and acted out."

In education research, one can refer motivation as a social-psychological construct that establishes learners' behaviour directed by both internal and external stimuli. Such construct helps learners to decide whether to exert more or retrieve effort in the process of learning.

3. Major Motivation Theories and Their Applications in ESL/EFL Learning Motivation

3.1 Different Approaches in Explaining Motivation

This paper reviewed the major motivation theories in the past century and identified four main approaches of motivation theories based on their applicability to the field of ESL/EFL education. They are: psychological approach, biophysiological and psychological approach, and socio-psychological approach (see Table 1).

Table 1. Summary of motivation approaches

Psychoanalytical approach	Biophysiological & psychological approach	Cognitive psychological approaches	Socio-psychological approach
		Hull (1943)	Gardner (1979)
		Rotter (1954)	Deci & Ryan (1985)
		Atkinson (1964)	Bandura (1989)
Freud (1915)	Maslow (1954)	Eccles (1983)	Schumann (1978)
		Locke (1968)	Clement (1980)
		Ames (1992)	Giles (1987)
			Covington (1992)

3.2 Psychoanalytical Approach

The earliest work on explaining motivation is believed to be Sigmund Freud's psychoanalytical approach (1915). He looked at the human mind as a topographical model which described its function and structure. The analogy he used was an iceberg. The tip of the iceberg was described as the conscious mind and humans are aware of the mental process such as hungry and eating. The middle level is the preconscious level which a person may not be aware of but can be easily brought to consciousness (Freud, 1924) and the bottom level is the unconscious mind which is the most important and primary source of human behaviours.

Although Freud's ideas had drawn a great extent of attention in psychology and psychoanalysis, his ideas seemed to have overlooked how other factors like biological needs and social stimuli may simultaneously regulate human conscious behaviours, especially in the context of ESL/EFL education. Freud's psychoanalytical approach is not sufficient in explaining how language learners are motivated to learn in their respective learning environments.

3.3 Biophysiological & Psychological Approach

Another prominent motivation theory is Abraham Maslow's (1954) hierarchy of needs in which he categorised and prioritised human needs. Maslow witnessed and lived through both WWI and WWII as a member of a Jewish immigrant family, he saw the different levels of human needs based on his life experiences and observations. The 5 levels of the needs he proposed from the bottom levels are: 1) physiological, 2) safety, 3) love and belonging, 4) self-esteem, 5) self-actualisation. Maslow explained motivation through fulfilling the satisfaction of basic needs in a hierarchical order.   Maslow indicated that it is the dissatisfaction and the sense

of deficiency that motivate humans to move and exert effort to fulfil the basic needs and desire for growth and success.

While students' biological needs are fulfilled, they will move on to establish a sense of competence and a positive interpersonal relationship derived from a safe learning environment. That is, if the second/foreign language learning environment is not warm or non-threatening, students will not have the desire to learn the target language and interact with their peers, not to mention self-actualisation or reaching their full potential.

Maslow's ideas were proposed after WWII, human bio-physiological needs were not easy to be fulfilled due to socio-economic turmoil hence the theory was well-suited and applicable to those times. With the advancement of technology and living standards, fulfilling the lower hierarchy levels of needs has already defaulted in students' daily lives. The higher hierarchical needs which focus on students' psychological needs are the centre of attention when exploring how to motivate students to learn. Psychologists later developed a rich body of motivation theories and approaches in explaining second/foreign language learning motivation.

3.4 Cognitive Psychological Approaches

Clark Hull's (1943) drive theory was the first to explain a linear relationship between arousal and performance – arousal increases; performance increases. In other words, how well students perform on a task depends on how much they are aroused. However, this oversimplification led to the development of several motivation theories related to arousal, including Hanin (1989) optimal functioning hypothesis and Mather & Sutherland's (2011)'s arousal-biased competition theory which both believe arousal increases, performances increase then decrease (considered as an inverted U curve) because all humans have a preference for arousal areas based on their current condition such as anxiety and biases (also see Metcalfe and Jacobs' (1998) two memory systems theory, and Eysenck & Calvo's (1992) processing efficiency theory). In other words, how well students perform depends on whether they prefer the arousal given in the English learning situation.

Simply explaining human learning behaviours by arousal is considered incomplete. Later, two major foci of motivation theories were proposed to investigate learning motivation further which are applicable to ESL/EFL learning. One focuses on expectancy of success and achievement, while the other focuses on goal setting and goal orientations.

3.4.1 Expectancy of Success

First of all, Julian Rotter (1954) proposed social learning theory in which he believed all humans have their own personality which has been developing based on individual past experiences over time. In other words, human personality is not static and is always changing.

In order to make reasonable predictions about human behaviours, Rotter believed it would be crucial to consider four different variables including behaviour potential, expectancy, reinforcement value, and psychological situation. Of the four variables, three of them are related to a person's subjective prediction – behaviour potential, expectancy, and reinforcement value. All these determinants look at whether an individual is likely and probable to act upon certain stimuli, how likely humans predict that particular behaviour will lead to a positive outcome, and humans also evaluate their level of desirability to achieve those outcomes.

Social learning theory has made a great leap in explaining motivation to learn English. Learners make predictions and evaluations on whether they want and will perform a task, as well as whether the task will bring the learner a positive result. According to Rotter, the final determinant is the psychological situation. This factor places a significant effect on student motivation to learn English. In order to objectively address how learning motivation is facilitated, the psychological situation of a learner must be taken into account because each learner has a unique psychological situation that affects their decision-making in how to behave during the English learning process.

Jack Atkinson (1964) later proposed a scientific study of human motivation, achievement, and behaviour. Atkinson's achievement motivation theory believes that humans fundamentally want to strive for success, thus whether humans will engage in achievement-oriented behaviour largely depends on 3 factors: probability of success, incentive value of success, and need for achievement. In the same year, Victor Vroom's expectancy theory (1964) suggests that humans are motivated due to three factors: 1) expectancy of success 2) instrumentality 3) valence. Achievement motivation theory explains that ESL/EFL learners can be motivated by these factors.

Jacquelynne Eccles also focused on how learners' expectancy impacts their learning motivation, which is also applicable to the context of ESL/EFL education Eccles (1983) proposed expectancy-value theory which she believed students' achievements and learning-related choices are determined by 2 dominant predictive factors:

expectancies of success, and subjective task values. These factors, at the same time, are influenced by other factors including demographic characteristics, prior experiences, stereotypes, and perceptions, learners' level of engagement, continuing interest, and academic achievements in a given learning context. That is, ESL/EFL learners/ motivation to learn will be enhanced if they expect that they can successfully fulfil the task which they at the same time see the value of it.

To compare Atkinson's achievement motivation theory, Eccles' expectancy-value theory with Rotter's social learning theory, the former two theories mainly focus on learners' expectancy of success while Rotter stresses the importance of the unique psychological situation of the learners which will positively or adversely affect their learning behaviour during the process of learning English.

3.4.2 Goal-setting and Goal Orientations

Apart from expectancy of success, theories related to learning goals were also developed. Edwin Locke (1968) first stated that goal setting is essentially linked to task performance. His theory has been largely applied in different settings including ESL/EFL education. He put forward 5 basic principles of goal setting: clarity, challenge, commitment, feedback, and task complexity. ESL/EFL learners perform better if they are given useful feedback on a task that is pitched at the appropriate level of complexity. Also, the goals they set are clear, attainable, and committed.

The next questions asked are the sorts of goals the English learners set, and how they are different in nature. Carole Ames (1992) indicated the two basic goal orientations are mastery and performance goals. Mastery goal orientation is considered to be mastering a new skill, improving competence, and increasing understanding of a subject. Learners also define their success in terms of improvement and achievement. Performance goal orientation refers to the desire learners set to perform better than others and demonstrate competence. Performance goal orientation can be seen in both directions: performance approach in which learners want to outperform others, and performance -avoidance approach in which learners do not want to avoid negative judgment or appear to be inferior to others.

3.5 Socio-psychological Approach: General

Viewing the cognitive psychological theories on motivation, one can see the lack of discussion on the social aspect in an English learning situation does not present a comprehensive picture in describing or explaining how ESL/EFL learners are motivated to learn English.

Edward Deci and Richard Ryan's self-determination theory (1985) stressed that the social environment, with an appropriate amount of support, may help learners to fulfil the basic psychological needs which are relatedness, competence, and autonomy. These basic needs will in turn lead to engagement in a learning situation eg. ESL/EFL learning situation. Having a supportive social environment will bring out positive learning behaviours from autonomous motivation to learn the language.

Socio-psychological motivation theories and approaches are particularly popular in explaining second or foreign language learning, in which social environment is of great significance in deciding a learner's motivation to learn English.

For example, Robert Gardner's (1979) social-education model indicated that social milieu is where learners have initial attitudes towards the culture behind the L2, and these reset values and attitudes were acquired from their own cultures. Whether a learner is motivated to learn is largely decided by the social milieu, the second/foreign language acquisition contexts, and the learners' own individual differences.

Apart from Gardner, Albert Bandura's (1989) social cognitive theory was based on his previous work of self-efficacy theory which defined self-efficacy as a learner's belief in his own ability to be successful in accomplishing a task or a goal in a specific situation. Bandura, in his social cognitive theory, echoed that learning occurs in a social context with a reciprocal interaction of the learner, environment, and behaviour.

3.6 Socio-psychological Approach: Specific Factors

The above theories indicated the importance of the social environment in influencing ESL/EFL motivation in general. A rich body of research on second/foreign language acquisition motivation theories was developed and they explained how a specific social factor brings an impact on motivation to learn a second/foreign language.

According to John Schumann's (1978) acculturation theory, there are two sets of factors that influence a learner's motivation to learn a second/foreign language: social distance and psychological distance. Schumann suggested that language acquisition is directly related to the acculturation process and whether learners can acquire a language successfully depends on the extent they orient themselves to the target language culture. That

is, the extent ESL/EFL learners can identify themselves as a member of the English speaking group and hence achieve contact, and the extent language learners feel at ease when performing a learning task.

While Schumann indicated that social distance brings about contact, Clement's (1980) self-linguistic theory stressed that language contact with the members of the target language community is what a learner needs to develop his linguistic self-confidence which needs to be strengthened by the quality and quantity of contacts. A high level of self-linguistic confidence will foster a learner's sense of identification with the target language community and enhance their willingness to learn. Whether learners can identify themselves with the target language community, Giles (1987) pointed out that the major force behind this is an individual's self-concept and the extent a ESL/EFL learner would like to maintain a positive self-image by acquiring a native-like English language competence, according to his ethnolinguistic identity theory. Similarly, Covington (1992)'s self-worth theory also echoed that it is the intention of an individual to protect his sense of self-worth to approach success and avoid failure. Figure 1 illustrates the different approaches and motivational components discussed above.

According to Figure 1, psychoanalytical approach was the most fundamental approach in motivation studies which Freud talked about life and death instinct. This theory later led to Maslow's biophysiological & psychological approach which aligned with Freud's and explained human's motivation is driven by different levels of needs. In the latter half of the 19th century, more motivation theories were developed and directions were diverted to two main approaches, namely cognitive psychological and social psychological approaches. The cognitive psychological approach focuses on how cognition affects motivation to learn a second/foreign language; while the social psychological approach focuses on how social elements influence motivation to learn English.
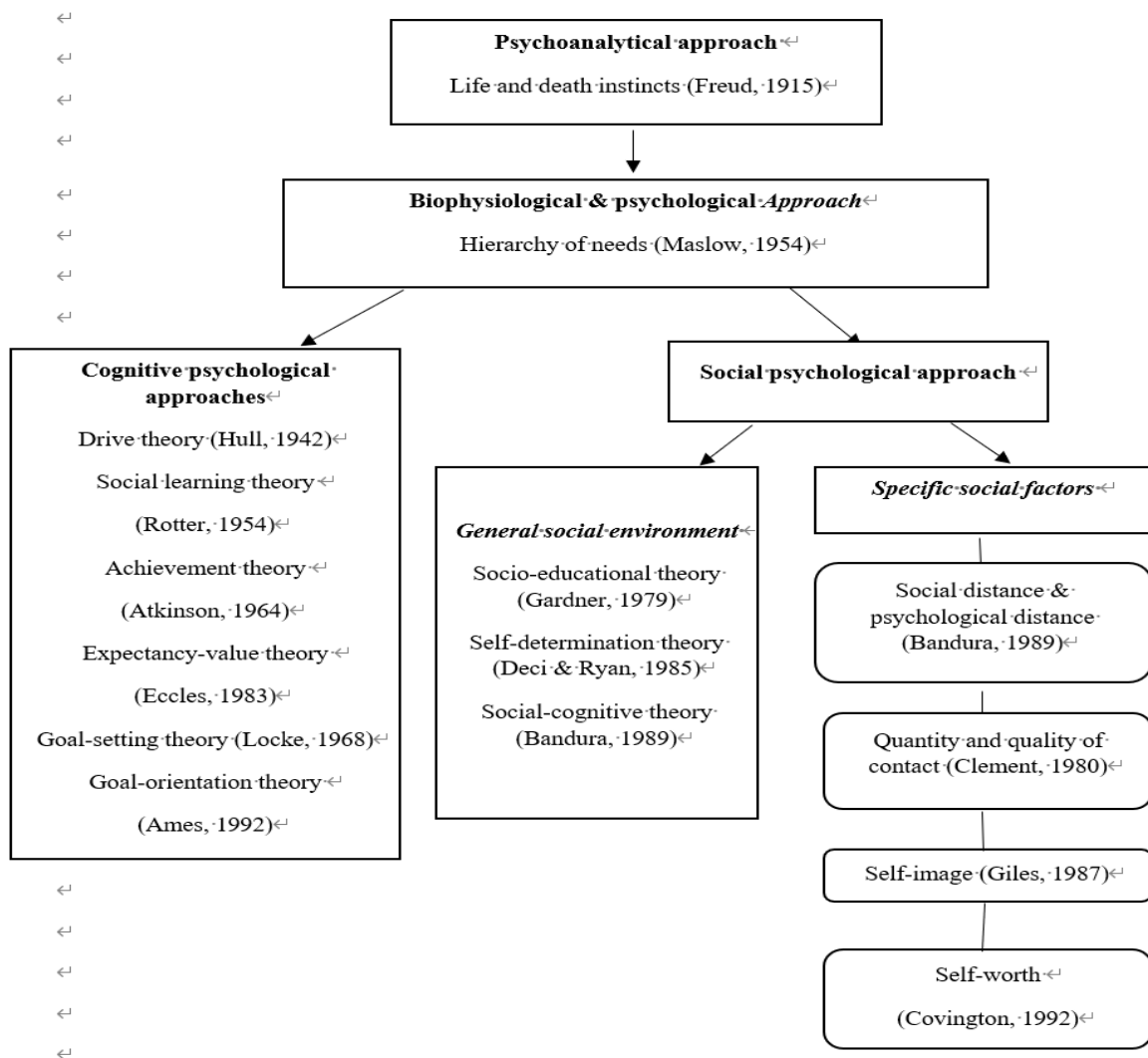

Figure 1. Different domains of motivation approaches and theories' development

3.7 Towards a Comprehensive Framework of Learning Motivation

With an understanding of the different approaches to second/foreign language motivation discussed above, this paper attempts to summarise and develop a comprehensive framework of English learning motivation.

A framework proposed by Dörnyei (1994) provided a comprehensive picture of different levels of factors affecting motivation to learn English as a second/foreign language motivation. Specific motivational components are identified. According to Dörnyei (1994), three levels of motivation are proposed: language, learner, and learning situation level. For language level, it refers to integrative and instrumental motivational subsystem. For learner level, it includes needs for achievement, and self-confidence which can be understood as language use anxiety, perceived L2 competence, causal attributions, and self-efficacy. For learning situation level, there are three specific motivational components which are 1) course-specific motivation components (interests in the course, relevance of the course to the learners' needs, expectancy of success, and satisfaction a learner has in the outcome), 2) teacher-specific motivation components (affiliative drive to please the teacher, authority type of the teacher, and direct socialisation of motivation that includes modelling, task presentation, and feedback), and 3) group-specific motivation components (goral-orientedness, norm and reward system, group cohesiveness, and classroom goal structure). Later Wong (2012) also added a cultural-specific motivational component to Dörnyei's (1994) framework. To further explain, cultural-specific motivational components may refer to a learner's past experiences, perceptions, values, and attitudes which a learner accumulated over the years, and they are considered to be the driving force behind respective levels of motivation to learn because culture always has a role to play in human's decisions, actions and behaviours.

If we are to provide a comprehensive framework of motivation to learn, it will be important to see the roles and how the major motivation theories and approaches influence a learner's L2 motivation.

First of all, from a psychoanalytical and biophysiological approach, basic physiological needs must be first met (Freud, 1915; Maslow, 1954). Learners also need to perceive learning as a human instinct, and learning helps them to survive before they can consider how to better themselves by learning. Being motivated to learn a second or foreign language is because of the learners' desire for self-actualisation and social recognition by others (Maslow, 1954). To achieve these, three major levels of motivational factors come into play – cognitive psychological level, social-psychological and socio-cultural level. Cognitive psychological level and social-psychological motivation levels play a significant role in a learner's desire for self-actualisation. Socio-cultural motivation level affects a learner's desire for social recognition throughout the process of learning the language.

For cognitive psychological level, stimuli can be anxiety (Dörnyei, 1994), expectancy (Vroom, 1964; Eccles, 1983), goal-setting (Locke, 1968), goal-orientation (Ames, 1992), achievement (Atkinson, 1964), self-efficacy (Bandura, 1989) and attribution (Dörnyei, 1994). For socio-psychological level, stimuli include a learner's past experience (Rotter, 1954), self-image (Giles, 1987), self-worth (Covington, 1992), values (Eccles, 1992), and personality (Rotter, 1954). For socio-cultural level, stimuli include social distance (Schumann, 1978), social contact (Clement, 1980), social image (Covington, 1992), peer relationship (Dörnyei, 1994), teacher factors (Dörnyei, 1994), course content (Dörnyei, 1994), learning environment (Dörnyei, 1994), school/classroom cultures (Dörnyei, 1994), social expectation (Wong, 2012), and social norms (Wong, 2012) (see Figure 2 for the proposed comprehensive motivation to learn framework).

In the context of second/foreign language learning, it can be understood that the higher the level of anxiety a learner has, the less motivated s/he will be to learn English. On the contrary, the higher the self-efficacy, expectancy, goal setting, goal orientation and attribution, the stronger a motivation to learn English will be. Meanwhile, if a learner has a strong sense of self-worth and sees social image, social norms and expectation, peers, teachers, course content, learning environment, and learning cultures importantly, the learner will be more motivated to learn English. An ESL/EFL learner considers all factors of different motivation levels and aspects when learning English, all these factors and elements contribute to a learner's desire to achieve both self-actualisation and social recognition. The stronger a learner's desire is, the stronger a learner's motivation will be.
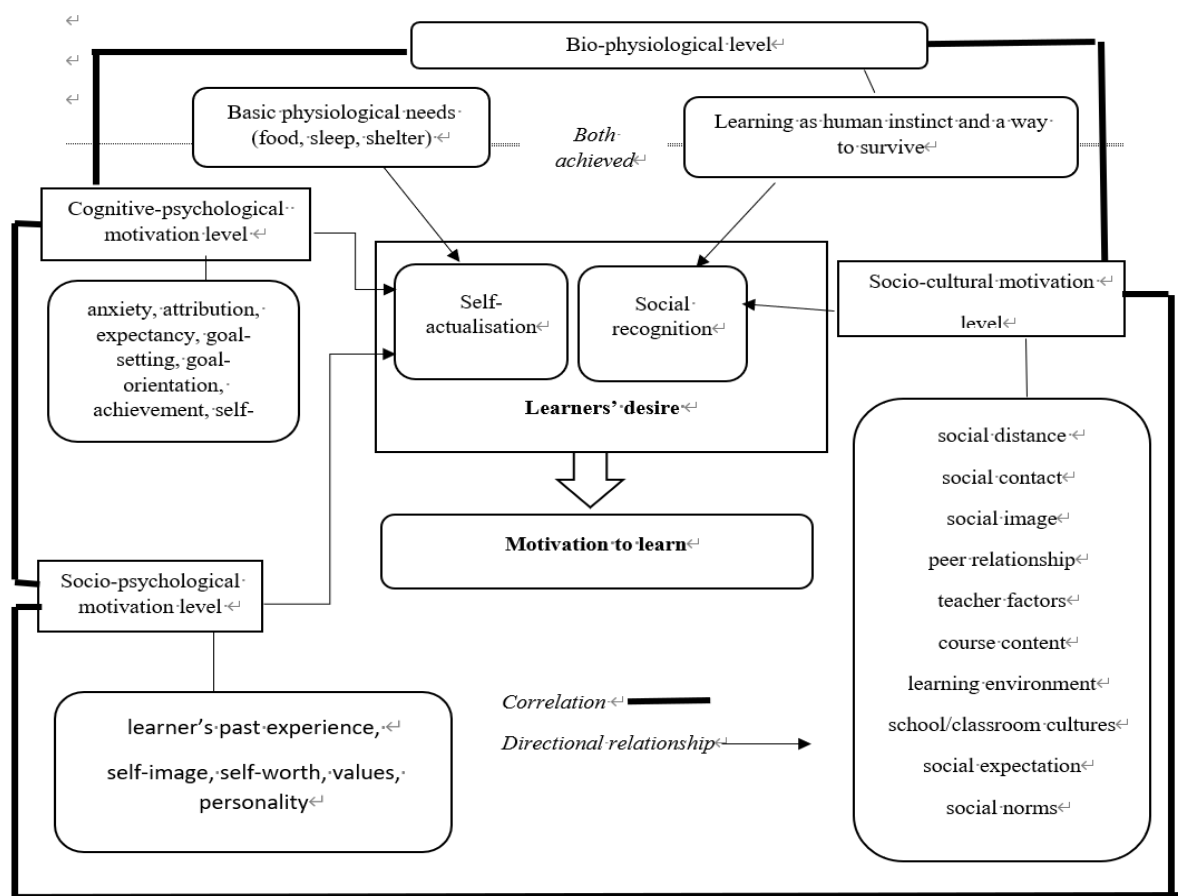
Figure 2. A proposed comprehensive framework for motivation to learn

4. Methods

The proposed motivation framework (see Figure 2) has two main domains: 1) motivation level correlations 2) different motivation levels leading to learner desire (i.e. self-actualisation and/or social recognition) hence motivation. The latter one has been proved and explained in the section of literature review.

As for the correlations between the different motivation levels and components, this paper validated them by using a correlative study design. This method is appropriate to test the validity of the framework as correlational research investigates relationships between variables without the researcher's manipulation of any variables. By using correlation study, the results will reflect the strength and direction of the relationship between two variables with a correlation coefficient (Pearson's r), and a multiple correlation coefficient for three or more variables. With the high validity of correlation study design, generalisation can be easily made and applied to other populations and settings upon the validation of this framework.

4.1 Collection of Data

In order to obtain a large amount of responses and information from a large sample size to validate the proposed framework, this paper adopted the use of a questionnaire which had reached 1224 adolescents aged between 12-21 (lower secondary to university students). The questionnaire was all distributed online and students completed the questionnaire at their own pace, time, and in their own chosen setting.

4.2 Participants

Respondents who participated in this study were recruited randomly except the first group of respondents who were the researcher's convenient samples. The researcher first sent out an invitation email with the questionnaire hyperlink to students known by the researcher (n=45). Upon their consent, the respondents first filled out the questionnaire then at the end of the questionnaire, the group of convenient samples were invited to recommend students they are acquainted with to fill in the questionnaire by sending them the questionnaire hyperlink. Over a period of 6 months, 1124 respondents of different ages filled in the questionnaire. The age distribution is shown in Table 2.

Table 2. Age distribution of respondents (N=1124)

Age range	12-13	14-15	16-17	18-19	20-21	12-21
Number of respondents	128 (11.4%)	275 (24.5%)	256 (22.8%)	204 (18.1%)	261 (23.2%)	1124 (100%)

4.3 Construction of Questionnaire

The questionnaire constructed for framework validation consisted of 81 closed questions. Three statements were constructed for each sub-component under each motivation dimension based on the proposed framework. One of the 3 questionnaire statements for each motivation component was set as a negative statement to ensure that respondents to respond all questionnaire items either favourably or unfavourably (Irions, 2017).

There are 4 motivation levels in this framework. They are: 1) bio-physiological level which has 4 components –food, sleep, shelter, and learning as human instinct. 2) cognitive-psychological motivation level which has 8 components –anxiety, attribution, expectancy, goal-setting, goal-orientation, achievement, and self-efficacy. 3) socio-psychological motivation level which has 4 components –learner's past experience, self-image, self-worth, values, and personality. 4) socio-cultural motivation level which has 9 components –social distance, social contact, social image, peer relationship, teacher factors, course content, learning environment, school/classroom cultures, and social expectation.

Table 3 provides a sample questionnaire item for each component. Questionnaires given to students were in English and Chinese – the 2 most common languages used by the students in order to avoid the language barrier.

Table 3. Sample questionnaire items

	sample questionnaire statements
Bio-physiological motivation level	
food	I will not be motivated to learn if I feel hungry.
sleep	I will not be motivated to learn if I do not have enough sleep.
shelter	I will be motivated to learn if I live in a safe environment.
learning as human instinct	I think it's a natural human instinct that all people are motivated to learn.
Cognitive-psychological motivation level	
anxiety	I won't be interested in learning if I am anxious in class.
attribution	I get high marks because I study hard.
expectancy	I will try harder if I know I can finish the task.
goal-setting	If the task is too complicated, I wouldn't want to try it.
goal-orientation	I work harder because I want to perform better than the others.
achievement	I put more effort in learning because I want to be successful.
self-efficacy	I will be motivated to learn more if I know I am able to do it well.
Socio-psychological motivation level	
learner's past experience	If I performed well in the past, I know I will be motivated to try a new task.
self-image	I try the task because I don't want to lose face.
self-worth	I put effort into my studies because I want to feel that I am good enough.
values	I learn because I see the value of learning for myself.
personality	# My personality does not affect my motivation to learn.

Socio-cultural motivation level	
social distance	I feel motivated to learn if the task is related to socially related to me.
social contact	If I have social contact with the subject I learn, I will be more interested in it.
social image	I learn because I need to maintain my social image.
peer relationship	# How my friends relate to me does not affect my motivation to learn.
teacher factors	I will be motivated to learn if I like the teachers.
course content	I will put more effort into the courses I like.
learning environment	A comfortable and encouraging learning environment will enhance my motivation to learn.
school/classroom cultures	I won't be motivated to learn if the school culture does not suit my learning style.
social expectation	#what the society expects of people will not affect my drive to learn.

reversed worded statement

The questionnaire adopted a six-point rating scale for respondents to indicate their responses ranging from "strongly agree" to "strongly disagree". 6 as strongly agreed and 1 indicated respondents strongly disagreed with those statements. Using an even number of scale points requires participants to make a decision on the rating to be indicated and prevents participants from choosing the mid-point as their answers (Cohen, Manion & Morrison, 2000: 253-4). A pilot study was carried out to confirm the wordings of the questionnaire and the effectiveness of the use of 6-Likert point scale.

A reliability test on all these 81 questionnaire items was run to test if there is an internal consistency of all the items set. Reliability coefficient (Cronbach alphas) for the motivational components was high, with an alpha value of 0.882 which means the internal consistency of the 81 items set in the questionnaire was high (see Table 4).

Table 4. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.882	0.896	81

Cronbach's Alpha shows 0.882 which signifies high reliability of questionnaire set.

4.4 Ethical Issues

There are a number of measures adopted to try to protect better the rights of the participants of this study. Firstly, the principle of voluntary participation was adopted to ensure that participants were not coerced into taking part in the research. An informed consent form was filled by every participant before they filled in the questionnaire as well as a consent agreement to submit the responses at the end of the online questionnaire. Respondents had an option to leave the page if they finally decided not to submit their responses. In this study, participants were required to fill in their names but only their age range. They were also assured that the data collected would be kept confidential and only served for the sole purpose of this study.

5. Findings and Discussion

The results of this study are summarized in Table 5, which is a correlation matrix showing the correlation (Pearson's *r*) between all motivation components in the study. The matrix shows that all ESL/EFL learning motivation components are positively correlated to each other which demonstrates the validity of the motivation framework of this study.

With the validation by using statistical results, it is believed that the purpose of searching an extensive amount of literature related to motivation theories, followed by listing all motivation components and sketching their relationship (see Figure 1) is significant.

First of all, the 4 levels of motivation level –bio-physiological level, cognitive-psychological, social-psychological motivation level, and socio-cultural motivation level— are positively correlated which proves the plausibility of the proposed motivation framework. In other words, all 4 levels of motivation levels positively influence each other and decide whether a learner is motivated to learn. That is, whether an ESL/EFL learner is motivated to learn takes all levels of motivation to work together for a learner to exert more effort on learning the language. Without will diminish the force and drive of motivation.

By validating this comprehensive motivation to learn English framework, it embraces all possible motivation components of bio-physiological, cognitive-psychological, social-psychological motivation level, and socio-cultural motivation levels, rather than singling out a particular motivation component to identify its causal effect on motivation to learn because of the inherent problems of motivation that motivation is abstract, not directly observable, inconstant and a multidimensional construct.

According to this framework, there are 25 motivation factors: they are 1) food, 2) sleep, 3) shelter, 4) learning as human instinct, 5) anxiety, 6) attribution, 7) expectancy, 8) goal-setting, 9) goal-orientation, 10) achievement, 11) self-efficacy, 12) learner's past experience, 13) self-image, 14) self-worth, 15) values, 16) personality, 17) social distance, 18) social contact, 19) social image, 20) peer relationship, 21) teacher factors, 22) course content, 23) learning environment, 24) school/classroom cultures, 25) social expectation. All these motivation components are essential for learners to learn a second/foreign language. Learning and excelling oneself is considered as a human instinct when food, sleep, and shelter are in place. Whether students are eager to learn English, objective factor like course content can play a significant role while the teacher is a fluid factor which can pose impact on enhancing the force of other motivation factors including reducing students' anxiety, probably due to their personality and past learning experiences, by creating a non-threatening language learning environment and classroom culture in which there is no peer pressure and they do not need to worry about self-image and social image; help students to set learning goals, designing learning tasks that students believe that they can achieve, also see the tasks with learning values. The learning tasks should also facilitate students' success expectancy, learning outcome achievements as well as live within social expectation.

With this comprehensive motivation framework, ESL/EFL learners will better understand themselves as learners; what helps them learn better, and what do not when learning English. Reflecting on how each motivation component affected their English learning experiences will enable them to be aware of their learning strengths and weaknesses and hence adjust their learning strategies.

The framework indicates how the different ESL/EFL motivation components are built and interrelated. It guides educators better understand the dynamics of motivation, how motivation can be enhanced, affected, cultivated and what areas should be further developed to make learning and teaching English more effective.

Table 5. Correlation matrix showing correlations among motivation components

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	-																									
2	.16	-																								
3	.21	.19	-																							
4	.24	.18	.25	-																						
5	.20	.21	.17	.23	-																					
6	.29	.39	.23	.38	.62	-																				
7	.38	.29	.36	.40	.48	.49	-																			
8	.40	.32	.34	.50	.70	.75	.62	-																		
9	.29	.49	.29	.20	.56	.63	.62	.52	-																	
10	.47	.50	.28	.26	.49	.82	.60	.48	.51	-																
11	.46	.70	.51	.42	.40	.63	.40	.39	.36	.56	-															
12	.50	.81	.36	.56	.67	.58	.48	.40	.38	.54	.47	-														
13	.29	.56	.29	.16	.59	.62	.71	.52	.29	.29	.45	.40	-													
14	.33	.49	.50	.45	.49	.68	.63	.27	.78	.28	.52	.36	.26	-												
15	.41	.52	.48	.55	.47	.81	.59	.36	.84	.46	.62	.35	.24	.29	-											
16	.60	.39	.63	.26	.65	.77	.66	.54	.62	.49	.37	.48	.87	.51	.60	-										
17	.48	.46	.55	.47	.81	.61	.55	.26	.81	.26	.19	.69	.85	.63	.59	.55	-									
18	.52	.41	.25	.39	.77	.59	.49	.80	.76	.37	.82	.36	.36.	.74	.26	29	.46	-								
19	.49	.70	.41	.16	.59	.49	.60	.58	.63	.84	.62	49	39	.54	.27	.19	.19	.39	-							
20	.36	.50	.23.	.15	.81	.63	.51	.63	.54	.26	.45	.70	.34	.92	.58	.36	.37	.47	.46	-						
21	.18	.56	60	.18	.88	.81	.50	.66	.52	.39	.56	.62	.37	.74	.49	.33	.79	.58	.42	.48	-					
22	.26	.39	.44	.29	.69	.76	.42	.49	.49	.26	.25	.63	.46	.62	.53	.34	.61	.69	.48	.59	.39	-				
23	.34	.27	.65	.27	.49	.80	.43	.76	.29	.44	.49	.36	.51	.22	.66	.55	.34	.35	.36	.29	.44	.58	-			
24	.41	.33	.26	.22	.48	.59	.38	.58	.38	.49	.62	.45	.30	.53	.44	.33	.29	.26	.29	.39	.56	.44	.36	-		
25	.53	.36	.28	.35	.62	.60	.29	.27	.45	.85	.23	.54	.50	.57	.49	.46	.84	.24	.50	.44	.27	.33	.49	.62	-	

Note: 1= food, 2=sleep, 3=shelter, 4=learning as human instinct, 5=anxiety, 6=attribution, 7=expectancy, 8=goal-setting, 9=goal-orientation, 10=achievement, 11=self-efficacy, 12=learner's past experience, 13=self-image, 14=self-worth, 15=values, 16= personality, 17=social distance, 18=social contact, 19=social image, 20=peer relationship, 21=teacher factors, 22=course content, 23=learning environment, 24=school/classroom cultures, 25=social expectation

6. Conclusion

This paper attempted to propose and validated a comprehensive framework for motivation to learn English based on the major theories and approaches developed in the past. Most significant motivation theories were included and motivation theories specific to the language learning context were also included. Based on the proposed motivation framework, all 4 levels of motivation levels and their motivation components were found positively correlated. That is, each and all motivation components attribute to a learner's desire and motivation to learn English.

With this proposed comprehensive framework for motivation to learn, it is hoped that a fuller picture of how different aspects and factors can be of significance to an ESL/EFL learner's motivation to learn. For educators, this framework can shed light on the pathways to effective teaching and learning English by understanding what affects a learner's motivation to learn. For researchers, this paper would like to offer a future research direction for effectuation, validation, modification of this proposed comprehensive framework.

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Digital Literacy: Enhancing English Reading Comprehension among Foreign Language Students

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Abstract

Digital literacy has become an essential tool for authentic communication, information accessibility, and reading development. To enhance reading comprehension among English as a foreign language (EFL) students, an effective reading instruction that integrated technology into language teaching should incorporate digital literacy. This mixed-method study aimed to examine how digital literacy enhanced EFL students' reading comprehension and what focus areas of the digital literacy they employed within and beyond the classroom. Thirty Thai high school students participated in this digital literacy instruction for ten weeks. Findings from the Wilcoxon signed-rank test on the reading comprehension test revealed that the digital literacy enhanced EFL students' reading comprehension, particularly reading and evaluating information from texts. They reported from the questionnaire and semi-structured interviews that they tended to access and process information through the focus area of communicating and information in digital literacy for better comprehension beyond the classroom.

Keywords: digital literacy, English as a foreign language, reading comprehension, technology

1. Introduction

Reading is considered an essential skill in English language teaching, as it is commonly acknowledged as a crucial focus of language acquisition (Richards, 2015). Furthermore, reading enables people from diverse backgrounds and languages to communicate for various reasons, such as learning new things or sharing ideas (Hudson, 2007). Considering the emphasis on education, students should be capable of reading for specific purposes, such as studying textbooks or applying to universities. For this reason, Thailand is among the countries participating in the Program for International Student Assessment (PISA) aimed at evaluating student comprehension skills in reading. The PISA data from 2012 to 2018 reveals that English as a Foreign Language (EFL) students in Thailand have low reading scores, which indicates poor reading comprehension (The Organization for Economic Co-operation and Development, 2012, 2015, 2018). This may also be true for EFL students at demonstration schools in the Pathum Thani province in Thailand. Consequently, English instructors in Thailand must develop an instructional approach or teaching framework to help students improve their reading comprehension.

In the twenty-first century, technology has become a significant part of human life in Thailand because it facilitates communication, information access, education, and other processes with greater speed and convenience. From an educational perspective, integrating technology into the teaching framework would provide more opportunities for EFL students to customize their learning paths to meet their individual needs. According to Coiro and Hobbs (2016), they did research on implementing digital literacy to develop an intense program especially for people who engage in the educational field. Program results showed that language acquisition was aided by digital technology for both teachers and students. Turner, Hicks, and Zucker's (2019) research on digital technology included more analysis, with a focus on reading and digital literacy. The findings demonstrated the connection between the two: adolescents would utilize technology to read and explore pages on websites. They therefore practice reading skills more the more they read.

Previous studies suggest that by establishing a link between technology and reading comprehension, the digital literacy framework may help EFL students in Thailand enhance their reading comprehension. Accordingly, the digital literacy framework used in this study was derived from two existing frameworks: Hobbs and Coiro (2018) and Pegrum, Hockly, and Dudeney (2022). Within the framework, the two main components were the teaching

processes and the focus areas. The teaching processes were influenced by Hobbs and Coiro's (2018) framework, which concentrated on the procedures associated with integrating technology into education. The digital literacy focal areas, which deliberately specified the scope of language acquisition in the digital age, were also inspired by Pegrum et al. (2022).

The purpose of this study was to examine how digital literacy affects EFL students' reading comprehension and how it can be used to enhance reading comprehension outside the classroom. Therefore, the following research questions and null hypotheses were developed:

Research Questions:

(1) How does digital literacy enhance reading comprehension among EFL students?

(2) To what extent do EFL students use digital literacy to enhance reading outside the classroom?

2. Literature Review

2.1 Digital Literacy (DL)

In this study, the digital literacy framework refers to the five teaching processes adapted from Hobbs and Coiro (2018) within the four focus areas adapted from Pegrum et al. (2022). The first step in the teaching process is accessing or having the means to obtain knowledge through the use of technology. The second process is analyzing and evaluating, which is the capacity to understand information with or without the aid of technology. Thirdly, creating, or the capacity to produce data. The fourth level is reflecting, which emphasizes the capacity to reconsider the implications of knowledge and action. The last term is "acting," which describes the capacity to transmit information both with and without the use of technology. Additionally, the scope of the first focus area, communicating, centers on the means or channels via which language can be used to express or receive meaning. Informing, the second one centers on how to search and filter information using technology. The third area of emphasis is collaborating, which stands for the social or interactional sphere. The final area of concentration is (re)designing, or the capacity to rewrite data. With these processes and areas, the framework places a strong emphasis on using technology to teach reading to EFL students.

2.2 Reading Comprehension

Mikulecky (2011) suggested that reading is a set of processes and strategies used to interpret and piece together the writers' intentions in texts. This is comparable to the definition of reading provided by Grabe and Stoller (2013), who described it as a way of assembling and analyzing certain data. Grabe and Yamashita (2022) offered additional details regarding reading as a comprehension process, emphasizing that to fully comprehend a text, the reader requires language-processing abilities. Readers choose what to read for a specific purpose, and each purpose employs a unique process to understand the meaning of the text. Jang, Seo, and Brutt- Griffler (2022) therefore studied digital reading engagement and reading comprehension. The results showed a connection between the two since students' reading comprehension is enhanced when they engage in digital reading practice, which in turn increases reading motivation. Based on these data, the study used the digital literacy framework to enhance reading comprehension for four different objectives from Grabe and Yamashita (2022): searching, synthesizing, and evaluating texts and reading for general understanding. The capacity to scan text for particular information is the initial goal, known as searching. Second, synthesizing is the process of fusing textual information with the reader's prior knowledge. Third, evaluating is the capacity to understand textual content. Reading a text for general information is the final objective.

2.3 Reading Assessment

Grabe and Yamashita (2022) highlighted that "Reading assessments are meant to provide feedback on the skills, processes, and knowledge resources that represent reading abilities" (p. 461). Reading assessment has the following five purposes: 1) reading proficiency assessment, 2) classroom learning assessment, 3) placement and diagnostic assessment, 4) reading assessment practices and resources, and 5) standardized second language reading assessment. In order to investigate the impact of digital literacy on EFL students' reading comprehension, the assessment for learning method was the primary means of evaluating students' knowledge in this study. Generally, six item types are used in a reading assessment (Richards, 2015); however, in this study, only true or false statements, short answers, and multiple-choice questions were used to assess EFL students' reading comprehension since these are the official sorts of items used in the participants' schools.

3. Methodology

3.1 Participants and Context

A mixed-methods approach was used to examine the effect of digital literacy on the reading comprehension of EFL students in grades 11 and 12. The study was conducted at a demonstration school in Pathum Thani, Thailand. The study utilized the convenience sampling method to recruit a sample of thirty high school students who registered for reading courses in the first semester of 2023. The course's EFL students, whose abilities differed, studied reading for 10 weeks, spending 90 minutes on each lesson, using a digital literacy framework. In this course, the teacher was the only non-native speaker, and the language of instruction was English. The teacher would implement instructional processes in each class, incorporating the four focus areas and working from the framework. Each lesson would conclude with a review or discussion of the material covered.

3.2 Research Instruments

Three main research instruments were used to collect the data: 1) a reading comprehension test, 2) a questionnaire, and 3) interviews. The reading comprehension test was conducted twice, in weeks 1 and 10, to investigate the effect of digital literacy on EFL students' reading comprehension. The test consisted of 30 multiple-choice questions, and the level of the texts was in the range of A2–B1 levels of the Common European Framework of Reference for Languages (CEFR). The validity of the reading comprehension exam was evaluated by three professionals in the field of education using the three-point Item-Objective Congruence (IOC) grading system. Furthermore, the questionnaire and interviews were used to explore EFL students' use of digital literacy to enhance reading comprehension outside the classroom, both of which were assigned to EFL students in week 10. The questionnaire consisted of 26 questions on a Likert scale that were divided into two categories: teaching processes and focus areas. The focus areas and the teaching processes questionnaire were developed using prior research by Hobbs and Coiro (2018) and Pegrum et al. (2022). Furthermore, the interviews were conducted in week 10, and 5 EFL students were selected based on their CEFR levels. To avoid anxiety and confusion among participants, interviews were done in Thai, the native tongue of the teachers and students. The questions used in the interview aimed to 1) further explore how EFL students used specific aspects of digital literacy outside the classroom and 2) investigate the use of digital technology in reading English texts. The questionnaire and interview questions were assessed for validity by a second group of three education specialists who used the three-point Item-Objective Congruence (IOC) grading system.

3.3 Data Collection and Analysis

The first research instrument, the reading comprehension test, served as both the pre-test and the post-test. The impact of the digital literacy framework was examined by collecting the median scores. The Wilcoxon signed-rank test was used to examine the quantitative data. This non-parametric test works well with small samples (Riina, Stambaugh, Stambaugh, and Huber, 2023), making it appropriate for this study. It was used to assess reading comprehension among EFL students. The second and third research instruments were used to investigate the use of digital literacy outside the classroom. Both quantitative and qualitative data were included in the questionnaire whereas only qualitative data were represented in the interview. The questionnaire's mean score indicated the areas of digital literacy that were most frequently utilized outside the classroom and provided additional details. The interviews primarily served to clarify how EFL students used digital literacy to improve their reading comprehension skills.

4. Findings

4.1 Reading Comprehension Test

A reading comprehension test was used to answer the first research question, focusing on four reading objectives adopted from Grabe and Yamashita's (2022) work: 1) searching for information, 2) synthesizing information; 3) evaluating information, and 4) reading for general comprehension. As discussed earlier, the impact of digital literacy on reading comprehension in EFL students was demonstrated using the median score analyzed using the Wilcoxon signed-rank test, as shown in Table 1.

Table 1. The result of the Wilcoxon signed-rank test of the pre- and post-tests

Reading Comprehension Test	Group	N	Mean Rank	Sum of the Ranks	z	p
Post-test–Pre-test	Negative Rank	6	8.00	48.00	-2.936	.003
	Positive Rank	18	14.00	252.00		
	Ties	6				
	Total	30				

Based on the statistically significant difference (z = -2.935, p = .003) between the pre- and post-test, Table 1 indicates that the digital literacy framework in this study has the potential to enhance reading comprehension among EFL students. Moreover, the pre-test's score of 18.00 had been exceeded by the post-test's median score of 19.50. The results of the post-test for each reading objective are presented in Table 2.

Table 2. The result of the Wilcoxon signed-rank test of the pre- and post-tests (focusing on each reading objective)

Reading Objective	Group	N	Mean Rank	Sum of Rank	z	p
Searching for Information	Negative Rank	4	9.00	36.00	-1.966	.049
	Positive Rank	13	9.00	117.00		
	Ties	13				
	Total	30				
Synthesizing Information	Negative Rank	5	9.90	49.50	-1.947	.052
	Positive Rank	14	10.04	140.50		
	Ties	11				
	Total	30				
Evaluating Information	Negative Rank	4	9.13	36.50	-2.001	.045
	Positive Rank	13	8.96	116.50		
	Ties	13				
	Total	30				
General Comprehension	Negative Rank	6	14.08	84.50	-1.991	.046
	Positive Rank	18	11.97	215.50		
	Ties	6				
	Total	30				

Most EFL students improved their reading comprehension after using the digital literacy framework, as shown in Table 2. According to the statistically significant differences, students' greatest progress in reading purpose was aimed at evaluating information from the texts (z = -2.001 and p = .045). Following closely behind (z = -1.991, p = .046) were reading for general comprehension and reading to search for specific information from texts (z = -1.996, p = .049). Nonetheless, there was no discernible improvement in the EFL students' ability to synthesize information from text or other sources (z = -1.947, p = .05). As previously indicated, students had the opportunity to read for four objectives throughout each lesson, and they generally did well in each one. Students could participate rather well in reading to search, evaluate, and general knowledge because they enjoyed using technology to enhance their learning, such as by looking up reliable sources online or summarizing content there. However, as it required them to apply both the material from the books and their prior knowledge, reading to synthesize was the only goal that the students appreciated less. When students lacked prior knowledge on a particular topic, they tended to avoid using technology to find out more information and instead wait for the teacher to explain it to them.

4.2 Questionnaire

A questionnaire was used to answer the second research question, which was divided into two aspects.

4.2.1 Teaching Processes

Hobbs (2011) pointed out that "This five-part process is fundamental to how we learn and communicate today"; therefore, each step would highlight the use of technology in the classroom. The first step is "access," which offers EFL students the opportunity to explore and obtain information. The second step, "analyze and evaluate," requires learners to apply critical thinking to information interpretation. The third step is called "create," and students are expected to complete certain projects or activities during this step. The fourth process is called "reflect," during which learners reevaluate the impact of their work before sharing it with others. The final step is "act," which enables students to create and share knowledge with one another.

4.2.2 Focus Areas

Pegrum et al. (2022) defined digital literacy as a set of skills required to interact with technology in the modern world. Thus, a map of language learning and digital literacy skills was developed with four focus areas. In this study, the first focus was on "communicating," with an emphasis on using digital technologies to assist students in learning to read. The second focus area was "informing," highlighting the necessity for students to evaluate information. The third focus was on "collaborating," which stressed a platform for communicating with others and expressing one's identity. The final focus area was "(re)designing," which emphasized a period for students to reconfigure and deliver their content. EFL students' use of digital literacy outside the classroom is indicated by the qualitative results of the questionnaire in Table 3.

Table 3. Descriptive statistics of the responses to the digital literacy questionnaire

Aspects of Digital Literacy	N	Min	Max	M	SD
Access	30	2.67	4	3.6778	.42420
Analyze and Evaluate	30	2.00	4	3.4667	.52958
Create	30	1.00	4	2.9333	.72397
Reflect	30	2.33	4	3.4667	.46814
Act	30	2.33	4	3.3111	.47893
Communicating	30	2.67	4	3.7000	.38507
Informing	30	1.67	4	3.0556	.64969
Collaborating	30	2.67	4	3.5222	.36811
(Re)designing	30	2.50	4	3.4000	.46238

The mean score for each item indicates how EFL students used digital literacy outside the classroom to improve their reading comprehension. Considering the teaching process, EFL learners primarily used the "access" process outside the classroom (M = 3.6778, SD = .42420). Students frequently used this process to study fascinating topics on digital platforms. In addition, "communicating" was the main focus area for most learners (M = 3.7000, SD = .38507), using digital devices, such as smartphones for learning or activities. In conclusion, all teaching processes and focus areas were utilized by the students, but they were modified to fit their unique learning and practice styles. Since the accessing process scoped ways to use technology as instruments for reading skill practice, it interacted with the communicating area and reflected the use of technology to accomplish activities.

4.3 Interview

Throughout the interviews, five EFL students selected by purposive sampling were asked to elaborate on how they applied digital literacy outside the classroom, therefore, it was divided into two aspects provided below.

4.3.1 Teaching Processes

Based on their CEFR level A2–B1, these students were randomly chosen. The five students rated "access" and "act" as the most used aspects for the teaching process to improve reading comprehension. These two processes were applied in different ways depending on the circumstances.

(1) Access

The EFL students frequently searched for intriguing topics on social media to improve their independent reading comprehension skills. Digital tools, such as smartphones and tablets, facilitated quick and easy access to information. The majority of the time, English-language news and status updates were selected for reading by students because they were humorous or related to current events. However, some students actively looked for reading materials that piqued their interest.

Student 1: I primarily used technology—like my phone—for activities and searches. Anything that I found interesting or funny, I would share with my pals. Typically, I would share memes or posts in the English language from other people's status updates on social media.

Student 3: I like watching movies and reading postings in English on social media, sometimes from different websites. I would share things with my group when I came across amusing or intriguing stuff, especially news that was relevant to our group.

(2) Act

Following their online exploration of fascinating subjects, students typically shared them with friends or family members. In most cases, students would write a comment on the topic before sharing it with others; however, occasionally, they would share it to clarify something they were not sure about. On an online platform, students would exchange information or interests but occasionally have in-person discussions in greater detail. Therefore, to ensure that everyone had access to the same information, students exchanged specific resources online. Students were asked to provide additional information regarding the areas of focus in digital literacy. The different English language proficiency levels among EFL students have been applied to these areas in diverse ways.

Student 2: When I found intriguing subjects, I might save or forward such URLs for later, but I would only discuss them with close friends to make sure we were on the same page.

Student 4: Using internet resources, I liked to read books written in English. I would forward the link to my English-speaking friends and ask them to interpret it if the language or words were too difficult for me to understand.

4.3.2 Focus Areas

Students employed the main elements of digital literacy to enhance their comprehension of the content they consume, whereas they each had a unique method of utilizing technology for reading. The following illustrates in detail how students used digital literacy to enhance their reading comprehension.

(1) Communicating

A2 EFL students utilized digital resources to improve their reading comprehension skills. Some practiced reading on interest-only topics while others learned from specialized websites, such as the British Council. By contrast, students at the B1 level would use digital technology for more targeted goals to advance their reading comprehension. Prior to reading, these students had clear reading goals in mind, such as improving their vocabulary in business-related resources or preparing for the Scholastic Assessment Test (SAT).

(2) Informing

Despite having access to information, EFL students occasionally struggled with unfamiliar vocabulary or unclear grammar. Consequently, they searched online for resources that could assist them in finding answers. To help students understand the content, each student had access to their preferred digital resources. However, they generally ignored the information if it remained unclear.

(3) Collaborating

Every EFL student in this interview session shared information, materials, and expertise with their friends and family for various reasons, such as entertainment and comprehension. Although they were aware that they may not always understand or retain the correct information, they had a tendency to share it. Nevertheless, the main reason was to ensure that their friends and family members had access to the same material for discussion or conversation. Students preferred sharing online information over printed materials.

(4) (Re)designing

Although they did not post it publicly on social media, A2 students occasionally reworked the content, which allowed them to share their amusement with their friends. By contrast, B1 students shared what they had learned with others after restructuring the content they had read, mostly regarding exams. Furthermore, every EFL student would utilize technology to help them review the subject matter. While most students use tablets to condense their thoughts or knowledge, a single A2 student decided to use technology in conjunction with a notebook and highlighters reasoning that writing down some crucial information would improve memorization.

5. Discussion and Conclusion

This study aimed to explore the effect of digital literacy on EFL students' reading comprehension and its use outside the classroom. Findings indicated that digital literacy enhances EFL students' reading comprehension. The reading comprehension test results revealed that EFL students' reading comprehension for three reading objectives—evaluating, discovering specific details, and assessing general information—improved by using the digital literacy frameworks developed by Hobbs and Coiro (2018) and Pegrum et al. (2022). The focus areas would typically combine digital technology to improve reading comprehension, but the processes can be applied to both teachers and students as procedures to progress language and social skills. More precisely, by employing digital literacy, EFL students were able to enhance their reading comprehension both within and outside the classroom. Also reading comprehension can be improved by taking part in social settings such as author reviews, book discussions, and social interactions (Alghonaim, 2020). According to Pegrum (2014), students can use technology, including mobile devices, to simultaneously communicate with one another and obtain information. Furthermore, the results of the questionnaire and interviews demonstrate that students used digital literacy in their daily lives using the "access" process to find interesting material. They then used the "act" process to make connections between the information and other people. The more students applied media and reading together, the more they improved their critical reading strategies (Hobbs and Moore, 2013). Students mainly utilized all focus areas to enhance their reading comprehension; nonetheless, they used the "informing" aspect less frequently. This may due to their lack of desire to acquire an answer when they struggled with something such as lacking of background knowledge and could be connected to the reason why EFL students' reading comprehension to synthesize was not enhanced. To comprehend and synthesize information, students need to initially combine the subject matter of the text with their prior knowledge before organizing it the way they think it should fit. Consequently, they would miss opportunities to improve their reading comprehension when they stop to explore more information and wait for the answer from the teacher only. Further research on digital literacy should be conducted to help teachers guide students in continuing to assess materials based on their prior knowledge and new information.

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Motivational Challenges in E-Learning

at the University of Bisha, Saudi Arabia

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Abstract

During the COVID-19 pandemic, schools, colleges, and universities switched from their traditional modes of classroom teaching to online/e-learning. This has boosted e-learning culture and made it a common practice in Saudi universities. Blending e-learning and traditional teaching methods in educational institutions empowers today's students with online systems to support their pursuit of academic knowledge and skills. Because this is a recent endeavour in Saudi Arabia, it presents many challenges. There has been very little serious research done on the best practices to improve students' e-learning outcomes. This study investigates the motivational and technological impediments encountered by Saudi students, using a questionnaire as a research tool to explore their real life e-learning experiences and issues at the University of Bisha, Saudi Arabia. The objective was to identify effective motivational strategies to engage learners. This in-depth study yielded many firsthand insights into issues that impede students' motivations in e-learning. After analyzing each problem, the paper proposes some concrete, innovative tips and teaching strategies for both the teachers and the students to make a feasible and significant difference in the e-learning practice.

Keywords: e-learning, motivations, English language teaching, educational technology, online learning, Saudi students

1. Introduction

This article addresses the most crucial problems Saudi students are facing in the area of e-learning, a recent endeavour by both the Saudi government and private stakeholders to synergize online and classroom teaching practices to help learners acquire continuous learning skills and stay connected to the learning process, even when away from a college and university campus, using various technological platforms. However, little substantial research has been done in the field, especially when compared to research on classroom teaching. The significance of this research lies in its attempt to identify the factors that motivate and demotivate e-learning students. If these challenges are not addressed, students will continue to suffer, and their learning performance will be hindered.

With this in mind, the research focuses on four key factors: learners, infrastructure, e-content, and teachers. The use of a questionnaire as a research tool provides a comprehensive inside view of the students in southern Saudi Arabia, studying at the University of Bisha, collecting data related to their attitudes, motivations, and challenges. In the discussion section, each factor is analyzed from multiple correlated perspectives related to approaches, methods, and techniques, providing an in depth understanding of the problem. Based on the evidence collected, multiple solutions are then proposed for making a substantial positive difference to e-learning practice.

1.1 Objectives of the Study

This exploratory research takes the form of a case study on students of the University of Bisha, mining data directly from the students on the campus to identify the motivations and challenges they have encountered in using an e-learning system called Blackboard. More specifically, the objectives are as follows:

(1) Survey students' attitudes, approaches, and motivations regarding e-learning, and use these data to identify strategies for empowering them.

(2) Identify the technical challenges students face, and find ways to help overcome them.

(3) Investigate the quality of the e-learning materials and how they help or impede the learning process.

(4) Explore the crucial role teachers play in the success or failure of e-learning.

1.2 Literature Review

There is great potential for e-learning to prosper in Saudi Arabia. Quoting Al Arabian News, Alsadoon (2012) found that the number of cell phone subscribers in Saudi Arabia had increased very sharply from 20 million in 2007 to 51.6 million in 2010. Summarizing government data, Alsadoon continues:

The number of Internet users in the Kingdom continues to rise rapidly, reaching about 24.1 million at the end Q2-2017, with a population penetration of 76%. Increased demand for Internet services and broadband was observed due to high use of social networking applications, video downloading and gaming. (p. 24)

Since almost all students spend a substantial amount of time each day using cell phones, teachers should aim to take advantage of this by using the technology for learning purposes. Alsadoon (2012) has emphasized that a teacher should explore the possibility of using mobile devices (either cell phones or other such devices) as tools to help students learn:

Cell phones are no longer just phones; they have become multi-purpose tools. People use them to call, take pictures, record videos or audio, play music, browse the internet, check the weather, find directions, translate a word, read an e-book, play a game, attend a virtual class, and even read a product price. (p. 113)

The potential for using cell phones or other electronic devices for e-learning is immense. The term "e-learning" itself has been defined by Urdan and Weggen (2000) as "the delivery of content via all electronic media, including the internet, intranets, extranets, satellite broadcast, audio/video tape, interactive TV, and CD-ROM" (p. 8). Similarly, Zamani (2022) defines e-learning as "a broader word that encompasses technology-based learning through websites, learning portals, video conferencing, YouTube, mobile applications, and a plethora of other free blended learning web sites" (p. 3494).

While researching the prospect of implementing e-learning in Saudi Arabia, Al-Harbi (2010) found that attitudes toward the subject had "a strong impact on the intention to use e-learning among the students," and advised policymakers to "attempt to build positive attitudes among the potential e-learners" (p. 44). This need to emphasis e-learning in all educational spectrum is especially urgent, as Unnisa (2014) proposed, to create ". . . opportunities for [the] increasing population. With over 50% of the country's population under the age of 20, and being one of the highest birth rate countries in the world, Saudi Arabia's higher education institutions have been facing a growing demand for enrolment".

In the article "Vision 2030: A Recipe for Economic Growth," Alhenaki (2017) quotes Prince Mohammad bin Salman: "70 percent of Saudis are under the age of 30" (p. 153). This shows the alarming growth of the population and consequently the urgent need for the nation to generate a learning system to meet the needs of these young people. In her key article "Is Saudi Arabia Ready for E-learning? – A Case Study," Chanchary (2011) notes that "In 2008, Saudi Arabia called for a national plan to adopt information technology across the country. The plan recommends implementation of e-learning and distance learning, and their prospective applications in higher education" (p. 1). Every higher education institute in the Kingdom of Saudi Arabia has been striving to implement this national plan, despite having diverse challenges.

1.3 Significance of the Study in the Saudi Context

A quick survey of the research scholarship on e-learning in Saudi Arabia found the existing literature focused on the importance and significance of e-learning for the growing population; but no serious research has been done on the most crucial issues facing students themselves: how to motivate them to engage into the e-learning process, and how to overcome the barriers to doing so. This study explores these issues by mining data from the students themselves in order to identify meaningful and effective teaching strategies.

1.4 Advantages of E-Learning

E-learning has become a necessity in today's fast-changing world. It has been used to great advantage by technologically developed countries to foster new knowledge and skills, update the workforce, and prolong the hegemony of developed nations. It has many advantages over traditional classroom education. Mitchell (2017) judged it vital to create a secure place, free from authoritative people or influences that could impose decisions or pass judgment on differing viewpoints, to encourage student contributions to the curriculum and sharing of personal experiences. The virtual setting promotes candid discussion and the investigation of many viewpoints (p. 235). In the same vein, Noesgaard (2015) approved the use of e-learning, arguing that repetition is essential to the effectiveness of e-learning because it gives students the chance to apply and practice the knowledge they

have been given. Improving information retention and application in real-world contexts is the aim; simulated practice in e-learning offers a secure atmosphere in which students may hone their skills before using them in high-pressure job environments (p 286).

McKeown noted (2023) "due to geopolitical, economic, and now public health disruptions" (p. 854)—for instance, COVID-19—students cannot move easily from one country to another. This has created an urgent need for e-learning to connect students with their preferred educational institutions, where they can best acquire the cutting edge knowledge and skills based on the latest research in their area of their interest.

The country of Ireland, for instance, announced an initiative to transform its education system and take it to the next level by 2020 using e-learning. As a strategy, as Uhomoibhi (2006) demonstrated, Ireland explored various strategies of "how digital, multimedia and communication technologies are being used to enhance, improve and ultimately to transform education" (p. 6).

Because of e-learning facilities, students can now access information even from the remote areas far from the towns and cities, connecting with students from diverse localities. They can exchange their views with fellow students from different walks of life without physically moving from their location.

Learning is an ongoing process, occurring from birth to death, and e-learning facilitates that process. Traditional schools and university education only train students in how to learn within a specific area of specialization. It is like a runway at an airport. To support and maintain their excitement for learning far beyond their university experience, students need to be connected with the online learning systems, which will help them grow professionally and stay updated.

E-learning is a financially viable option both for institutions and students. Thousands of students can participate in a given class simultaneously, which is not possible in the traditional mode of teaching. Audio and video learning materials can be viewed again and again, at the student's own pace, for a more in-depth understanding—all without any extra expenditure.

In the twenty-first century, life has become complex, and many people must struggle for survival. Even when a worker has consolidated their position in the job market, competition remains fierce. Given the fast-changing nature of cutting-edge technology, their skill set may not stay relevant for long; and they may be unable to take time off from the job to go to a university campus to acquire new skills. The best option for staying up to date—a necessity for survival in the workplace—is online learning. The flexibility of online courses allows workers to schedule their learning times to suit their personal, family, and professional lives. They can schedule their time "from anywhere, anytime, 24 hours a day, 7 days a week" (Condruz, 2013, p. 75)

E-learning is truly oriented toward learners. The learner can choose the learning materials from among a galaxy of resources available via the internet. To clarify a concept, learners can explore diverse learning materials, from YouTube videos to graphic aids from Google Images to articles from online journals, newspapers, and blogs. Unwin (2008) contends that the e-learning "encourages learner centred approach to learning" (p. 5). A learner can also set the length of the learning period, from a 2-month crash course to a heavier program of 2 to 4 years or even more. Alshahrani (2016) argues that "The Ideal L2 Self . . . is centred around the internal desires of the learner" (p. 146), and because e-learning provides students with a variety of "New Englishes" to choose from, they are more likely to get intrinsically motivated by accessing the variety of English they desire; for instance, some might wish to learn British English while others prefer American English.

By using discussion boards, teachers can better engage all students in discussions. Students can connect to each other and break the barriers of mutual ignorance, clarifying themselves almost instantly. This model of multi-way communications among teachers and students allows for better understanding and education. A student can communicate with another student or with the whole group, and vice versa.

Because a student has the advantage of making multiple attempts to explore any given piece of e-content and can also explore diverse learning resources online, the possibility of perfection is much higher in an online learning environment; space and time are open, so learners can carve out ideal learning conditions for themselves, searching out e-learning content that suits their own needs, interests, and skills. As Brooks et al. (2001) put it:

"The Web is a place where one can read and read, and then read some more—without being forced to respond in ways that demonstrate learning. Much of what is on the Web is ideal for learners who are successful as passive learners. A highly motivated learner may thrive on vast amounts of Web information". (p. 20)

Students are highly motivated by their perception of a direct, proven relationship between their acquisition of information and knowledge and their progress in academic performance as measured by instantaneous feedback and test scores. Many e-learning courses visualize student performance using colorful graphs—for instance, a

marker on a bar moving from red to yellow to green as the student progresses. Grade graphs may also show where the individual student stands in relation with the other students in the course, giving the student a clear sense of direction and progression that helps them stay constantly motivated and engaged.

Different learners have different learning styles. There is an abundance of e-learning contents particularly suitable for visual and auditory learners. With the help of the latest educational tools, educationists across the world have come up with a host of innovative teaching strategies, all are available for online use, and that can make learning more fun and engaging.

Virtual classrooms for e-learning are rich with diverse learner groups. Older students, who otherwise might have avoided attending a regular classroom, are a strong presence in e-learning, enriching the platforms with their unique experiences and expertise. This is a great contribution to the country's knowledge bank.

1.5 Key Challenges in Implementing E-Learning

Any country that wishes to implement e-learning in its educational system must overcome diverse critical challenges. Semlambo (2022) warns that e-learning systems often fail due to "lack of strategic planning, opposition to change, the cost of technology, and inadequate course delivery" (p 114). Condruz (2013, p. 575) argues that perhaps the most crucial challenge in implementing e-learning as an educational tool is the high student drop-out rate; students may be initially motivated to register for online courses, but practical reasons may prevent them from fully following through. E-learning demands rigorous and consistent involvement; but learners may postpone studying, or forego it altogether, in the face of a small distraction or technical or conceptual problem. Consequently, they mismanage their time, fall behind, and eventually drop out entirely.

Creating effective and successful e-content is not an easy task. It requires mastery of the subject matter, along with course design online presentation skills. And the subject matter is not in itself sufficient to ensure that students will stay motivated. It is necessary for the teacher to take counsel from students to find an appropriate context, discover an ideal approach, and orient the learners to the relevant perspectives so that they feel engaged in the learning process. Otherwise, learners may become confused after encountering a small error, leaving them frustrated without any avenue for clarification.

To be successful in e-learning, both teachers and students must have access to modern educational tools. It is complex and costly for any government to support such high-tech computer labs in all its educational institutions; but the lack of adequate infrastructure hampers the quality of e-education.

Even with an excellent e-learning lab, success is not guaranteed. To design effective and successful e-learning courses, teachers need specialized professional training. If the teachers themselves are tentative, confused, or demotivated, the e-learning course is not going to be successful.

Building a professional e-learning course requires a large budget and manpower. Depending on the existing infrastructure, a reliable web-based learning system may need to be purchased or developed, and educational technology infrastructure upgraded. The process can require the services of e-content developers, web designers, software engineers, and other skilled professionals.

Students from remote localities or from a low-income poor background may lag behind in an e-learning program because any such program requires students to have access to broadband internet connections and fast computer processing. Many remote places in Saudi Arabia have no good internet connectivity. Poorer students from those interior localities may not be able to afford personal computers or internet access, and will thus be deprived of the benefits of e-learning.

Students in e-learning programs often suffer from low confidence and poor communication skills (both verbal and nonverbal) when giving presentations regarding their learning outcomes. During a prolonged period of isolated online study, they may fail to develop the ability to argue, present, debate, and discuss. This lack of interpersonal skills and consequent low degree of confidence in presenting their knowledge and skills will make them suffer in the competitive job market.

According to educational psychologists, students learn best by doing; but experimental learning and kinesthetic activities are missing from online learning programs. Students with poor hands-on experience and skills are ill-equipped for the job market.

An ideal educational institution should focus on the holistic development of its students, cultivating each and every aspect of the students' personality. It should, on top of the academic knowledge and skills development, focus on the social, physical, emotional, cultural, spiritual, linguistic, and moral development of the students. On

e-learning platforms, though, the main focus is on academic skills—especially on the theatrical aspects of the subject.

To be successful in e-learning, students should be already highly motivated, committed, IT-trained, and reliable. The process of completing a rigorous e-learning module demands from the students a high degree of perseverance, sincerity, entrepreneurship, and hard work. Soong (2012) lays out some caveats:

[A]s the use of ICT has become more and more popular in English e-learning programs, teachers still need to be warned that technology itself is not a panacea. E-learning is well acclaimed for providing self-paced learning to students who are able to decide where, when and what to learn. (p. 92)

Successful students will have strong problem-solving skills, as they are likely to face many technical and conceptual problems as they progress in their studies.

2. Methodology

2.1 Design of the Study

This paper was exploratory in nature. It is a case study. The ultimate objective is to reorient e-learning practices to maximize students' participation and active involvement. Van (2009) emphasized that the students' active participation and continuous involvement "cannot be imposed. [They] must come from the materials and lessons that are implemented" (p. 9). This investigation is an attempt to assess the extent to which the essential factors—students, teachers, e-content, and technological apparatus—are empowering or impeding the e-learning process at the University of Bisha, Saudi Arabia. A questionnaire of 12 items served as a research tool to mine data from the students. An analysis of the data collected from the students will fulfill the objectives of the survey. The questionnaire was presented both in English and Arabic for better comprehension by the students.

2.2 Population

The population of the survey constitutes the students at the College of Arts and Letters, University of Bisha, Saudi Arabia.

2.3 Participants

The number of the total participants in the survey was 250 students studying English language and literature courses in eight different levels of undergraduate courses in the College of Arts and Letters, University of Bisha. They were not full-time online students; e-learning was only one component of studies, and they attended tradition in-person classes as well.

2.4 Procedure for Data Collection

Given the present study's aim to examine the effectiveness of the e-learning, the questionnaire focused on four key factors: students, technical apparatus, e-content, and teachers. A questionnaire comprising 12 items, each in English with an Arabic translation, was provided to participants; the questionnaire was administered in hard copy during in-person class meetings, in the presence of their respective teachers in the academic year 2021–2022.

2.5 Instruments

The questionnaire employed a five-point Likert-type scale with the following responses: 5 = strongly agree, 4 = agree, 3 = not sure, 2 = disagree, and 1 = strongly disagree. The statements in the questionnaire can be grouped into four categories. Items 1–3 survey students' attitudes and motivations.

1. I am interested in using Blackboard.
انا مهتم باستخدام البلاك بورد
2. E-learning is important as it will help me all my life.
التعلم الاليكتروني مهم و سيساعدني طيلة حياتي
3. For Blackboard activities, I accept help from others.
استعين باخرين لحل انشطة البلاك بورد

Items 4–6 assess the technical infrastructure and how it helps or impede the e-learning process.

4. If I encounter any technical problem in Blackboard, I don't know how to fix it.
لا اعرف كيف احل أي مشكلة فنية اذا واجهتها في البلاك بورد
5. I don't have a computer or internet in my house.
لا املك كمبيوتر وانترت في منزلي
6. My mobile phone does not open online tests and quizzes
جوالي لا يفتح الكويزات والاختبارات على الانترنت.

Items 7–9 address the quality of the e-content used by the students

7. E-learning materials are not easy to understand and simple to use.
مواد التعلم الاليكتروني ليست سهلة و بسيطة.
8. E-learning materials are not relevant for the quizzes and the tests.
مواد التعلم الاليكتروني ليست لها صله بالكويزات والاختبارات
9. If there is concept I do not understand, I do not know how to clarify it.
اذا لم افهم أي مفهوم لا استطيع توضيحه

Items 10–12 investigate how well teachers are implementing the e-learning process.

10. Teachers are not interested in engaging us in e-learning.
الاساتذة ليسوا مهتمين بجذبنا واشراكنا في التعلم الاليكتروني
11. There is no regularity and consistency in using Blackboard.
ليس هناك انتظام واتساق في استخدام السبورة
12. If I get lower marks on Blackboard quizzes, I do not know why.
لا اعرف السبب اذا حصلت على درجات قليلة في كويزات البلاك بورد

2.6 Validity and Reliability of the Instrument

All the statements were checked and verified by reliable experts in the department. In the process, some statements were modified, edited, or omitted, and new ones added.

2.7 Empirical/Qualitative Approach and Procedures

An empirical approach was used to analyze the data. A considerable number of perspectives, insights, and views were based on the researcher's direct teaching experience with e-learning, working with thousands of students in the English program for over a decade teaching both language skills and literature courses in a blended learning mode; these insights helped in the analysis of the data. This research is not intended to prove or disprove any theories; it is exploratory in nature and modest in claim.

3. Results and Discussion

This section of the paper describes the questionnaire responses and analyzes their implications for teachers with a view to reinvigorate the e-learning practice of the university.

3.1 Survey Results

The objective of item 1 (I am interested in using Blackboard) is to evaluate students' degree of motivation for using e-Learning in blended mode along with their regular classroom studies.
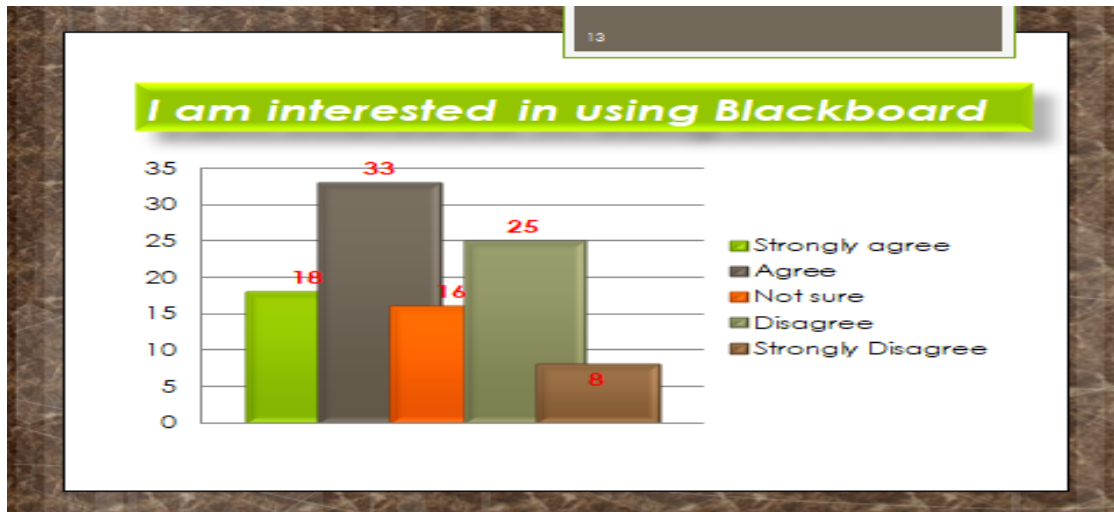
Figure 1. I am interested in using Blackboard

The graph shows just over half of the students are interested in using Blackboard. What we need to do as teachers is to identify the concrete factors responsible for empowering or impeding students' e-learning performance. Note that 16% students are not sure about their prospects with e-learning, and only 8% strongly disagree with the very idea of e-learning; this would seem to indicate that, although there is room to improve students' participation, this uncertainly may be addressed with proper guidance and counseling.

Next, responses to item 2 (E-learning is important, as it will help me all my life) evaluate whether respondents are properly informed about the value and power of a-learning as a tool for life skills and career development. It is important for all stakeholders to promote engage with lifelong learning.
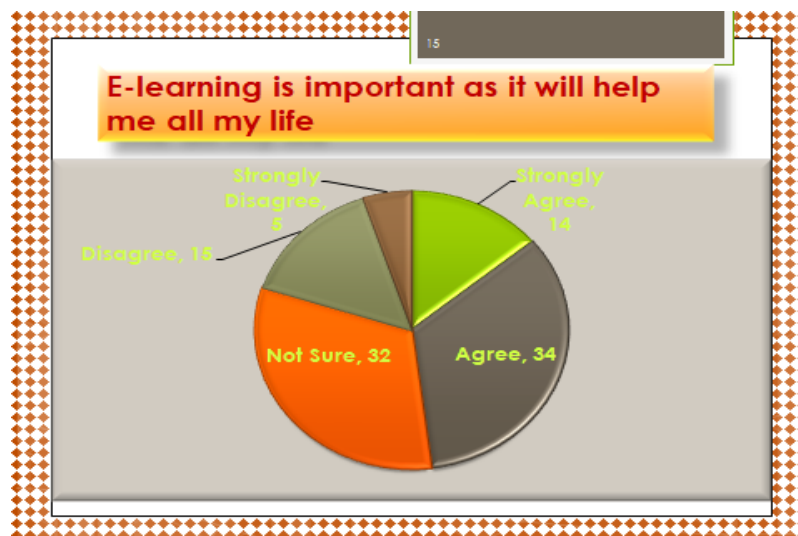
Figure 2. E-learning is important, as it will help me all my life

Figure 2 indicates that less than half of respondents understand the importance of e-learning in their lives and careers, while almost a third are unsure; this might indicate that they are not convinced about the power of e-learning to help them hone new skills, or how it can help them can rebuild their career to survive in the competitive, changing job market. The implication here is that teachers need to counsel their students and motivate them to participate actively in the e-learning process.

Various studies have noted that students in e-learning can quickly lose their motivation and fail to pursue their studies. One reason for this is the occurrence of academic or technical problems that students cannot solve on their own. They need to be connected with each other to stay motivated. Item 3 (For Blackboard activities, I accept help from others) aims to evaluate the extent to which students are helping themselves by creating an online community to provide social and emotional support systems.
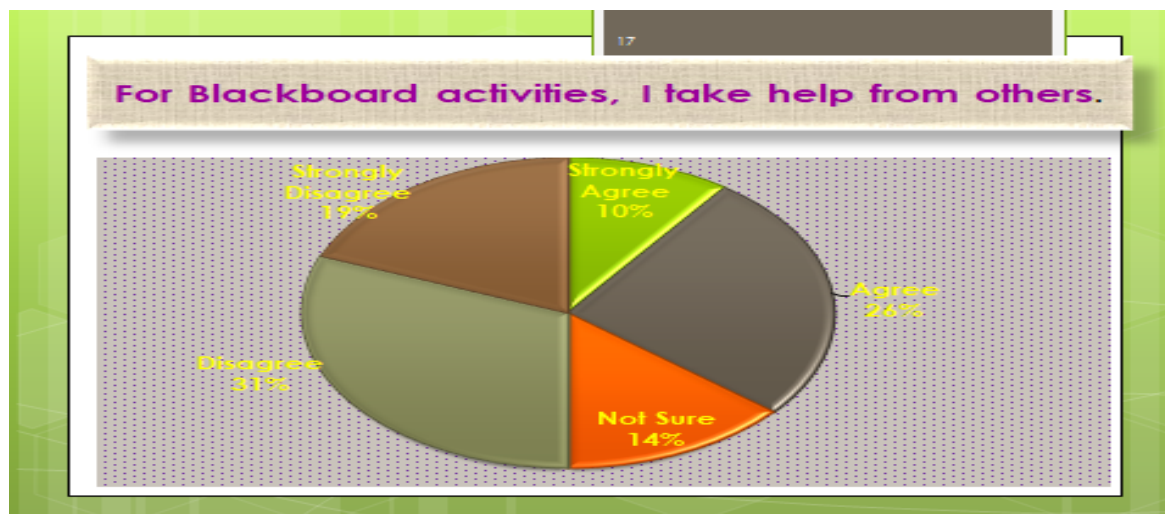
Figure 3. For Blackboard activities, I accept help from others

As seen in Figure 3, half of the respondents are not motivated to accept help from their friends, fellow students, teachers, or anyone else to fix their academic/technical problems in Blackboard. When we include the "not sure" responses, a significant number of students (64%) prefer to work alone in the e-learning platform. There is a large gap here that teachers can help to address. When students start sharing ideas among themselves both online and in the classroom, e-learning participation and performance are boosted. And the e-learning format is in some ways ideal for encouraging participation. In his in-depth research on the University of Bisha, Saudi Arabia, Ja'ashan (2015) found that "Blended Learning gives shy students a chance to participate and share their opinions with their classmates on forum or other different ways in Blackboard" (p. 49).

The responses to this section confirm a decade's of empirical research on the use of e-learning in Saudi universities. Many students are not confident in using their university's learning management system (LMS), in this case Blackboard. Some are confused, and need hands-on training. Students who lack basic computer skills coming into university suffer even more; this is particular prevalent among students from remote localities, especially poorer students, who may not have the devices or internet connections necessary to do the activities online from home. In such situations, teachers should book the university e-learning center and take the students for both training and facilitations. There should be guidance and counseling sessions to convince the students of the value of e-learning. Technical orientation sessions and group discussion sessions should be conducted so that students will learn to help each other.

3.2 Survey on Technical Factors

E-learning requires the use of a computer with a fast internet connection and access to ancillary applications and plug-ins—Java, Adobe Flash Player, RealMedia Player, Adobe Acrobat Reader, Microsoft Office, and so on—simply to open and operate Blackboard to its full potential. Some students may lack either the equipment or the computer competencies to manage this, and so may encounter problems in the software and hardware systems or with their respective settings. A computer that lacks any of these features may not be compatible with Blackboard. Item 4 evaluates respondents' ability to address such technical problems on their own.
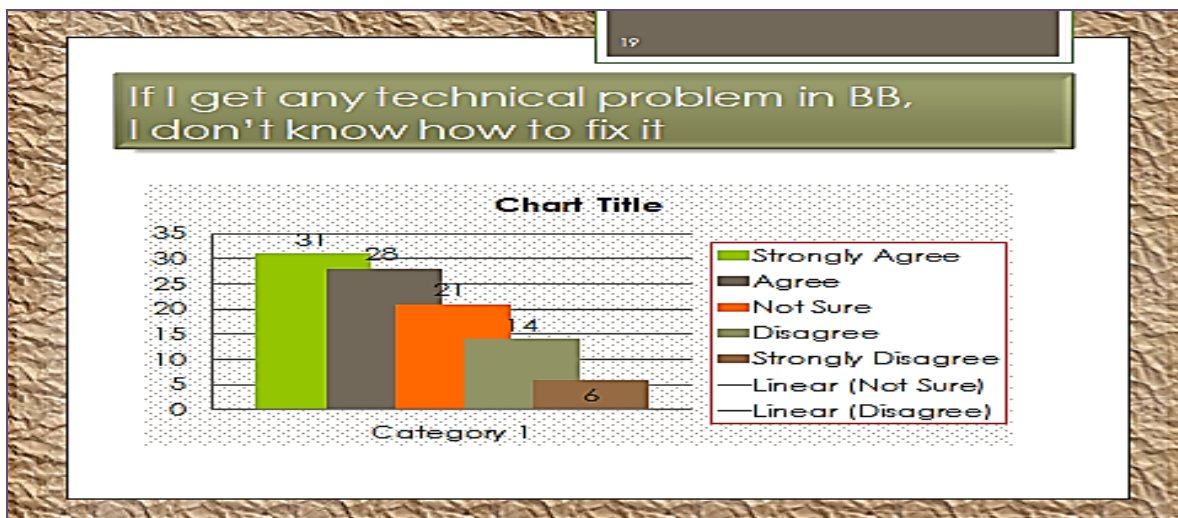
Figure 4. If I experience any technical problem in Blackboard, I don't know how to fix it

The graph shows only 20% students can fix their own technical problems. A huge majority, 61%, face technical problems in using Blackboard; that frustrates their performance. This emerges as one of the most crucial areas teachers need to address to improve e-learning participation. The situation is so critical that Ali (2017), in a study conducted at the same university, suggests that "some courses/workshops/training on computer literacy/skills and Blackboard techniques should be added to the university syllabus and it must be done in the first year (level one and two)" (p. 150).

Not all respondents are from urban areas. As noted, some are from remote localities and/or from economically challenged families. They may be unable to access a computer at home; even if they can, they may not have an adequate internet connection, either because it is expensive or because of inadequate infrastructure in their villages. Item 5 (I don't have any computer or internet at my house) aims to quantify how common this problem is so that we can analyze the implications for the e-learning practice.
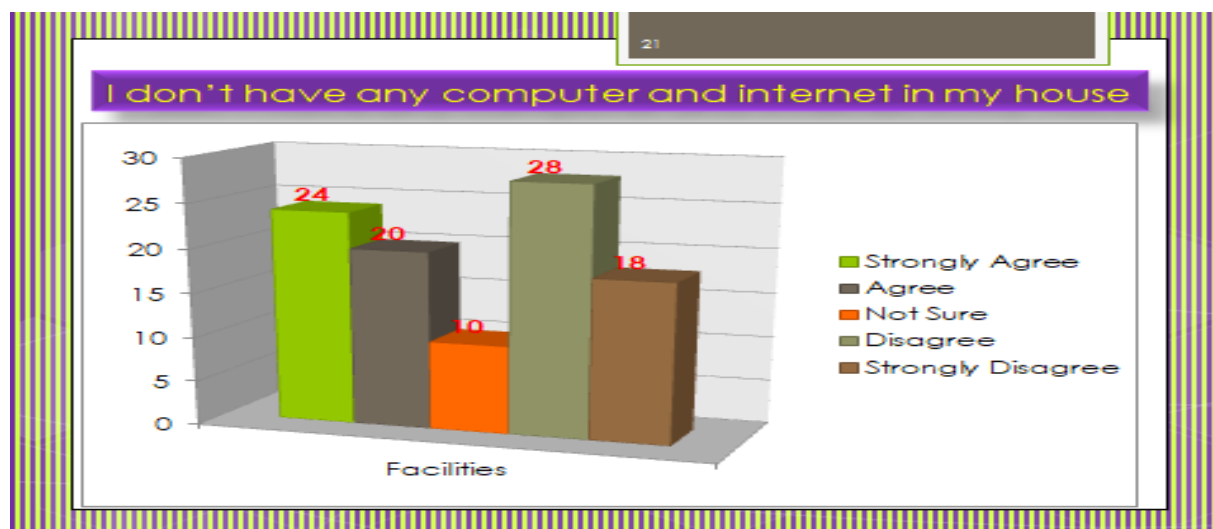
Figure 5. I don't have any computer or internet at my house

As Figure 5 shows, 44% students have no computer or internet (or either) at home. This means we need to motivate them to buy one or use the university's e-learning lab in their free time. Until we address this problem, a substantial improvement in the e-learning performance is not possible.

There is one piece of technology that is ubiquitous, though; nearly every present-day student in Saudi Arabia has an Android mobile phone, and most use social media extensively. This introduces a great potential for educators to tap. Integrating Blackboard into mobile social media platforms, or even developing a standalone version of

Blackboard optimized for mobile phones, would go a long way toward addressing this issue, providing students with a better, faster way of connecting with their university learning systems.
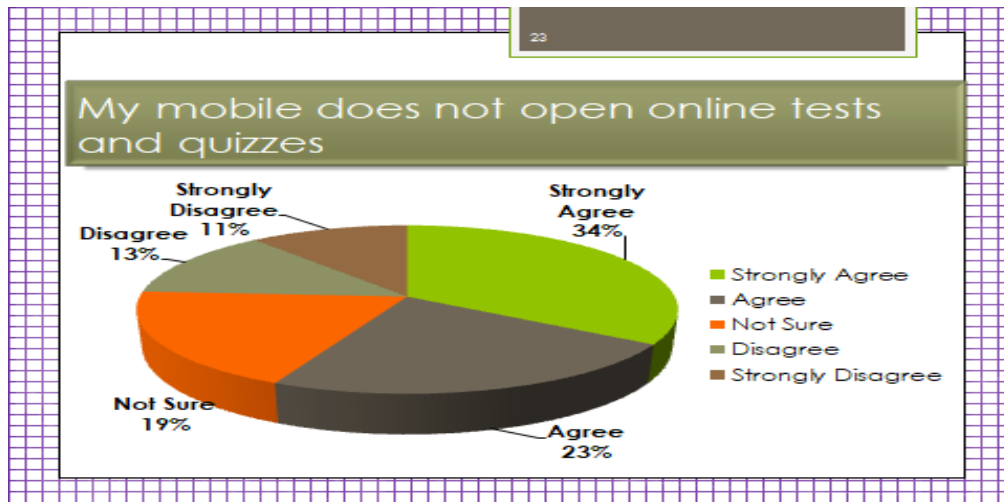
Figure 6. My mobile phone does not open online tests and quizzes

Figure 6, breaking down the responses to item 6 (My mobile phone does not open online tests and quizzes), shows that three out of four students either cannot or have not tried to use Blackboard on their phones. Given that students spend a lot of time on social media and go online via their mobiles, making our e-learning system more mobile-compatible and adding social features will help embed e-learning into students' daily lives.

Students from rural areas face particular problems with Blackboard activities. Even some who have access to a computer at home cannot open the e-learning site because they lack the necessary software related applications. Slow connectivity is another pain point. Students feel their valuable time is being wasted, yielding no productive result—which is especially frustration under the pressure of a timed test. Even with high-quality e-content, activity-based interactive tools, and excellent communication methods, the e-learning project has not achieved the desired result for impoverished students due to the sheer lack of logistic support.

3.3 Survey on E-Learning Materials

Since students read online learning materials individually, they need to be interesting, easy to understand, simple, and self-explanatory. If the e-contents are not easy to understand and simple to follow, students will feel frustrated and soon quit the class. Teachers need to tailor and customize the learning materials to suit the proficiency and needs of the students.
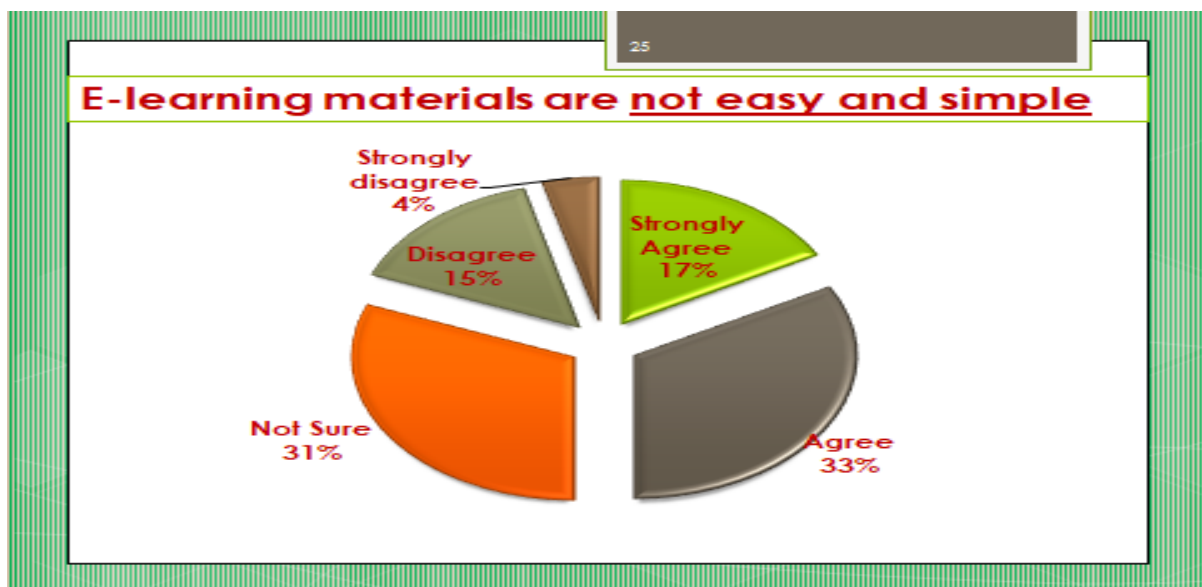
Figure 7. E-contents are not easy to understand and simple to follow

Figure 7 indicates that 50% of respondents agree that their learning materials are not easy and simple. The difficulty may be related to the complexity of the content, or to the language itself. The implication is that the e-content needs to be reoriented to the students' level to engage them. There should be variety and diversity in both the content and its presentation; materials should be appealing to both the auditory and visual learners.

E-learning materials need to be relevant to the students' university curriculum. The learning items should essentially be taught in the classroom and embedded into the regular classroom quizzes and examination to generate students' motivation and sustain their interest.
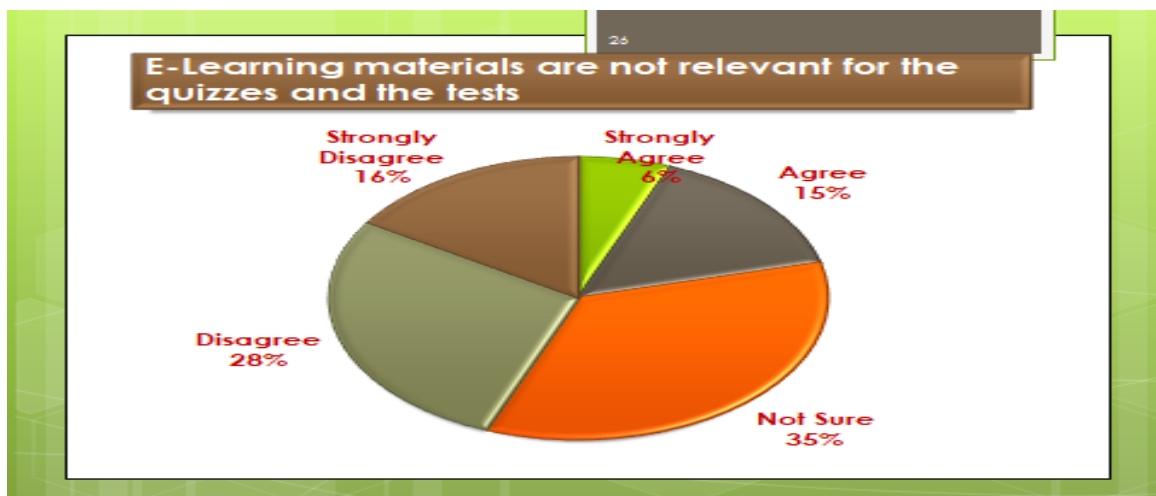
Figure 8. E-learning materials are not relevant to the quizzes and the tests

The graph shows 21% students agree with the statement in item 8 (E-learning materials are not relevant to the quizzes and the tests), while 44% disagree. We may infer that some teachers are using material covered in e-content for their classroom tests and examinations. A high percentage of respondents (35%) are not sure about the relevancy of the e-content to their classroom tests and quizzes. This might indicate that they have not read the online learning materials at all, believing them to be relevant even for their online tests and quizzes. The teachers need to make sure that the learners go through the online learning materials to do their both online and classroom tests. It is one of the areas teachers need to address.

E-content needs to be autonomous and self-explanatory in nature. Being remotely located, students have no opportunity to question the teacher directly or to request clarification of any confusing or difficult concepts. There should be clear and graded e-content that answers their questions. A teacher should predict potential difficulties and illustrate concepts likely to require clarification. And there should be some mechanism for instant communication with the students, should there be any need for further clarification.
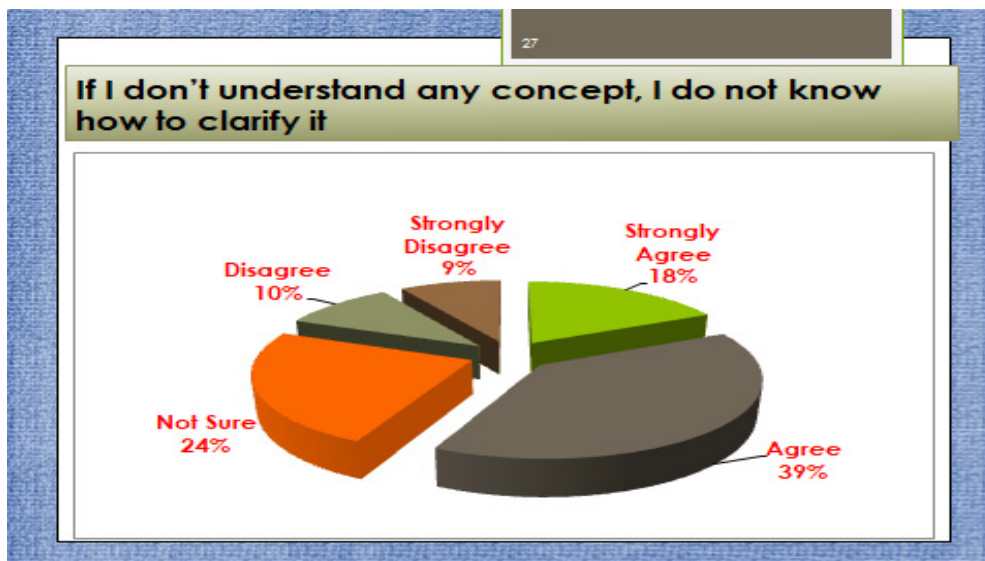
Figure 9. If I encounter a concept I don't understand, I do not know how to clarify it

The graph shows that 57% students are at least occasionally confused by e-learning content. Accordingly, both the language and the texts should be graded to suit the competency and proficiency of the students.

Creating good quality e-content is a highly specialized task. Students grow motivated when they see the relevancy of the e-content to their in-person classroom testing and evaluation, and are more willing to master Blackboard materials if they know their hard work will be tested and awarded in terms of points and grades. Teachers therefore should strive to develop e-content based on university-prescribed texts only. This requires consistent hard work, time, perseverance and, of course, professional skills; teachers should predict the pitfalls and problems students might face in reading e-content, and assist them accordingly. E-content should be as self-explanatory as possible to help learners grasp the texts autonomously. The language of the contents should be easy to understand and simple to follow as per the proficiency levels of the students.

3.4 Survey on Teacher Role

Student feedback about their perceptions of teacher performance is vital as it relates to e-learning. For a successful e-learning practice, teachers need to be sincere, committed, and hardworking. The teachers should take initiative, motivate students, and engage them throughout the e-learning process.
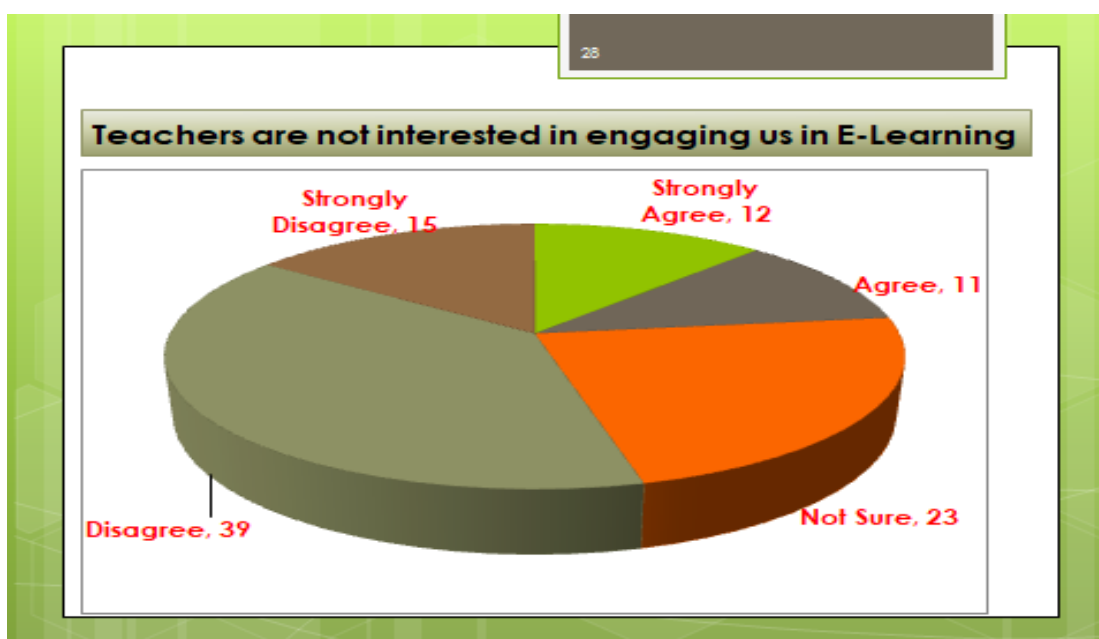
Figure 10. Teachers are not interested in engaging us in e-learning

In response to item 10 (Teachers are not interested in engaging us in e-learning), over half of the students disagreed, meaning it is the teacher who initiates the e-learning activities in the classes and engages the students in the process. That said, nearly a quarter of students (23%) believe that teachers are not taking enough interest in e-learning activities, and around the same number of students are not sure.

For a successful e-learning experience, it is very important for teachers to use Blackboard regularly and consistently. There should be instant feedback to the students' quizzes and tests. Regular online activities will help learners feel confident and at home in e-learning. Regular and consistent practice helps them develop competency, proficiency, and skills.
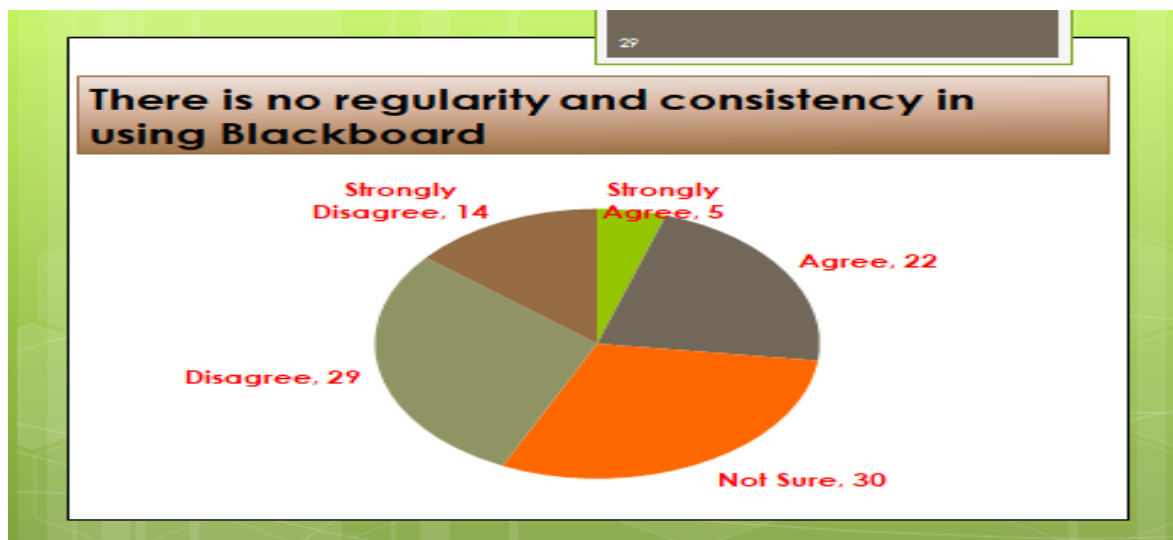
Figure 11. There is no regularity and consistency in using Blackboard

In response to item 11, 43% of respondents agreed to some extent that Blackboard has been used regularly and consistently in the university. More than a quarter (27%) believe there is no consistency and regularity in using Blackboard and another 30% are not sure. This indicates that teachers should take proactive measures to revamp e-learning practices in the university.

One reason why e-learning is motivating to students is because it provides almost instant results. If the students get feedback instantly on their learning and progress, they become more motivated because they feel assured of and confident about their new learning.
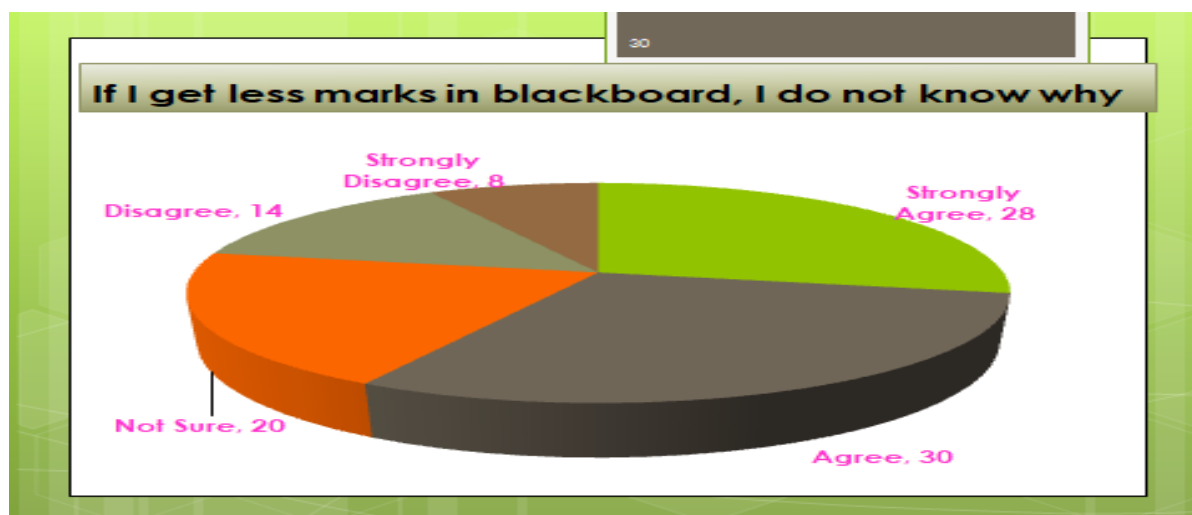
Figure 12. If I get lower marks in Blackboard, I do not know why

Item 12 surveyed whether respondents understood why they got unexpectedly lower marks in their online tests and quizzes. The corresponding graph shows that 58%—that is, the majority of the students—cannot figure out the reasons. This causes a degree of frustration and demotivation amongst them, and the teachers need to address this issue. We should provide them with instant feedback and model answers, along with taking remedial measures.

For a successful e-learning program, all teachers should be equally motivated to engage their students online. Activating and creating online activities requires a substantial investment in time. To motivate their students, teachers need to create diverse activities and facilitate interactions among the students by using tools like discussion boards, email groups, and blogs. Teachers will also have to be regular and punctual in monitoring and maintaining students' enthusiasm. He is at the center of the Blackboard and the key to success.

4. Discussion and Recommendations for Revitalizing E-Learning in Saudi Arabia

E-learning, though a relatively recent endeavour, has great potential to reinvigorate not only the existing workforce but also future generations in the path of progression and development. Like other educational methods, e-learning is consistently growing, empowering millions of learners worldwide. Teachers at all levels, IT professionals, e-learning business partners, educational policy makers, and research scholars across the world have collaborated and cooperated to facilitate the development and success of e-learning ventures.

It is essential that all the stakeholders of a university work together to make e-learning a success. There should be regular meetings and workshops to engage and activate all participants in the e-learning process. The aims, objectives, and goals of e-learning should be made clear and shared to motivate the participants. For smooth and successful implementation of e-learning, it is vital to hear the views, wants, needs, and attitudes of all stakeholders. Through these meetings and workshops, participants can share ideas and experiences, discover the strengths and challenges of e-learning in a particular teaching situation, and take the necessary steps to empower stakeholders to address the challenges.

If e-learning is to succeed, students and teachers both must cultivate their time-management skills. Online tests and assignments that are irregularly timed or of uncertain value are a source of frustration for students. Teachers need to carve time out of their busy schedules to facilitate e-learning. It takes a major investment of time to produce diverse e-learning content, build online tests and assignments, and subsequently evaluate student performance—but it is worth spending the time. Teachers can help each other by supporting the soft copies of the e-content and train each other in other technical aspects of e-learning.

It is essential for teachers to make key decisions related to online teaching with the motivations, linguistic proficiency, and available infrastructure in mind. For instance, e-content should be appropriate to the socio-cultural background of the students so that they can connect it to their lives and experiences. The difficulty level of the tests and assignments should be neither too difficult (which can make students they feel frustrated) nor too easy (which can instill overconfidence and complacency). While in the classroom, it is easy for teachers to make judicious decisions, because they get input from their students instantaneously, both verbally and from their body language. In online situations, though, it is the teachers' judgments that will make or break e-learning.

It is time that teachers reorganized their study tables to reinvigorate their professional skills. It is true no teacher can master graphic design and web design instantly; but teachers cannot ignore some basic computer skills. It is often said that technology will not replace teachers, but it is true that the teachers with technological skills will replace those without. The organization should invest time and money in developing teacher skills so that they can delegate various aspects of any given e-learning project. Staff training and delegation of work is absolutely necessary to get e-learning projects going and averting the mental blocks and confusion of less technologically skilled teaching staff. Chitanana et al. (2008) argued that "[t]he e-learning support strategy should emphasise the importance of partnership between Faculties and Universities' IT department in providing e-learning infrastructure and support to lecturers and students" (p. 30).

No matter how high the quality of the e-learning materials, if the students are not convinced and motivated, the whole effort will go in vain. We need. Then, to consistently use motivational strategies to engage learners in the e-learning system. "Motivational strategies," as Dornyei (1998) explained, "refer to those motivational influences that are consciously exerted to achieve some systematic and enduring positive effect" (p. 117). Effective strategies to motivate learners include making the aims, goals, and objectives clear; using interactive tools like discussion boards; designing quick navigation systems with links available in more than one place; employing self-clarified e-contents, games, and story-telling; providing instant e-certificates; using self-assessment systems; and rating students' positions on a leaderboard.

What the students are looking for when consulting e-content on Blackboard is whether the materials are useful and relevant to their classroom quizzes, tests, and semester-end examinations. With this is mind, teachers should connect e-content with their classroom teaching, and inform the students that these learning materials will have to be studied for the midterm and final examinations. The language of the e-content should be short, simple to understand, and easy to follow. All learning materials should be self-explanatory and clear. Diverse learning materials (e.g., videos, audio, and slide presentations), goalposts showing the directions, achievement mileposts with visual colors, and visual graphs will help students get motivated for the learning.

To help learners become autonomous in acquiring new skills even beyond their university experience, educational institutions will have to empower them with e-learning skills. To achieve that objective, traditional classroom teaching time and activities will be compromised for the greater benefit of the students. E-learning content may also need to be customized so that students are comfortable exploring without the help of a teacher.

Teachers will have to offer many options for the learners to choose from, and allow students to make multiple attempts at their online tests and assignments so they can build confidence, thus ensuring their engagement in the e-learning process.

Every individual student is unique. Their socio-cultural, linguistic, economic, and geographic backgrounds are different. To engage each student, the e-learning teacher should arrange personal meetings when possible to address any problems they encounter with e-learning and provide appropriate counseling. Some students may be inhibited and confused; others may fail to understand the importance the e-learning experience to their future careers; others may simply be unmotivated; some might need a little personal computer skills training to get started. What really matters is that the teacher should contact the students, either in group counseling or one-on-one, to provide required guidance and counseling; it works.

In the twenty first century, when technology and its related skill sets become rapidly outdated, learners need to be armed with learning skills that helps them quickly transfer their training to new situations almost instantaneously. E-learning is the help at hand. The students should clearly understand that they will rapidly become obsolete in the labor market if they do not hone their online learning skills. These skills will also equip them to perform their regular work duties with the various Ministries of their Government.

It is not enough for teachers to upload e-content, tests, and assignments to Blackboard. Teachers will facilitate greater e-learning success if they plot their online activity schedule in such a way that its enhances regular classroom tests and quizzes, rather than working against them. Allowing students ample time and multiple attempts for online tasks can provide the flexibility that will inspire even inhibited students to give it a try.

5. Conclusion

Concluding this article, the researcher can state that e-learning in Saudi Arabia has a promising future. Almost all the higher education institutions are taking e-learning seriously to make the educated people computer literate and autonomous in e-learning. This study has gone some way toward understanding the benefits of e-learning and the problems in the implementation of e-learning in Saudi Arabia. A number of key issues have been addressed related to the diverse nature of the students and their requirements, the challenges and opportunities for e-learning infrastructure, the nature and qualities of e-content that motivate students, and the role of teachers and their professional reorientations. The article has also offered some relevant strategies to revitalize e-learning practice in Saudi Arabia.

Acknowledgments

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Enhancing Language Learning through PBL

in an Aviation Engineering Class

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Abstract

English for specific purposes is a field of teaching and learning that focuses on English language skills in context. It bridges the gap between general language knowledge and specific communication skills to enable students to meet the demands of their future professional field. For instance, aviation maintenance engineering requires the knowledge of highly specialized terminology. By providing appropriate and relevant linguistic tools, ESP enables aviation students to successfully perform job-related tasks and become more professionally competent within the aviation industry.

While ESP has a role in improving language learning, the student's experience can be further enhanced by incorporating Project-Based Learning into the curriculum to make learning more meaningful through inquiry-driven, task-based, and problem-solving paradigms. One key advantage of ESP in this regard is its adaptability, which means it can be adapted into a functional course. According to Dudley-Evans and St Johns (1998): "ESP was, for example, very influential in showing how a communicative language curriculum could be turned into either a functional-notional syllabus or a task-based syllabus" (Dudley-Evans & St Johns, 1998).

The purpose of this article is to demonstrate a PBL method used in an ESP class aimed at aircraft maintenance engineers. The project involves students assembling a model aircraft jet engine. The goal of the project is to help students develop adequate knowledge about aircraft jet engines by acquainting them with the names and functions of the engine's parts and also teaching them about its complex operation. Moreover, the project trains students on how to log their in-class activities into a weekly log that tracks their progress. At the end of the project, students reflect on their experience by completing a questionnaire that evaluates the outcomes of their learning. This helps the instructor assess the effectiveness of the project on the student's language learning.

Keywords: aviation English, aviation maintenance engineering, ESP, PBL

1. Introduction

John Dewey, an American philosopher and an educational reformer, once said: "Give the pupils something to do, not something to learn; and the doing is of such a nature as to demand thinking, or the intentional noting of connections; learning naturally results" (1916). Dewey is recognized as one of the early proponents of project-based learning, as he argues that learning is best attained through practical experience. His education theory is labeled 'progressive' and emerged as a "product of discontent with traditional education" (Dewey, 1938). Dewey rejects the limitations of traditional classroom pedagogy, which is centered around rote learning and does not allow students the freedom of critical thinking, analysis, and inquiry. He believes that experience offers better educational pathways, and therefore, educators should capitalize on practical scientific methods to enhance learning outcomes. Indeed, learning becomes more rewarding when students are given the chance to engage, question, analyze, and critique.

Experience alone, however, is not sufficient. Dewey insists that the quality of experience is paramount to determining the effectiveness of learning outcomes. According to him, some experiences can be "mis-educative": "Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience. An experience may be such as to engender callousness; it may produce lack of sensitivity and of responsiveness. Then the possibilities of having a richer experience in the future are restricted" (1938). Dewey makes a stark claim that traditional learning methods offer the wrong quality, which render students callous to ideas and incapable of acting intelligently in new situations (Dewey, 1938). His viewpoint is not a rejection of traditional pedagogy, but rather a

critique of "defective and wrong character" experiences (Dewey, 1938). Dewey relays the task of providing quality experience unto the educator, whose responsibility is to "arrange for the kind of experiences which, while they do not repel the student, but rather engage his activities are, nevertheless, more than immediately enjoyable since they promote having desirable future experiences" (Dewey, 1938). Dewey defines desirable experiences as ones that "live fruitfully and creatively in subsequent experiences" (1938). Therefore, it is the responsibility of educators to create an innovative learning environment that positively impacts future experiences. This can be achieved by promoting experiential learning through problem-solving skills, project-based tasks, and cognitive simulations. Not only that, but educators also need to foster communities driven by curiosity, doubt, critique, and involvement.

Dewey does not only emphasize a hands-on experience, but he places equal significance on the knowledge and reflections that follow it. He establishes an organic relationship between two elements of experience: the act of doing (experience), which he calls 'active,' and the teachings it confers onto the learner, which he calls 'passive.' Such a relationship produces an immense learning value:

"The connection of these two phases of experience measures the fruitfulness or value of the experience. Mere activity does not constitute experience. It is dispersive, centrifugal, dissipating. Experience as trying involves change, but change is meaningless transition unless it is consciously connected with the return wave of consequences which flow from it. When an activity is continued into the undergoing of consequences, when the change made by action is reflected back into a change made in us, the mere flux is loaded with significance". (Dewey, 1916)

According to Dewey, experience yields thinking, and once thought about a particular situation is aroused, it causes learners to reflect on that situation outside school and engage with it, ultimately connecting existing habits with effective responses to that experience (Dewey, 1916). Therefore, a hands-on experience with its active and passive elements, one that engages both the mind and the body, can contribute significantly to intellectual growth, which can have long-lasting effects on learning.

There are numerous ways to make experience, or project-based learning, more effective in education. To begin with, it is essential to understand that PBL is regarded as one form of student-centered learning in which students become active participants in their language learning process (Ali, 2019). Student-centered learning has garnered widespread attention from schools and universities, particularly during the COVID-19 outbreak in 2020, when traditional learning methods were either unavailable or not a viable option for everyone. Ultimately, the need for self-learning, or learning autonomy, became paramount to compensate for the educational deficit that resulted from worldwide school closures. Moreover, it became necessary for students to take unique ownership of their educational journey and further enhance their language learning in order to catch up.

Self-learning has numerous and far-reaching benefits. One of the important benefits is that it fosters a sense of ownership over one's education. When students take responsibility for their own learning, they become more motivated and engaged in the process. Also, they would develop a growth mindset that embraces challenges and sees failures as opportunities for growth. This mindset not only enhances academic performance but also prepares students for the demands of their future careers. Furthermore, self-learning promotes critical thinking skills. Instead of passively receiving information from teachers or textbooks, students actively seek knowledge through various sources such as books, online resources, or practical experiences. This active engagement with the material encourages a deeper understanding of, and the ability to analyze, information critically. Most importantly, self-learning allows individuals to take control of their education and pursue knowledge at their own pace and in their own way. It encourages independence, critical thinking, and problem-solving skills, all of which are essential in today's rapidly changing world.

This paper explores how PBL enhances language learning through a student-centered approach in an aviation maintenance engineering class.

2. Literature Review

PBL is a creative way to enhance language learning since it: "involves students refining and honing their language skills through completion of projects both in and outside the classroom" (Laverick, 2019)". Because ESP involves teaching specific language terminology within a specific context, traditional teaching methods might hamper the acquisition of new vocabulary. This is largely due to the fact that some vocabulary cannot be fully acquired using traditional teaching methods such as word mapping, reading for comprehension, or word card strategies. One must understand that most existing vocabulary teaching methods are utilized for written discourses. Speech discourse, on the other hand, requires different teaching strategies. Aviation students, for example, are expected to learn, understand, report, and communicate core aviation terminology that is mainly used in spoken discourse. The

reason is that speech is a central source of communication between aviation personnel, such as pilots, air traffic controllers, and aircraft maintenance engineers. A simple miscommunication of spoken words like oil and fluid between aviation maintenance engineers, or miscommunication between pilots and air traffic controllers during a routine flight, can compromise the safety of the industry's operation. According to Bradley Hillis (2019): "Out of the 508 case studies present on the National Transportation Safety Board's database, 49 accidents were found to have been at least partially caused by some form of miscommunication. It can be assumed that roughly 10% of all commercial aviation 11 incidents involve a critical miscommunication that at least partially contribute to the outcome of the accident" (Bradley Hillis, 2019). Supporting aviation language with relevant linguistic tools and effective communication skills is paramount to avoid such undesirable outcomes. That is why teaching technical language through situations, experiences, and projects is instrumental in minimizing language miscommunication. The basic aim for learning language among aviation students is to obtain more operational efficiency in spoken language rather than linguistic correctness in written language.

2.1 Language Learning through PBL

Learning adequate operational aviation English terminology can be fully and positively realized through PBL. To demonstrate, a task of assembling a jet engine model was incorporated into the curriculum of a project-based class named TAS (Transferrable Academic Skills), which is taught one hour per week. TAS is not subject-specific but a class that combines the four English language skills (reading, writing, listening, and speaking) through teamwork activities. In TAS, students are divided into groups and instructed to assemble a turbofan jet engine model in a period of six weeks. Below are the different stages planned by the instructor for the students to follow every week.

Figure 1.

2.2 Week 1

Figure 2.

In this session, which is the first class of the engine assembly, students are divided into groups of 3-4 students. Each group is handed a box containing jet engine parts, an instruction manual, screwdriver, screws, and other fastening tools. Group members are asked to look at the box (Figures 1 and 2) and see the contents to understand

what their finished project would look like. The instructor encourages students to guess how the different parts fit together using their previous knowledge of engine parts taught in another reading class. Moreover, the instructor asks questions about the meanings of some of the technical words printed on the box, such as "fully functional," "motorized," "low & high-pressure turbines," and "combustion chamber," to elicit feedback from students. This preliminary stage should take approximately 10 minutes of class time. It allows students to discuss key terminology when putting the engine together and also allows them to divide the workload among their group members.

In the next step, the teacher asks students to read the introduction in the instruction manual (Figure 3), which contains background information about jet engines. Students are encouraged to utilize their reading skills and underline the main ideas about the topic and the supporting details. At the same time, the teacher highlights core vocabulary (words and phrases) that have frequent occurrences in the students' discussions about jet engines.
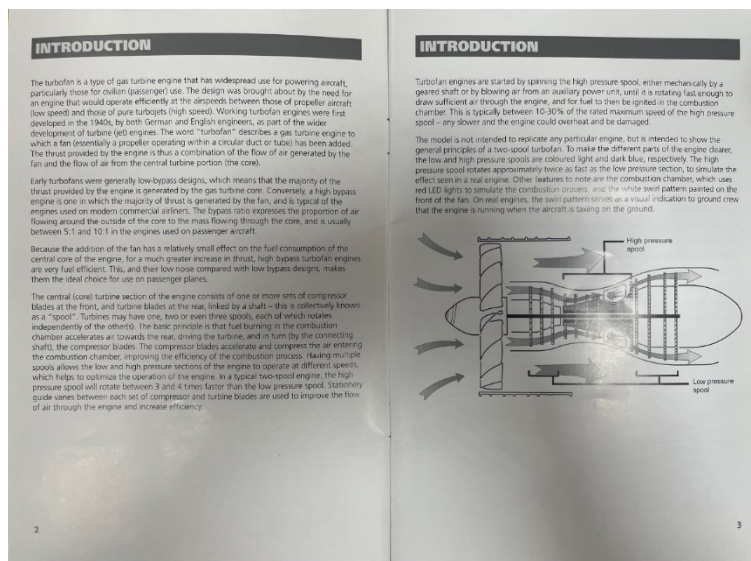
Figure 3.

Table 1 presents some of the core vocabulary taken from the instruction manual.

Table 1.

Nouns	Verbs that go with nouns
Aircraft	Power
Turbofan Engine	Operate
Thrust	Provide \ generate \ increase
Air	Flow
High bypass \ low bypass	-
Compressor blades	Rotate
Turbine blades	-
Shaft (spool)	Rotate
Efficiency	Improve

The teacher writes the words on the board and asks students to think about the context in which they are written. For example, thrust is a technical word in aviation used to describe the power of jet engines. Students are encouraged to find the verbs that go with the word thrust, such as provide or generate. After that, students should be able to express a meaningful idea using the two keywords. The resulting idea should look like this: A jet engine provides\generates thrust. At this point, students should have learned about the context in which thrust is used. At the same time, they should have learned that jet engines produce thrust, and that thrust is responsible for powering the aircraft. More ideas can be elicited from students following the same fashion, which is exemplified in Table 2.

Table 2 presents example sentences and ideas.

Table 2.

Example Sentences \ Ideas to be Discussed
A turbofan engine powers the aircraft.
The turbofan engine operates efficiently.
Air flows through the engine core.
The compressor blades rotate efficiently to compress the air.
Fuel and air mixture are ignited in the combustion chamber.

The aim of this task is to help students practice reading and speaking about jet engines in a technical context. This task usually takes 15-20 minutes of class time.

In the following part of session 1, students are asked to read the "Notes and Advice" page (Figure 4), which gives instructions and some advice on handling the jet engine properly.
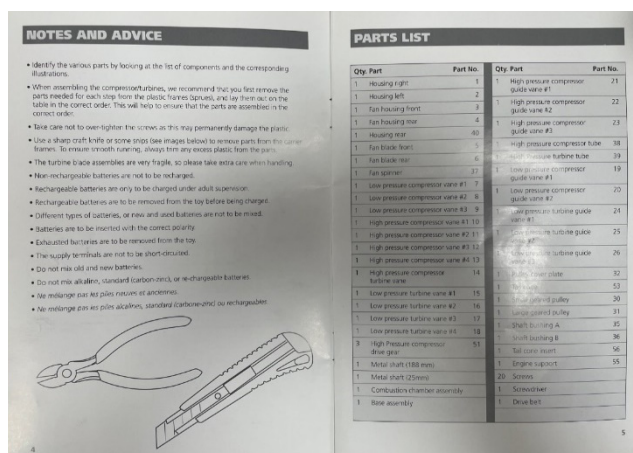
Figure 4.

Before reading the page in detail, students should predict the content and think about the safety precautions that should be taken while assembling the engine. At this point, the teacher highlights essential words and phrases centered around the theme of safety at work and checks whether they match the student's answers. Example answers are listed in Table 3.

Table 3 presents example sentences and ideas.

Table 3.

Example Sentences \ Ideas about Safety at Work
Remove the parts
Ensure that parts are assembled in the right order
Don't overtighten the screws
Use a sharp craft knife
Trim excess plastic
Take extra care when handling

The aim of this task is to inform students about potential safety hazards that might occur during the engine's assembly and to think about the hand tools needed to help them complete the task, such as clippers, craft knife, or file. This part should take approximately 10 minutes of class time.

At the end of session 1, students are asked to read the "Parts List" page (Figure 5) and cross-check them against existing parts to ensure no piece is missing. At the same time, they should acquaint themselves with the names of each part of the engine by linking what they read in the manual with what they see. For example, the teacher asks

students to find the "fan blades" among the parts and ask them to think about their purpose. An exemplary answer should look like this: fan blades are used to provide thrust which propels the aircraft forward. In doing so, the students synthesize words and phrases from the early tasks of the class to explain the operation of the fan blades. By now, students should be able to understand that thrust is generated by the fan blades. The learning outcome of this task should reveal that students can communicate correct operational language in the right context in a spoken discourse.
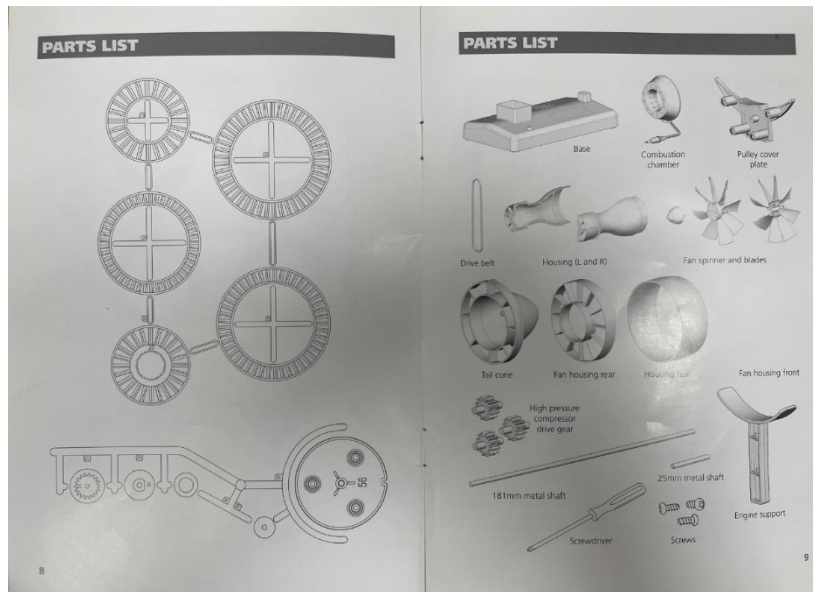
Figure 5.

2.3 Weeks 2 to 5

In the subsequent four classes, students start putting the parts of the jet engine together by following the step-by-step manual instructions. As Figure 6 shows, each step explains the assembly of a specific engine part. For example, step one involves assembling the "low-pressure compressor". In this step, students should understand simple instructional phrases such as: secure with three screws and fit the drive gears to the rear and apply it during assembly (Figure 7). The purpose of this task is to ensure that students follow manual instructions to achieve the correct results. During this stage, the teacher can ask students to think about the purpose of the low-pressure compressor and how it differs from the high-pressure compressor.
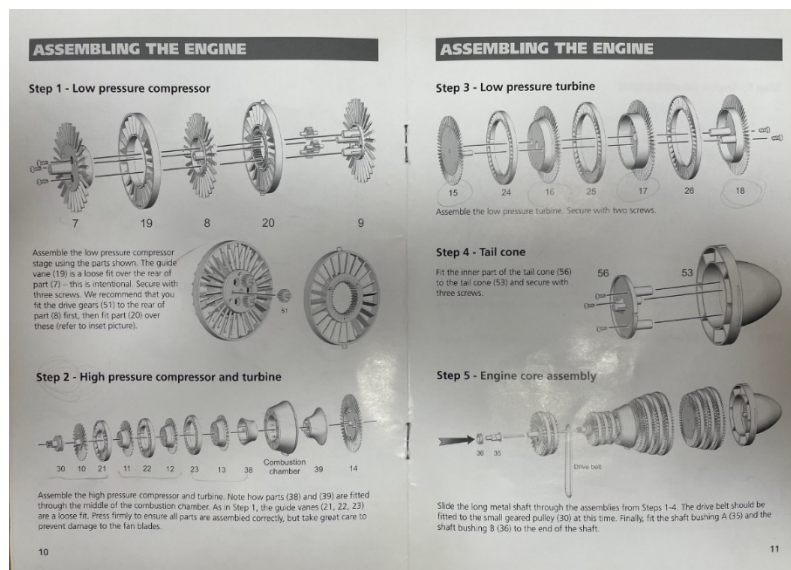
Figure 6.

Figure 7.

Table 4 summarizes the tasks, the learning objectives, and the targeted vocabulary required in class from weeks 2 to 5.

Table 4.

Week	Task	Targeted Vocabulary	Learning Objectives
2	Do the following steps: • Step 1: low-pressure compressor • Step 2: high-pressure compressor and turbine • Step 3: low-pressure turbine	Compressor Turbine Drive gears Fit (v) Secure (v) Tail cone	• Students should recognize a range of complex engine parts and be able to fit them together • Students should be able to explain the assembly process by using core vocabulary
3	Do the following steps: • Step 4: tail cone • Step 5: engine core assembly • Step 6: engine housing (right) • Step 7: engine housing (left)	Shaft Drive belt Geared pulley Shaft bushing Housing Lugs Locate (v)	• Students should recognize a range of complex engine parts and be able to fit them together • Students should be able to explain the assembly process by using core vocabulary
4	Do the following steps: • Step 8: fan housing • Step 9: fan housing/engine core assembly • Step 10: drive pulley	Fan housing Engage (v) Rear	• Students should recognize a range of complex engine parts and be able to fit them together • Students should be able to explain the assembly process by using core vocabulary
5	Do the following steps: • Step 11: fan blade assembly • Step 12: fitting fan assembly • Step 13: battery installation • Step 14: adding label to base • Step 15: fitting engine to base	Fan blade Reposition (v) Attach (v) Spinner Battery compartment Base	• Students should recognize a range of complex engine parts and be able to fit them together • Students should be able to explain the assembly process by using core vocabulary

2.4 Week 6

Session six marks the end of the engine assembly stage. By this class, the groups should have finished assembling the jet engine, installed the batteries, mounted the engine on the plastic base, and plugged the wire into the socket in the base. Successful assembly should show the engine running with rotating fans and compressor blades. If, by any chance, the engine does not run or the fan blades do not rotate, students should disassemble the engine from the last step to locate the fault and reassemble the engine one more time.

3. Method

A mixed-method approach was used to evaluate the proficiency of students' language and the efficiency of their aviation operational knowledge pre and post-engine assembly. This method is conducted in the form of quantitative and qualitative assessments. Employing both methods allows ESP educators to obtain an overarching understanding of students' linguistic and operational competency in the aviation engineering field. While qualitative methods provide rich descriptions and insights into language use by reading the students' rationale of system operation, quantitative methods offer statistical analysis that can validate or refute these findings. By combining these two approaches, educators can triangulate their data to enhance the credibility and reliability of their results. The target participants of this study are 22 Arab university foundation-level students aged 18 years old who scored 5.0 in the IELTS exam prior to entering university, and who took the TAS class in Fall 2023. Figure 8 shows a flow chart of the implementation of the assessment method:
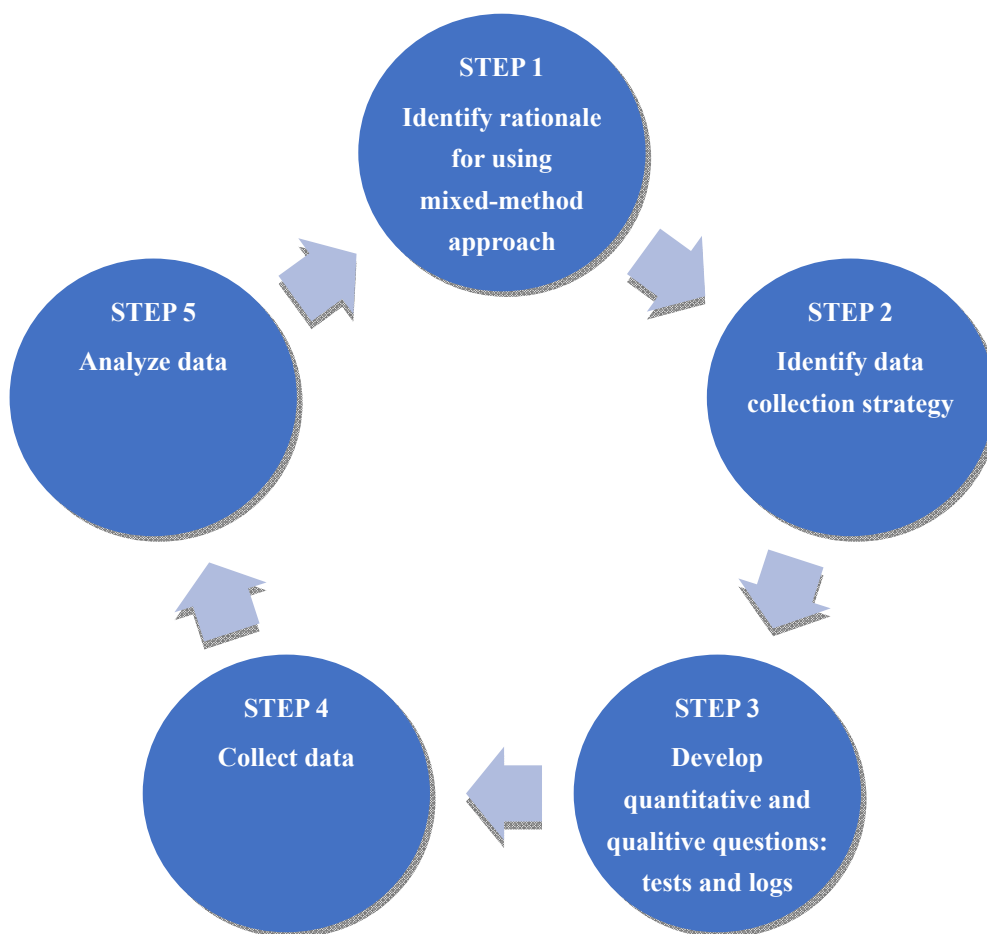
Figure 8.

3.1 Quantitative Approach

In this assessment approach, students are asked to complete two vocabulary exams: the first one is conducted one week before the commencement of the project and the other, two weeks after completion. The exam consists of 60 questions ranging from multiple-choice, true or false, matching, and fill-in-the-blank questions that focus on aviation terminology. The terminology covered in the two exams centers around aircraft structures, materials and

properties, aerodynamics, forces of motion, engine types and components, hand tools, and safety. Table 5 illustrates students' performance range in both exams which is graded out of 60% and the passing grade is 36%:

Table 5.

Band	Range	First Exam	Second Exam
F	0 – 10%	-	-
E	11 – 20%	1 student	-
D	21 – 30%	5 students	2 students
C	31 – 40%	8 students	11 students
B	41 – 50%	7 students	5 students
A	51 – 60%	1 student	4 students
		22 students	22 students

Table 6 provides data analysis for each student's performance.

Table 6.

Student	First Exam Score	Second Exam Score	Analysis
1	38%	54%	16% +
2	18%	32%	14% +
3	32%	40%	8% +
4	60%	58%	2% -
5	42%	38%	4% -
6	46%	48%	2% +
7	30%	36%	6% +
8	38%	38%	\
9	24%	40%	16% +
10	22%	32%	10% +
11	38%	28%	10% -
12	36%	56%	20% +
13	36%	36%	\
14	42%	48%	6% +
15	28%	30%	2% +
16	46%	34%	12% -
17	34%	32%	2% -
18	24%	46%	22% +
19	44%	44%	\
20	34%	42%	8% +
21	42%	32%	10% -
22	42%	56%	14% +
	Pass: 13 students	Pass: 15 students	Improved performance: 13 students
	Fail: 9 students	Fail: 7 students	Decreased performance: 6 students
			Same performance: 3 students

3.2 Qualitative Approach A

The second assessment method is self-reflection, which involves students filling out a weekly log in which they write down the tasks they have carried out in the class (Figures 9 and 10). Students are given six sessions to

assemble the engine; each session is one hour long. The purpose of the log is to enable students to track down their progress in each session, state any technical problems that they have faced and the solutions they have applied, and introduce the next step in the assembly process. It is extremely important for the instructor to allocate ten minutes of class time for students to log their session's achievements. This step trains students in the idea of logging technical tasks as stipulated by civil aviation authorities and provides a way of assessing students' operational knowledge. For example, the UK Civil Aviation Authority states in the forward of its Aircraft Maintenance Engineering Logbook that the layout and format of the logbook: "enable a methodical and progressive recording of personal data and ongoing work experience by the user, thereby enabling a quicker and more accurate assessment of the user's technical knowledge and experience by a regulatory authority, employer or assessor" (Authority, 2008).
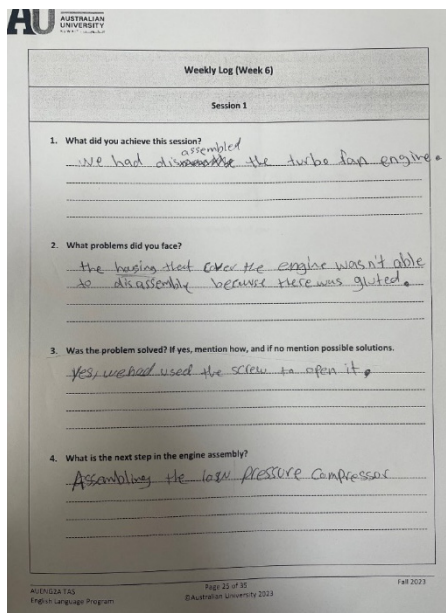
Figure 9.
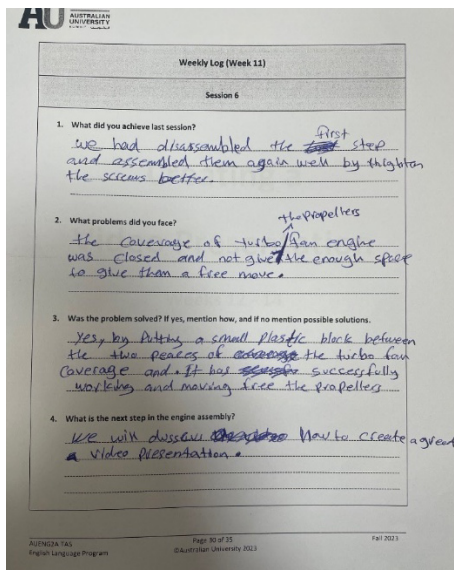
Figure 10.

3.3 Qualitative Approach B

The second type of qualitative assessment is a questionnaire of open-ended and closed-ended questions conducted at the end of the project. When students have finished submitting their completed project at the end of the semester, they are given a questionnaire by their instructor that tackles three areas: students' operational knowledge, students' linguistic competency, and teaching method. The purpose of this questionnaire is to elicit students'

feedback about the course objectives and their impact on their learning experience. Table 7, 8, 9 summarizes the three sections of the questionnaire and the students' feedback:

Table 7. Part A

Closed-ended Questions: Operational Knowledge	1 Very poor confidence	2 Poor confidence	3 Unsure	4 Fairly confident	5 Extremely confident
1. How would you rate your level of confidence in knowing about aircraft jet engine components and system operation?				5	17
2. How would you rate your level of confidence in being able to explain the operation of aircraft jet engines?		1	1	11	9
3. How would you rate your level of confidence in assembling and disassembling aircraft jet engines?			2	5	15
4. How would you rate your level of confidence in troubleshooting aircraft jet engines?		1	5	9	7

Table 8. Part B

Closed-ended Questions: Linguistic Competency	1 Extremely disagree	2 Disagree	3 Unsure	4 Agree	5 Extremely agree
1. I find it easier to learn aviation English using PBL.					22
2. The linguistic tools used in class are clear and relevant to the course.				1	21
3. PBL increased my knowledge of aviation terminology.					22

Table 9. Part C

Open-ended Questions: Teaching Method	Positive feedback	Negative feedback
1. What did you like the most about using PBL for language learning?	22 (students' feedback: fun to do \ exciting \ manual work \ easy to understand)	
2. What did you NOT like the most about using PBL for language learning?		3 (students' feedback: time limit \ team member not collaborating \ dangerous tools)
3. Do you recommend this type of learning to other students? Why\why not?	22	

3.4 Results and Findings

The results of both assessment approaches delineate an improved performance in both language proficiency and operational knowledge. In terms of the quantitative assessment, 68% of students passed the second vocabulary exam which was conducted at the end of the project, as opposed to 59% before the beginning, with an overall 9% increase in language proficiency.

With regards to the qualitative assessment conducted in the form of logging, students demonstrated a deeply informed understating of the process of jet engine assembly. For example, Figures 9 and 10 show the log entry for one student. It can be noticed that the student's log entry in the first session (Figure 9) was quite rudimentary and was expressed in short and basic English. However, the student's log entry in the last session (Figure 10) illustrates a highly informed expression, in which s\he presented the problem they faced in class and the technical solution they applied. Similar improved language proficiency was noted among 11 other students who were able to express technical issues easily toward the end of the project. Other students were noted to find logging a redundant task and did not provide adequate input.

In terms of the qualitative questionnaire given to students at the end of the project, 22 students gave a positive feedback about the use of PBL in enhancing their linguistic competency and aviation operational knowledge. The only negative feedback given by students was about time limits, managing student collaboration, and dealing with potentially dangerous hand tools.

3.5 Discussion

Quantitative analysis enables educators to measure and quantify variables accurately. By assigning numerical values to variables, educators can collect precise data that can be easily analyzed using statistical techniques to determine students' language proficiency. This allows for greater objectivity and reliability in course findings.

With regards to the qualitative assessment (logging), it has a dual role. For students, self-reflection is beneficial as it helps them analyze in-class situations from different perspectives and develop a more nuanced understanding of complex concepts. Moreover, it helps them set goals, make improvements, and encourage them to make informed decisions. On the other hand, self-reflection is a resourceful assessment tool for the instructor. Because it delineates the student's cognitive progress, self-reflection provides a pragmatic approach to determining whether the tasks have been accurately completed and whether the session's learning outcomes have been successfully fulfilled.

Lastly, student feedback through questionnaires allows educators to evaluate the effectiveness of their teaching methods. By actively seeking student input, teachers can gauge whether their instructional strategies are engaging and effective or need improvement. This information enables educators to make necessary adjustments to better cater to the diverse learning needs of their students. Moreover, student input contributes to the overall improvement of the educational system. Students often have unique perspectives on various aspects, such as curriculum design, assessment methods, or learning activities. Their insights can help identify areas that require enhancement or modification. Educators create an inclusive learning environment where all voices are heard by actively listening to students' opinions and incorporating them into decision-making processes. This collaborative approach not only enhances teaching practices but also empowers students by giving them a sense of ownership over their education while contributing to continuous improvement within the educational system as a whole.

4. The Benefits of PBL

Learning through PBL has a great set of benefits. The first benefit is that it promotes deep engagement and interaction with the learning material.   John Dewy states that: "An individual must actually try, in play or work, to do something with material in carrying out his own impulsive activity, and then note the interaction of his energy and that of the material employed" (1916).   It is a well-known fact that students are inherently unique; they do not share the same interests as their peers and arguably prefer to learn in their own way and at their own pace. Fortunately, PBL allows students to navigate their way of learning and to interact with the material in a way of their choosing. For example, some students prefer doing small-scale but rather challenging tasks such as driving screws, fitting drive gears to the turbines, or fitting drive belts to the shaft (Figure 11). Performing tasks on such a scale requires deep concentration and attention to detail as the small parts drive the engine's subassemblies, like the compressors and the turbine. Improper fittings of small parts can render the engine inoperative, which will only manifest when the whole engine is assembled and ready for testing. If the engine does not operate successfully, students would have to discuss the different ways of locating the fault and the solutions to fix it.

On the other hand, other students prefer doing large-scale but less challenging tasks, such as attaching the tail cone to the engine core assembly, fitting the engine housing, or installing the fan housing (Figure 11). Such tasks do not

usually require deep attentiveness as they involve assembling less complex parts. In any case, the instructor should support the diversity of student engagement by offering consistent guidance and support when needed. When students are offered the chance to engage differently with the material at hand, they will be able to provide input, give feedback, suggest learning resources, ask questions, and predict outcomes, all of which can enhance their knowledge about the project.
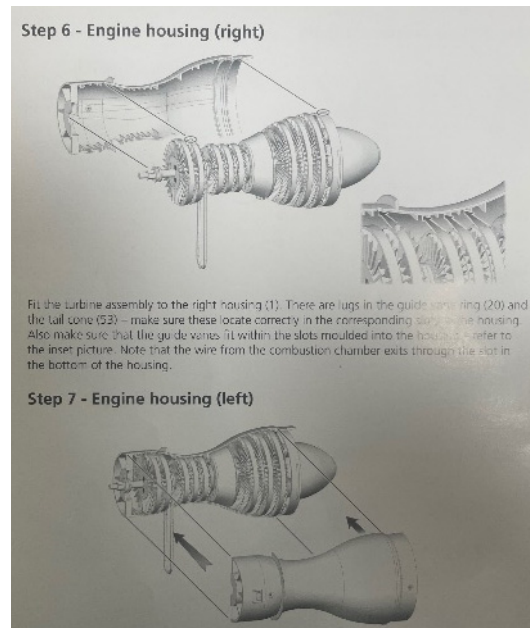
Figure 11.

Secondly, PBL provides a meaningful context for language use. Instead of focusing entirely on grammar rules or vocabulary lists, students are engaged in authentic tasks that require them to apply their linguistic knowledge. For example, the jet engine project involves assembling different engine parts and observing the engine's operation. This practical application allows learners to see the relevance of their learning and make connections between classroom instruction and real-life engineering. Furthermore, PBL fosters critical thinking skills as students analyze information, evaluate options, and make decisions throughout the entire process. This cognitive engagement enhances their ability to understand complex tasks, express ideas coherently, and solve problems effectively.

The third and most important benefit of PBL is improving cognition. Learning in the 21st century greatly emphasizes cognitive abilities to measure student success in a rapidly changing society. 21st century learning competencies now center around 4Cs: Collaboration, Communication, Critical Thinking, and Creativity. It is arguably the educators' responsibility to cultivate a learning environment centered around the 4Cs to successfully prepare students to deal with the challenges of today's age. According to Ester Kurniahtunnisa (2023): "Students with critical thinking skills are more observant in making complex choices and providing reasonable ideas for a problem. In addition to critical thinking skills, the ability that students need to have is the ability to think creatively. Students can solve problems with the creativity they have". (Kurniahtunnisa, 2023) Project-based learning offers significant advantages for language learners by promoting active engagement, providing meaningful contexts for language use, fostering critical thinking skills, and encouraging creativity. By incorporating this approach into language classrooms worldwide, educators can create a more dynamic and effective learning environment for their students.

5. The Challenges of PBL

While the benefits of incorporating PBL in an ESP class are remarkably significant, the challenges cannot be overlooked. The first challenge is time management. PBL requires careful planning and ideal time management. It can be challenging for both students and teachers to allocate sufficient time for project completion while also fulfilling curriculum goals within a given timeframe (Aldabbus, 2018). Therefore, it is essential to create a detailed project plan. This involves breaking down the project into smaller tasks and assigning specific deadlines to each task. This is exemplified in the aviation engineering class by dividing the project into stages and outlining the

specific tasks that should be carried out in each stage. By having a clear roadmap of what needs to be done and when, students can better allocate their time and ensure that they stay on track.

Moreover, because PBL is primarily self-paced, it would be challenging to manage each student's participation according to a predetermined time without reducing the quality of their input. That is why it is important to establish clear expectations regarding participation. Educators should communicate their expectations to students from the beginning of the project. This includes encouraging students to ask questions, share their thoughts, and participate in discussions. By setting these expectations early on, students will understand the importance of active engagement in class. Additionally, providing constructive feedback is essential for managing student participation effectively. Teachers should acknowledge active participants while also encouraging those who are less engaged to contribute more frequently.

Another challenge is assessment complexity. Assessing students' performance in PBL can be more complicated than traditional assessment methods. Evaluating individual contributions within a group project can be subjective and may require additional effort to ensure fairness and accuracy in grading. Therefore, varied assessment methods, such as qualitative and quantitative, should be employed. Quantitative exams only may not always measure students' true abilities or knowledge retention. Incorporating qualitative exams in the assessment plan allows for a more comprehensive evaluation of students' skills. Kajfez and Creamer emphasize the importance of mixed approach method in evaluating students' outputs by asserting that: "Collecting, analyzing, and discussing the qualitative and quantitative strands of a study through mixing can strengthen a study when one set of data is inadequate, can provide further insight if needed to explain an observed phenomena, can allow exploratory findings need to be generalized, or can help explain contradictory findings" (2014).

Moreover, implementing PBL effectively requires adequate teacher training and ongoing support. Teachers need to be well-versed in facilitating project-based learning and providing guidance to students throughout the process. This is achieved by investing in professional development opportunities, workshops, and conferences where educators can enhance their teaching techniques and stay updated with the latest research in engineering education. Additionally, financial resources should be provided to ensure that teachers have access to quality instructional materials and technology that can enhance their teaching practices.

Perhaps the most critical challenge that might affect the feasibility of the project is the material's cost and availability. Due to a lack of local resources, some materials have to be purchased from an international supplier. Ordering products from abroad can be costly and time-consuming, especially if customs regulations or transportation disruptions are involved. This can increase lead times and make it difficult for educational institutions to make last-minute amendments to the curriculum. Moreover, international shipping also poses the risk of hidden costs such as import taxes or customs duties. When purchasing items from international sellers, schools may be surprised by unexpected fees upon delivery. These additional expenses can significantly increase the overall cost of the product, which schools may not have the budget for. This issue constitutes a significant barrier to implementing PBL which needs to be thoroughly addressed (Aldabbus, 2018).

While project-based learning offers many advantages in terms of student engagement, real-world application of knowledge, and improved cognition, it also poses challenges related to planning, student participation, assessment, and material availability. Nonetheless, with careful planning, support, and guidance from educators and educational administrators, these challenges can be overcome. Schools play a crucial role in supporting teachers, as they are the backbone of the education system. By providing teachers with the necessary resources, professional development opportunities, and a positive work environment, schools can empower educators to excel in their roles and ultimately create an enriching educational experience for all learners involved.

6. Conclusion

Having outlined the implementation of project-based learning in an aviation English class and the findings of the mixed-method approach, it can be argued that PBL has perceptible implications for improving language learning. The data analysis gathered in this article supports this hypothesis by providing empirical evidence. Upon the completion of PBL, aviation engineering students demonstrated improved communication capabilities using technical language. Furthermore, students demonstrated enhanced language proficiency in both written and spoken discourses. This should serve as the cornerstone for students when moving to the diploma level in which background technical language is paramount to succeed as aviation engineers. Ghosheh Wahbeh, Najjar, Sartawi, Abuzant & Daher (2021) assert that: "PBL works through the integration of language skills when students use the language to negotiate an authentic and real-life problem, as well as through working in groups and communicating to solve these problems. These activities provide students with opportunities to employ language in and outside the classroom and thus increase students' language fluency" (Ghosheh et al., 2021).

In the end, it is safe to conclude that Dewey's educational philosophy has positively impacted educators worldwide and, in fact, has become interwoven with recent educational theories such as constructivism, learner-centered theory, experiential knowledge, and progressive education (Williams, 2017). By applying Dewey's principles to today's education, teachers can cultivate an environment where students are engaged and enthusiastic about applying what they have learned to real-life scenarios. As Essien (2018) argues: "PBL is a better toll to give [students] the opportunities and encouragement to use language with an emphasis on communicative purposes in real-world settings, rather than solely focus on accuracy as in traditional teaching" (Essien, 2018). Therefore, future educational venues should capitalize more on employing PBL in different subject areas to cater to the 21st century specialized industrial pedagogy.

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Extensive Reading as a Means of Vocabulary Development amongst English Language Learners in Nigeria: Consolidating on Knowledge

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Abstract

Mastery and fluency in a language interestingly, requires vocabulary development which entails learning of multiple active and passive vocabularies in that language. Language is built on words which are essential for communication with symbols of meaning. Reading is a receptive linguistic process that involves interpretation of written symbols which are meaning preserving. In our contemporary times, the act of reading is gradually going extinct, because of obvious reasons – advancements in Science and Technology which has given rise to computer-assisted learning, social media support in information dissemination, high cost of publishing, time constraints and lack of interest in reading, especially amongst youths who prefer accessing information through social media. However, a common saying adjudges great readers to great minds with great experiences, akin to an extensive traveler. This paper ascertains the importance of extensive reading in vocabulary development for academic success, with positive implications for language learners of English.

Keywords: reading, extensive reading, vocabulary development, learning, English as a second language (ESL)

1. Introduction

1.1 Background

In recent times, the issue of vocabulary development, especially amongst second language learners has gained preponderance, owing to rapid changes and advancements in Science and Technology, resulting to new terminologies in the English language. Though the issue of vocabulary development was relegated in the past, as a result of shortcomings of communicative language teaching and the underlying assumptions that second language (L2) vocabulary can be developed through natural, communicative exposure, as in first language (L1) vocabulary development (Horst 2005, Scherfer,1993); researches in this area of study in recent times has greatly advanced.

The growth of classroom-centered research started from late 1980s, with vocabulary development becoming an integral part of language teaching and learning (Apple, 2007).

Knight (1994: 286) observes that "not only do the majority of students studying foreign languages cite vocabulary as their number one priority, but [sic] it is often considered a priority by teachers as well". This is why the issue of how to better acquire L2 vocabulary has increasingly drawn the attention of learners and teachers (Almasi & Fullerton,2012; Pavicic -Takac,2008).

Due to time constraint in the classroom, ESL/EFL teaching usually relegate extensive reading activities− reading textbooks, journals, newspapers and commentaries− as take home exercises and effective means of vocabulary development for students (Oxford, 1990).

Extensive reading covers a wider scope than intensive reading, because it is relatively faster and more effective in activating already acquired knowledge, as well as facilitating prediction skills in language learning (Ogbodo, et al; 2015).

1.2 The Concept of Reading

Reading can be viewed as the ability to assimilate and understand accurately, any printed material or writings, as well as to recall much of what has been read.

Collins and Cheek (1999) describe reading as a process that requires the use of complex thought processes to interpret printed symbols as meaningful units and comprehend them.

Okebukola (2004) affirms that reading avails humans, the ability to transmit knowledge as well as wisdom of generations to succeeding generations, in a written form. This complements the oral and traditional forms of transmitting culture, such as folklores, proverbs and songs.

In a broader sense, Rubin (2002) opines that reading is a total integrative process that starts with the reader and ends with an intended message, including the affective, perceptual and cognitive domains. The ability to read well is indispensable in human life and must be nurtured from a child's earliest years.

Tracey (2017) views reading as the 'only form of entertainment that is also an essential life skill.' However, the main purpose of reading is to gain comprehension in varying degrees, depending on one's goals.

1.2.1 Levels of Reading

Reading comprehension involves three levels: the factual, inferential and conjectural levels.

(1) The factual level is geared towards understanding the surface or denotative meaning of what is read.

(2) Inferential (connotative) level involves creating mental images from the information presented and relating the implications of the ideas communicated.

(3) Conjectural level aims at developing new ideas and adopting a critical stance on what has been read (Ogbodo et al, 2010).

Effective reading must therefore be an embodiment of these three levels for effective comprehension to take place.

Reading can be broadly divided into Intensive and Extensive reading (Nnamani, 2010).

1.2.2 Intensive Reading (IR)

This type of reading is a slow and thoughtful reading which involves maximum concentration. Nnamani (2010) refers to it as a study type of reading. This type of reading is aimed at grasping the full content of a reading material, for the purpose of examination and other academic purposes.

1.2.3 Extensive Reading(ER)

Extensive reading is the type of reading that is generally done for knowledge and relaxation, with limited concentration. It is not aimed at an indepth grasp of the reading material, but a general understanding of the main ideas expressed−such as reading of magazines, comics, newspapers and commentaries−which involve reading strategies like skimming and scanning. Wodinsky & Nation (1988) opine that extensive reading is important in consolidating previously learned knowledge, as they support new language forms by repeating adequately.

Additionally, it encourages learners to reflect on their interests and needs in vocabulary learning. Nnamani (2010: 148) differentiates between the types of reading in these words:

'Reading is extensive when you read vastly in order to have a general idea of many subjects while reading is intensive, when you read a subject closely for the purpose of retaining most of its contents.'

Extensive reading is the focus of this work, as it guarantees a richer level of vocabulary development in the learners' language repertoire.

1.3 The Concept of Vocabulary Development

Vocabulary development is simply the addition of new words to the already existing words in a reader's repertoire of language. This is different from vocabulary acquisition which implies the learning or acquisition of new words in a language, to form one's collection of vocabulary.

The goal of teaching vocabulary is to create storage of words, meanings and the information relating to those words in the learner's long-term memory, which facilitates students' comprehension (Knight, 1994). Learning from context is not a short-term process. Without a good vocabulary instruction, it is difficult to stimulate learning from context but if taught properly, it is possible for students to learn words in a shorter period (Stahl, 1999).

Dataworks Educational Research (@https//dataworks.com) identifies three types of vocabulary as follows:

(1) Academic vocabulary which consist of words that are not attached to a particular area of study and are regular in most academic texts or contexts, for example- expatiate, elucidate, and others. This can be used for evaluation in any given subject.

(2) Content vocabulary refers to words that are used specifically in a given subject area. In Medicine, we have such words as diagnosis, anesthesia; in English, such words as affixation, morphological and others. This can also be referred to as the 'register' of a particular subject area.

(3) Support vocabulary –These are words that are not identifiable in any given area but need to be understood, for effective communication to take place in a sentence. For example – bonds, merchandise, etcetera.

However, vocabulary development in this study accommodates these types of vocabulary, since the essence of vocabulary development is to enhance communication.

Generally, there are many ways of developing one's vocabulary-such as the use of dictionary, reading, ICT-assisted learning, audio clips and others.

This study prioritizes on extensive reading as a means of consolidating students' already acquired knowledge in English as a second language.

1.4 Learning

Learning can simply be defined as the acquisition of new knowledge. A more generally accepted definition according to Ani (2010:76) is that 'Learning can be a relatively permanent change in behavior of an individual, due to experience….Any learning experience that does not achieve this objective is not meaningful….Learning can be casual or deliberate….Deliberate learning takes place in any formal or non-formal educational setting which normally consists of the teacher, the taught and the learning environment.'

This study therefore refers to deliberate learning within and outside the classroom, in an academic context.

1.5 Aim of Study

The study aims at ascertaining the extent, extensive reading can serve as an effective means of vocabulary development especially amongst young learners of the English language in Nigeria.

1.6 Significance of the Study

(1) The study may motivate learners to engage in extensive reading, as a way of improving their language repertoire.

(2) It will also help in revitalizing the reading culture amongst youths, which is currently going into extinction.

(3) Readers, especially students will have a rich collection of both active and passive vocabularies in their language expressions, for better communication.

(4) Teachers will be encouraged to develop the skills of extensive reading amongst students, within and outside the classroom.

(5) Educational curriculum planners will gain the knowledge to inculcate extensive reading in the language policy of the educational system in Nigeria.

2. Literature Review

The importance of reading in vocabulary development have been discussed by many researchers, because of the richness and variety of vocabulary in written texts compared to oral discourse (Krashen 2004; Mason 2005; Nation, 2001, Day &Bamford 1998, Ogbodo et al 2010).

According to Day and Bamford (1998), Palmer first applied the term, extensive reading (ER) in foreign language pedagogy in the early 20th century, to distinguish it from intensive reading (IR) which is reading word for word; and in Palmer's view, extensive reading is 'real-world reading but for a pedagogical purpose.' Although the reader's attention is not on the language but the content, the texts are read for pleasure and information.

Extensive reading is planned for the purpose of language learning which involves learners, reading texts for enjoyment and to develop general reading skills. Although little is known about the average language-user's vocabulary, twenty thousand to a hundred thousand words (20,000-10,000) could be considered adequate for a person's receptive vocabulary.

Nation (2001) views receptive vocabulary as a way of perceiving the form of a word while listening or reading and retrieving its meaning, whereas productive vocabulary involves expressing meaning through speaking or writing, retrieving and producing the appropriate spoken or written forms. Receptive and productive vocabularies are synonyms for passive and active vocabularies respectively. In addition to Nation's assertions, active vocabulary can be described as the ability to use the words in speaking and writing, which is related to passive vocabulary that entails having the knowledge of a word, which is related to reception. Thus, knowing a word means knowing and using it actively and productively, as well as receptively (Reads,2000).

Many studies have been carried out on vocabulary development amongst language learners (Elley,1991; Xu, 2010; Newton, 2013; Cho&Krashen,1994.)

One of the notable studies was done by Horst (2005) who investigated the extent, learners can achieve vocabulary development through extensive reading−specifically on the attitude of learners in deciphering unknown words, through observation, negotiations and the like−which determine the effectiveness of extensive reading in vocabulary development.

In spite of numerous studies in this field, there are very few studies focusing on second language learners of English, especially in Nigeria.

To fill this gap, the study explores the process of English vocabulary development through extensive reading, amongst learners in Nigeria.

2.1 Vocabulary Development Through Extensive Reading in Nigeria

Despite the importance of vocabulary development in language learning, it has been understudied majorly on the basis of the erroneous assumption that learning a language can meaningfully occur in a formal setting, making learning activities outside the classroom seem less important (Lightbrown et al 2002; Stefansson,2013).

Stahl (1999) emphasizes that the goal of teaching and learning vocabulary is to create a storage of words and their meanings in the learners' long term memory. It is difficult to stimulate learning when students cannot comprehend the medium of instruction, hence the need to extend vocabulary development outside the classroom through the use of relevant materials, such as books, newspapers, novels, comics and the like; in a pleasurable environment outside the regimented activities of the classroom.

The effectiveness of ER in language learning has become a major phenomenon in subsequent studies that followed Palmer's work, such as Hafiz & Tudor, 1989; Camiciottoli, 2001; Leung, 2002; Bell, 2001; Hitosugi & Day,2004; Yamashita,2004.

Most of these researchers have examined the relationship between vocabulary learning and reading, instead of measuring vocabulary growth through ER (Moroishi Wei, 2006; Waring & Takaki, 2003, Sahin, et al; 2014). In these studies, the researchers chose the reading materials and administered a general vocabulary test only.

In Nigeria, vocabulary development in the English language which is the official language amongst three major languages in a multi-cultural society, can be a daunting task.

Ani (2010: 77) notes that 'the teacher should recognize these limitations (in vocabulary development) and adjust his vocabulary to meet the needs of the learners….Inappropriate vocabulary militates against achieving the teacher's objectives and those of the taught, because the students cannot learn. Where meaningful vocabulary are used, there is high degree of meaningful learning'.

Extensive reading is therefore geared towards encouraging learners to improve their vocabulary (by acquiring more words and their meanings outside the classroom), in line with their level of education.

According to Renandya and Jacobs (2002), one of the basic characteristics of a successful ER program is that learners read large amount of materials that impact on their instructional output. Extensive reading can therefore cause an increase in the range of vocabulary the learner possesses, unlike direct vocabulary instruction.

However, a lot of factors come to play, such as the readiness of the teacher to see the need for ER; applying and evaluating strategies that promote vocabulary development amongst students; the motivational factors that encourage students to engage in extensive reading; and the extent to which extensive reading impacts on the overall academic success of students, especially in achieving language proficiency.

The above considerations go to show the extent that ER enhances L2 vocabulary development, which up to our present times is still debatable. This study is therefore an attempt to contribute towards this area of research, by going beyond establishing the nexus between reading and vocabulary development, to ascertaining the extent extensive reading can impact on language abilities and the overall and academic success of students in Nigeria.

3. Area Description

The study was conducted in two secondary schools (public and private owned) in Enugu metropolis, Nigeria. These samples were randomly selected to give a more holistic approach to the study.

4. Research Methodology

The research uses a quantitative method, with well-designed questionnaires; aimed at eliciting important responses for the study. A few private interviews were conducted to further validate the completed questionnaires. The sampling accommodated both private and public schools to get a clearer picture of the gains of reading, amongst students in both contexts.

4.1 Presentation of Tasks

The study administered a hundred questionnaires amongst fifty teachers in each school and another hundred questionnaires for fifty students in each of the schools under review.

The teachers' questionnaires tested the importance of vocabulary development and its impact on students' academic performance, especially in a second language learning context.

The students' questionnaires tested the awareness and practice of vocabulary development amongst students and the extent it has aided in their overall academic success.

A total of two hundred responses were received from the administered questionnaires, with respect to the study.

5. Results

5.1 Results on Questionnaires for Teachers

Table 1.

Questions	Variables	Percentage
1.What aspect of English language do you teach?	Elements of Grammar	25%
	Spellings and Punctuation	20%
	Vocabulary development	20%
	Language skills	30%
	Others	5%
2. Do you teach other subjects?	Yes	60%
	No	40%
3. Which?	Art subjects	35%
	Science	15%
	Business related	8%
	Others	2%
4. Do you consider vocabulary development essential amongst students?	Yes	95%
	No	0%
	Not sure	5%
5. How do you encourage this?	Reading comprehension & take home exercises	60%
	Novels and magazines	70%
	Group reading	40%
	Textbooks	30%
	Journals and other reading materials	10%
6. Where do you think students benefit more?	Reading within the classroom context	15%
	Reading outside the classroom/home	85%
7. Why?	There is time constraint in classroom instruction.	10%
	Students have more time to compile vocabulary notes and internalize it at home.	75%
	Students study better in the company of teachers in the classroom.	15%
8. What language skills do you think can be achieved amongst students through extensive reading?	Critical thinking and Summarization skills	48%
	Spelling correctly	22%
	Rapid reading	15%
	Good pronunciation	13%
	Others	2%
9. Do you think extensive reading impacts on the overall learning outcomes of students?	Yes	95
	No	0
	Not sure	5
10. In what areas?	Broadened knowledge	30%
	Improved reading and writing skills	30%
	Critical thinking.	20%
	Increased creativity	75%
	Enhanced cognitive development	45%
11. Rate the effectiveness of reading in the overall performance of your students.	Very high	85%
	High	10%
	Average	1%
	Low	3%
	Very low	1%

The above result showed that extensive reading amongst students impacts positively on their learning outcomes, as teachers who assess the students attest to a significant ratio of 96:4 in the rating of its effectiveness in the overall performance of students in the L2 context.

5.2 Results on Students' Questionnaires

Table 2.

Questions	Variables	Percentage
1.Do you engage in reading in school or at home?	School	20%
	Home	35%
	Both	45%
2. Does your teacher encourage you to read in class?	Yes	40%
	No	30%
	Not sure	30%
3. Where do you read more?	In school/classroom	30%
	At home	70%
4. Do you choose your reading materials yourself?	Yes	20%
Your teacher chooses for you.	Yes	30%
I and my teacher, parents/choose for me.	Yes	50%
5. Do you own a vocabulary book?	Yes	75%
	No	25%
6. What are your purpose for reading?	For general knowledge and overall academic success	60%
	For increased vocabulary	25%
	For pleasure	5%
	Improved writing skills	10%
7. Do you find extra-curricular reading (extensive) useful in your language learning of English?	Yes	98%
	No	2%
8. In which areas?	Composition	40%
	Reading	30%
	Spelling	20%
	Others	8%
9. Does your extensive reading improve your performance in other subjects?	Yes	98%
	No	2%
10. Rate the effectiveness of extensive reading in your overall academic performance.	Very high	85%
	High	5%
	Average	6%
	Low	2%
	Very low	2%

The above results reveal the extent that extensive reading contributes to the overall learning process of students, with a very encouraging rating of 96% amongst ESL learners.

6. Discussion of Findings

Data collected from the teachers' questionnaires accorded high premium to extensive reading amongst students, especially in the language learning environment. A very significant number of the teachers (85%) opine that extensive reading is more rewarding, as it gives students the time and freedom to read and explore at their own pace. However, a negligible percentage of teachers (15%) opine that students should be encouraged to read more in the classroom, as the presence of the teacher will give students better guidance, especially in the area of pronunciation. Ultimately, the consensus (95%) is that students should engage in reading, especially outside the classroom and seek guidance from experienced language users, to achieve language proficiency which ultimately impact positively in their overall academic performance.

Results from students' questionnaires confirm that reading (both inside and outside the classroom) is important for improved language learning in English. While majority of the students read more outside the classroom (70%), a fewer number (30%) tend to read more in school, for varied reasons that bother on environment and guidance.

The result shows a lop-sided ratio of 70:30 in preference for extensive reading to class room (intensive) reading exercises.

In summary, the results obtained from the data from both questionnaires, show the perspectives of students and teachers on the usefulness of extensive reading in improving the academic performance and language learning skills of students, especially in learning English as a second language.

7. Conclusion

Extensive reading is crucial for better learning outcomes amongst students, as it helps in improving various aspects of their academic and personal development. The study tries to ascertain the degree of effectiveness of ER in the learning outcomes of students, especially in the L2 environment.

For a progressive extensive reading program, there should be a wide range of reading materials available for learners to choose from −books, magazines, newspapers, comics, and online content− and learners should be encouraged to choose their own reading materials, based on their interests and reading level. Sufficient time should be allocated for extensive reading programs to allow learners to read at their own pace and to achieve their reading goals. Generally, a successful ER program is aimed at achieving reading fluency, vocabulary, spelling, oral proficiency and writing.

In summary, the study confirms that teachers/mentors understand the importance of giving support and guidance to help students choose appropriate materials and develop their reading skills. In addition, the results showed that extensive reading contributes to a high degree towards learners' engagement, especially in a second language context, compared to a stereotyped reading exercise in the classroom.

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Comparative Examination of Attitudinal Language Usage in Academic Writing by English and Persian Authors

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Abstract

Academic writing frequently incorporates evaluative strategies aimed at conveying the attitudes and perspectives of writers towards individuals, objects, and situations discussed in their texts. This study explores how writers use language to project their attitudinal assessments and establish their presence in academic writing. To do so, we analyzed four texts authored by scholars in applied linguistics – two in Persian and two in English – using the appraisal framework developed, specifically focusing on the category of attitude. Our findings indicate that while writers tended to avoid expressing their feelings and making judgments about people, they preferred to use attitude as appreciation when evaluating objects.

Keywords: appraisal framework, attitudinal resources, evaluative language

1. Introduction

Textbooks play a pivotal role in education, serving as the primary means for students to acquire knowledge and analytical skills in their chosen discipline (Aminafashar et al.; Jalalian Daghigh & Abdul Rahim, 2021; Jianbin & Fang, 2013; Qian, 2022; White, 2001). They also provide teachers with valuable resources for structuring their courses and facilitating the teaching and learning process. As a result, textbooks have been the subject of extensive academic investigation in various fields, encompassing a wide range of programs such as English as a Second Language (ESL)/English as a Foreign Language (EFL), English for Specific Purposes (ESP), English for Academic Purposes (EAP), and institute-specific textbooks (Gunantar, 2017; Habtoor, 2012; Kazem & Fatemeh, 2014; Liu, 2013; Nnamdi-Eruchalu, 2012; Spirovska, 2015; Wang, 2022; Yaghoubi Nezhad et al., 2013).

In recent years, textbooks have evolved beyond their traditional role of conveying information. They have become interactive tools for communication between writers and readers, allowing writers to express their attitudes and engage with readers on an interpersonal level (Bremner, 2008; Gómez-Rodríguez, 2010). This shift towards more interactive academic discourse has led to increased research on the use of evaluative linguistic resources in textbook construction (Banari et al., 2017; Hyland, 2005, 2007; Starostina et al., 2021).

Evaluation in academic writing involves conveying viewpoints, attitudes, feelings, and the subjective presence of writers, as well as employing interactional features to maintain relationships with readers (Gales, 2011; Hyland, 2007; Hyland & Tse, 2004). This study focuses on the concept of evaluation within academic discourse, specifically exploring attitudinal resources in textbooks. The appraisal framework, based on systemic functional linguistics (SFL), offers a typology of evaluative resources, with a focus on the interpersonal meta-function of language (Birjandi et al., 2006; Shekhani, 2022; Vinchristo, 2022). The appraisal framework includes three main categories: attitude, engagement, and graduation. This study concentrates on the category of attitude, which deals with positive and negative evaluations of emotions/feelings, people's behavior, and things. The attitude category further includes three subcategories: affect, judgment, and appreciation. Affect relates to the expression of positive and negative emotional feelings towards people, things, events, or situations. Judgment encompasses ethical evaluations of people's behavior, considering factors such as normality, capacity, tenacity, veracity, and propriety.

Appreciation focuses on positive and negative assessments of objects, processes, forms, appearances, compositions, impacts, etc., rather than human behavior.

Given the increased importance of interpersonal communication in academic discourse and the use of evaluative resources, the current study desires to investigate how the mindset system of the appraisal framework is applied in Persian and English textbooks in the subject area of applied linguistics (Hood, 2010; Hunston, 2002). Specifically, we seek to understand whether both Persian and English academic writers utilize attitudinal resources in the construction of their textbooks. This study concentrates on the following research questions:

(1) Are there considerable differences between Persian and English writers for the use of attitudinal resources in their textbooks?

(2) Which subcategories of attitudinal resources are more frequently employed in both English and Persian textbooks and why?

(3) Are there cross-cultural differences in the use of subcategories of attitudinal resources, and if so, what factors contribute to these differences?

2. Literature Review

The study of attitudinal language in academic writing, particularly across different linguistic and cultural backgrounds, such as English and Persian, presents a complex and multifaceted field of inquiry. It also highlights that the Appraisal Framework, integral to systemic functional linguistics (SFL), stands at the forefront of analyzing attitudinal language in texts. Martin and White's framework offers a nuanced approach to understanding how language expresses judgments, affects, and appreciations (Martin & White, 2003; Martin et al., 2005). These categories allow for a detailed dissection of how writers convey their stances and engage with readers, impacting the interpretive process. This framework has been extensively applied in various linguistic analyses, including those by Hyland and Starostina et al., to understand how academic discourse functions beyond the mere transmission of information (Hyland, 2007; Starostina et al., 2021). It delves into the interpersonal relationships between writer and reader, mediated through language. It is noteworthy that Attitude, a central category in the Appraisal Framework, is categorized into affect, judgment, and appreciation. Each subcategory plays a distinct role in academic writing. Affect deals with emotional responses and is crucial in humanizing the academic text, allowing writers to express subtle emotional nuances. Judgment concerns moral assessments of behavior, providing a platform for writers to implicitly or explicitly convey their ethical stance. Appreciation relates to evaluations of entities and events, pivotal in critiquing and valuing academic content. Recent studies by scholars like Gales and Hyland highlight the significant role of these subcategories in constructing an authoritative and engaging academic voice (Gales, 2011; Hyland, 2007). Their research accentuates the necessity for academic writers to navigate the norms of academic discourse, balancing between objectivity and personal evaluation.

2.1 Cultural Variation in Academic Writing

The use of attitudinal resources in academic writing is deeply influenced by cultural and linguistic backgrounds. Comparative studies, such as those by Banari et al., have shown that academic writers from different linguistic traditions exhibit varying tendencies in their use of evaluative language (Banari et al., 2017). These differences are often rooted in broader cultural and rhetorical traditions that shape academic writing styles. For example, in some cultures, direct expression of opinion or criticism is frowned upon, which can reflect in the academic writing of that culture, as observed in the work of Hunston and Shekhani (Hunston, 2002; Shekhani, 2022). These studies suggest that the rhetorical strategies employed by writers are closely tied to their cultural and educational backgrounds, affecting their choice and use of attitudinal language. The influence of cultural and linguistic backgrounds on the use of attitudinal resources in academic writing is a subject of considerable depth and complexity. Studies by Banari et al. and others have illuminated how academic writers from diverse linguistic traditions vary significantly in their approach to evaluative language (Banari et al., 2017). This variation is not merely a linguistic phenomenon but is deeply embedded in the broader cultural and rhetorical traditions that shape individual writing styles and preferences. Cultural attitudes towards expression, particularly in academic contexts, greatly influence how writers employ evaluative language. For instance, in some cultures, overt expressions of opinion or criticism might be discouraged or considered inappropriate in formal writing. This cultural nuance is reflected in the academic writing styles of those cultures, leading to a more implicit or subdued use of attitudinal language. Hunston's research provides insight into this aspect, illustrating how academic writers navigate these cultural norms. The study suggests that while some cultures may value directness and explicitness, others might prioritize subtlety and indirectness in conveying evaluations and judgments (Hunston, 2002). Shekhani further explores this cultural influence, highlighting how non-Western academic writers, especially those from collectivist societies, may exhibit different rhetorical strategies from their Western counterparts (Shekhani, 2022). In

collectivist cultures, where group harmony and consensus are valued over individual opinion, academic writers might opt for a more collaborative and less confrontational tone. This approach often leads to a different use of appraisal resources, where emphasis is placed on building agreement and shared understanding rather than asserting individual viewpoints.

Moreover, the educational background and the academic traditions prevalent in a writer's cultural context also play a crucial role. Educational systems that emphasize rote learning and respect for established knowledge may lead to academic writing that is less critical and more descriptive or expository. In contrast, educational systems that encourage critical thinking and individual analysis may produce academic writing that is more argumentative and evaluative. The work of Gómez-Rodríguez provides an interesting perspective on how English as a Foreign Language (EFL) textbooks, often used in non-native English contexts, adapt to these cultural variations (Gómez-Rodríguez, 2010). The study examines how these textbooks incorporate or adapt attitudinal language to suit the cultural contexts of the learners, often balancing between the native English standards and the local cultural norms. Furthermore, the advent of globalization and digital communication has begun to blur these cultural boundaries, introducing new complexities to the use of attitudinal language in academic writing. As scholars and students across the globe engage with a broader range of academic texts and discourses, there is a gradual convergence and cross-pollination of writing styles and rhetorical strategies. This phenomenon suggests a dynamic and evolving landscape in academic writing, where cultural variation remains a significant factor but is increasingly influenced by global trends and interactions.

2.2 English vs. Persian Academic Writing

There is a notable distinction in the use of attitudinal language between English and Persian academic writing. English academic writing, as explored by scholars such as Hyland and Vinchristo, demonstrates a preference for using attitudinal language to assert arguments and establish credibility (Hyland, 2007; Vinchristo, 2022). In contrast, Persian academic writing, investigated in studies like those by Farhady & Hedayati, might display different trends in the use of these linguistic resources (Farhady & Hedayati, 2009). These differences could be reflective of the distinct cultural and educational paradigms inherent in Persian academic contexts. The contrast in the rhetorical organization and the employment of evaluative language in English and Persian academic texts provides insight into how different academic communities construct knowledge and authority.

2.3 Challenges in Comparative Linguistic Studies

Comparative analyses across languages, such as English and Persian, involve navigating the complexities of different linguistic structures, academic traditions, and evaluation criteria. Dörnyei highlights the methodological challenges inherent in such comparative studies (Dörnyei, 2007). These challenges include the need for researchers to be culturally sensitive and aware of the potential biases that can influence the interpretation of attitudinal language. The researcher's own linguistic and cultural background can also affect the analysis, making it essential to adopt a rigorous and reflective research approach.

2.4 Recent Trends and Evolutions

The field of academic writing is continually evolving, with recent trends focusing on the dynamic nature of academic discourse. Studies by Starostina et al. and Vinchristo have explored how digital media and globalization are influencing academic communication (Starostina et al., 2021; Vinchristo, 2022). These changes are leading to new patterns in the use of evaluative language, reflecting the shifting paradigms of academic discourse in an increasingly interconnected world. The impact of digital platforms and the global exchange of ideas are reshaping the ways in which academic writers engage with their audiences, necessitating a re-evaluation of traditional academic writing conventions. To recapitulate, this literature review highlights the intricate and diverse nature of attitudinal language in academic writing, shaped by linguistic, cultural, and disciplinary factors. The comparative study of English and Persian academic texts offers valuable insights into the role and application of evaluative language in academic contexts, underscoring the importance of understanding these nuances for a comprehensive grasp of academic discourse.

3. Method

3.1 Selection of the Study

For this study, we selected textbooks from two sub-disciplines within applied linguistics: teaching and testing. We chose these sub-disciplines because they are prevalent in all academic fields and are closely related, sharing similar linguistic resources in their discourse structures.

We randomly selected two textbooks from each sub-discipline, resulting in a total of four textbooks. Two of these textbooks were authored by Persian writers, while the other two were authored by English-language writers who

specialize in applied linguistics. All selected textbooks were published after the year 2000 to ensure their relevance to contemporary academic discourse.

3.2 Research Materials

This study delves into two distinct facets of applied linguistics: teaching and testing. To ensure impartiality and minimize potential researcher bias, a random selection process was employed for each sub-discipline. This approach aimed to uphold the study's integrity and prevent any undue influence on the eventual findings. Among the four chosen textbooks – two from each sub-discipline – two were authored by Persian scholars, and the remaining two by English-language experts, who possessed expertise in both English and Persian linguistics. The selected texts were authored by Fenstermacher and Soltis, Pophan, Birjandi, Mossallanejad, and Bgheridoust, and Farhady, Jafarpur, and Birjandi (Birjandi et al., 2006; Farhady & Hedayati, 2009; Fenstermacher et al., 2015; Popham, 2003).

The rationale behind choosing authors from different cultural backgrounds was to contrast the use of evaluative linguistic resources from diverse perspectives. Additionally, this study sought to investigate whether being a native or non-native English speaker had any bearing on the utilization of these resources. By selecting textbooks from the same discipline, the study aimed to explore whether intra-disciplinary disparities influenced the frequency and extent of evaluative resources. Thus, the overarching goal of this study is to conduct a thorough examination of the findings, discerning the impact of cross-cultural and intra-disciplinary variations or commonalities on the deployment of evaluative linguistic resources.

Each of the selected books consists of ten pages, selected systematically – every n + 10 (where n=10) pages were chosen for analysis. To minimize the potential impact of temporal factors on textual features, only textbooks published since 2000 were included in the study.

3.3 Research Procedure

To explore, analyze, compare, and interpret the impact of evaluative linguistic resources on the content of selected books within the field of applied linguistics, this study employed a combination of qualitative and quantitative data analysis methods. This dual-method analysis was chosen because it provides more precise and reliable outcomes. The integration of both qualitative and quantitative approaches, as advocated by Domyei, offers a more comprehensive understanding of the phenomenon under investigation (Dörnyei, 2007).

Following the selection of the corpus, it was converted into Rich Text format. Subsequently, word count was conducted to estimate the corpus's size. The linguistic resources within the corpus were then meticulously analyzed, and their respective sub-categories were identified. The roles and impact of these sub-categories on attitudes were determined based on their frequencies. Additionally, the study delved into potential explanations for the variation in the frequency of these sub-categories. To standardize and account for disparities in text length across potentially unevenly sized texts, the number of appraisal categories in all discipline blurbs was computed per 1000 words.

To enhance accuracy, both intra-coder and inter-coder procedures were employed. These measures aimed to reduce analytical subjectivity. Inter-coder reliability was assessed by having two additional raters, familiar with the appraisal framework, analyze 25 percent of the corpus. Their results were then compared with those of the researchers, and any minor discrepancies were resolved through discussion and consensus. After one month, 20 percent of the corpus was reanalyzed, resulting in a Cronbach's alpha of 0.850. Finally, to identify potential intra-disciplinary differences, the chi-square test was employed.

4. Results and Discussion

The analysis of attitudinal resources in the selected textbooks revealed several key findings:

Table 1. Frequency analysis of attitude resources in Birjandi et at (2005) textbook (Birjandi et al., 2006)

	RAW NO	PER 1000 WORDS	X^2	SIG	YDF
AFFECT	7	2.703	.143	.705	1
JUDGMENT	9	3.86	3.200	.202	2
APPRECIATION	65	25.1	25.323	.000	2
CRITICAL VALUE: 3.84					

Table 2. Frequency analysis of attitude resources in Farhady et at (2009) textbook (Farhady & Hedayati, 2009)

	RAW NO	PER 1000 WORDS	X^2	SIG	DF
AFFECT	5	2.02	.200	.655	1
JUDGMENT	17	6.89	10.529	.015	3
APPRECIATION	79	32.2	9.139	.010	2

CRITICAL VALUE: 3.84

Table 3. Frequency analysis of attitude resources in Fenstermacher & Soltis (2004) textbook (Fenstermacher et al., 2015)

	RAW NO	PER 1000 WORDS	X^2	SIG	DF
AFFECT	7	1.53	.258	.867	2
JUDGMENT	28	6.16	17.357	.002	4
APPRECIATION	125	27.34	32.272	.000	2

CRITICAL VALUE: 3.84

Table 4. Frequency analysis of attitude resources in Popham (2003) textbook (Popham, 2003)

	RAW NO	PER 1000 WORDS	X2	SIG	DF
AFFECT	7	2.214	.143	.705	**1**
JUDGMENT	8	2.503	.500	.480	**1**
APPRECIATION	121	38.27	34.826	.000	**2**

CRITICAL VALUE: 3.84

Upon careful examination of the obtained results, it becomes apparent that Persian writers exhibit a strong inclination towards encoding attitude as appreciation. Both Persian and English writers frequently employ appreciation in comparison to other categories of attitude. Appreciation involves the positive and negative assessment of objects, processes, and text rather than human behavior (Martin, 2000; Martin et al., 2005; White, 2001). It focuses on evaluations of semiotic and natural phenomena (Martin et al., 2005) rather than assessing human behavior by reference to social norms, which is the functional property of judgment (White, 2001).

Given that academic writing predominantly involves the assessment and evaluation of objects and entities, as opposed to human behaviors or emotions, it is unsurprising to find a significant prevalence of appreciation over other attitude categories. Analyzing the results from the tables above, it is evident that affect and judgment are relatively less prominent, while appreciation is favored by both Persian and English writers in textbooks related to the fields of testing and teaching. This lower frequency of affect and judgment suggests that these books prioritize scientific content. When a book primarily addresses human emotions or behaviors rather than objects, items, and phenomena, it runs the risk of compromising its objectivity. When comparing the frequency of appreciation in English and Persian textbooks, it becomes clear that English books in both testing and teaching fields tend to exhibit greater objectivity than their Persian counterparts. This indicates that English writers are more inclined to encode attitude as appreciation. In essence, the results demonstrate that English books maintain a higher level of objectivity, with fewer or no observable subjective markers in their rhetorical organization: "The test itself would yield accurate 'attitude: appreciation' interpretations in one setting..." (Popham, 2003). The significance of these identity inquiries plays a crucial role in the educational journey (Fenstermacher et al., 2015). It is noteworthy that academic disciplines naturally offer valuable material for language instruction (Birjandi et al., 2006). This becomes beneficial in aptitude assessments when the goal is to formulate distinct predictions (Farhady & Hedayati, 2009).

Table 5. Frequency analysis of appreciation in farhady et al. (2009) textbook per 1000 words (Farhady & Hedayati, 2009)

	RAW NO	PER 1000 WORDS
REACTION	14	**5.67**
COMPOSITION	35	**14.L**
VALUATION	30	**12.1**
TOTAL	**79**	**32.2**

Table 6. Frequency analysis of appreciation in birjandi et al. (2005) textbook per 1000 words (Birjandi et al., 2006)

	RAW NO	PER 1000 WORDS
REACTION	6	2.31
COMPOSITION	39	15.06
VALUATION	20	7.72
TOTAL	65	25.1

Table 7. Frequency analysis of appreciation in fentermacher & soltis (2004) textbook per 1000 Words (Fenstermacher et al., 2015)

	Raw no	per 1000 words
Reaction	12	2.62
Composition	53	11.59
Valuation	60	13.1
Total	125	27.34

Table 8. Frequency analysis of appreciation in popham (2003) textbook per 1000 words (Popham, 2003)

	Raw no	per 1000 words
Reaction	IO	3.16
Composition	52	16.45
Valuation	59	17.71
Total	121	38.27

Regarding the utilization of appreciation subcategories, the findings indicate a disparity between English and Persian authors. English writers appear to place greater emphasis on encoding attitude as appreciation, while Persian authors demonstrate a proclivity for composition over valuation. Valuation pertains to the perceived worthiness of the subject matter at hand, whereas composition revolves around how the discussed subject is structured or framed in terms of our perception (Martin & White, 2005). It seems that English books prioritize the worthiness of subjects and issues, capturing the authors' attention, whereas Persian books prioritize the compositional aspect of subjects, objects, and phenomena over their inherent worthiness.

The concept of "reaction" involves the emotional response evoked by things, objects, or phenomena and how the recipient might express their sentiments towards them. Given that academic books typically do not delve into the emotional expressions of writers regarding the impact and quality of the subjects discussed during the writing process, the subcategory of reaction is noticeably less prevalent compared to other appreciation subcategories. The infrequent use of reaction as an appreciation subcategory is observable in both English and Persian academic literature. In essence, both English and Persian author's exhibit limited inclination toward employing reaction in their writing.

5. Conclusion

In this study, we have examined the extent to which attitudinal resources are utilized in the construction of English and Persian textbooks in the field of applied disciplines, specifically in the domains of teaching and testing. To conduct this analysis, we employed the attitude system framework proposed by Martin and White (Martin & Rose, 2005; Martin et al., 2005).

When considering the frequency of affect, which encompasses the expression of positive and negative emotions, as well as judgment, which pertains to the evaluation of behavior that is either praised or criticized, our findings reveal that neither English applied linguists nor their Persian counterparts tend to favor these two evaluative dimensions. The limited utilization of these attitudinal strategies can be attributed to the academic nature of textbooks, where authors are required to maintain objectivity and refrain from expressing personal feelings or judgments concerning other writers.

Upon closer examination of both English and Persian textbooks, it becomes evident that writers from both linguistic backgrounds exhibit a strong preference for employing the attitudinal category of "appreciation." This preference can be attributed to the fact that appreciation focuses on making positive or negative assessments of objects, artifacts, processes, and states of affairs, rather than evaluating human behavior. As such, this evaluative strategy proves particularly useful in interpreting and assessing scientifically contentious topics based on their positive or negative aspects. Unlike affect and judgment, which are also part of the attitude category and involve personal feelings and judgments related to human emotions and behavior, appreciation emphasizes personal assessments within intellectual deliberation.

Furthermore, when examining the subcategories of appreciation in both English and Persian applied linguistic textbooks, it is evident that "valuation" and "composition" are employed more frequently than "reaction." This can be attributed to the fact that valuation and composition are concerned with addressing the inherent challenges within the subject matter, rather than expressing the emotions and judgments of the authors toward people's emotions and behaviors.

In summary, our findings suggest that both English and Persian textbook writers employ attitudinal assessments in a similar manner in their textual compositions. Despite English writers showing a somewhat higher interest in utilizing attitudinal resources in both teaching and testing sub-disciplines, cross-cultural differences appear to have a limited impact on the application of these resources. Ultimately, the academic nature of teaching and testing textbooks appears to play a significant role in shaping the use of attitudinal resources.

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Unveiling Chinese Approaches to British Case Study Group Discussions: Insights for Global Business Education

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Abstract

In the context of globalization in business education, students from all over the world participate in mixed case study group discussions to enhance their skills in risk forecasting and intercultural communication through collaborative exploration. Learners who possess effective case-based discussion techniques and strategies for success in one cultural context may find them either impactful or ineffective when applied in another learning culture. This study scrutinized the case study group discussion process involving a group of Chinese undergraduate students enrolled in a split-site degree program and their English-speaking partners. Three group discussion approaches—spiral, individual, and cumulative—were identified by analyzing the Chinese students' strategies for manipulating topics and reacting to others' opinions. These Chinese approaches illustrate unique autonomous learning strategies of self-reflection and inner dialogue within the study groups. The findings hold implications for the course design of English for Business Purposes (EBP) in business partnership degree programs.

Keywords: case-based group discussion, Chinese students, culture of learning, EBP course design

1. Introduction

In internationalized business education, both Chinese and British universities employ group discussion as one of the teaching techniques. A group discussion on business usually focuses on a case study (Nesi & Gardner, 2012); in this context, students are required to make well-informed strategic decisions by applying relevant concepts, frameworks, and theories to analyze a given situation to obtain systematic understanding of the case situation (Lundberg, 1993). Although Chinese and British cultures of learning share understandings and norms (Heather & Barnett, 2012) of group discussion, there are complex and varied approaches to group discussions, encompassing aspects such as reflection, critical thinking, and autonomous learning, that contribute to misunderstandings and confusion between the two learning cultures. Additionally, divergent perceptions regarding the purposes and functions of group discussions further contribute to this dynamic.

Chinese cultural norms, notably influenced by Confucianism and collectivism, emphasize core values such as harmony, hierarchical order, and a proclivity for minimizing uncertainty (Bordia et al., 2015). This cultural perspective aligns with 'high-context' communication patterns, as elucidated by Hall (1976). Communication within China is commonly perceived to convey implicit meanings discernible only within the context of the physical environment and the shared knowledge and values of the community. In contrast, Anglophone Western societies are characterized by an emphasis on individual, self-directed learning accompanied by a communication style inclined towards explicitness and directness. Tran (2013), for example, referenced a prevalent Western perception that portrays Chinese students as "typically passive, unwilling to ask questions, or speak up in class" (ibid: 57). Remedios et al. (2008) categorized Asian undergraduates in mixed classes in Australia as silent participants during group discussions. Holmes (2006) delved into the distinct communication approaches of Chinese and New Zealand students, highlighting that Chinese students often anticipate guidance from the lecturer. This stance is perceived as incongruent with the Western dialogic mode of learning, which encourages students to collaboratively construct meaning through questioning and critical thinking.

In the realm of global education, exemplified by the collaborative business and management degree program jointly facilitated by a Chinese and British university in the present study, intricacies stemming from the persistence of values and behaviors ingrained in diverse educational cultures can engender misinterpretations

among Chinese students and their non-Chinese counterparts. These complexities manifest during collaborative discussions, thereby exerting an impact on the academic adaptation of Chinese students within British seminar group discussions. The study aims to scrutinize the strategies employed by Chinese students in case study group discussions within a British university context. The findings hold implications for the design of business English courses offered by both Chinese and British programs because the strategies adopted by Chinese students are shaped by their prior learning experiences in China and their comprehension of the expectations embedded in the British learning culture.

2. Literature Review

In an increasingly interconnected world, the demand for graduates with a global mindset has risen. However, limited understanding exists about how students from diverse cultural backgrounds, particularly Chinese and British learning cultures, engage in case study group discussions—a crucial skill in global business education. Although literature, such as Wang (2012) and Bordia et al. (2015), has indicated increased vocalization and approval of group discussions among Chinese students in Britain, it remains unclear whether they employ strategies familiar from China or adopt new ones. This literature review aims to bridge this gap by exploring British and Chinese approaches to case study group discussions and Chinese students' attitudes in Western learning contexts. The identified gaps and inconsistencies in the literature lead to two research questions.

2.1 Similarities and Differences between British and Chinese Group Discussion Behavior

Empirical studies on group discussions in Chinese and Western universities highlight some commonalities, such as the practice of taking turns in speaking, especially using extensive turns of Response as Initiation (*R/I*) and Follow-up as Initiation (*F/I*). These turns play vital roles in improving mutual understanding and introducing new sub-topics (Basturkmen, 2002). However, a significant gap exists in understanding how positively students engage in discussions universally because British and Chinese students use their language skills differently to build "new knowledge" (Barron, 2002: 305). The different strategies used by British and Chinese students in responding to previous statements (Waring, 2002; Yueting & Xuyan, 2020) indicate distinct discussion styles, requiring a closer look at the factors influencing these differences.

Despite frequent extended dialogue, a notable gap emerges in explaining how Chinese students specifically adapt their behavior over time in Western academic settings. While Auken et al. (2009) and Rodrigues (2005) have suggested changes in attitudes, the literature lacks details about the specific methods Chinese students use in group discussions, hindering a complete understanding of their evolving participation patterns.

Exploring British literature on language for teaching and learning reveals three discussion styles—disputational talk, cumulative talk, and exploratory talk. However, there is inconsistency in how well these styles apply to higher education. Although these styles offer insights into "social models of thinking" (Mercer, 1995: 104), their relevance to higher education, as seen in Li and Nesi's (2004) experiment, needs further exploration. Moreover, there is potential for gaps in understanding how these styles intersect with cultural differences, especially in the context of Chinese students' group discussion behavior.

An inconsistency arises in describing Chinese students' behavior in discussions, with Li and Nesi (2004) noting implicit and less participatory tendencies. Wang's (2012) and Gram et al.'s (2013) studies have highlighted concerns about direct communication, suggesting a potential gap in understanding the nuanced reasons behind the observed communication styles. Additionally, the delicate balance in Chinese students' approach to discussions, respecting diverse perspectives while asserting opinions, lacks detailed exploration, and further inquiry is needed to understand the factors shaping this balance.

Furthermore, the literature indicates a potential issue with information sharing because Chinese students may be reluctant to share information (Frambach et al., 2013; Li & Nesi, 2004). This contrasts with a gathering of students from the United States expressing "maximal understanding" to foster new topics (Waring, 2002: 1727). The reasons behind such disparities, the cultural influences shaping information sharing, and the implications for effective seminar group discussions warrant deeper investigation.

In summary, the literature on British and Chinese group discussion behavior reveals gaps in understanding the universality of positive engagement, inconsistencies in the applicability of discussion styles to higher education, potential issues with information sharing, and a lack of granularity in exploring the nuanced reasons behind observed communication styles. Addressing these gaps is crucial for a nuanced and comprehensive understanding of cross-cultural dynamics in group discussions within educational contexts.

2.2 Chinese Students' Perception of Group Discussion in the Western Learning Context

The assimilation of Chinese students into British seminar group discussions has been scrutinized in studies including those by Wang (2012) and Gram et al. (2013). These inquiries collectively reveal a gradual recognition among Chinese students of the educational value embedded in group discussions (Gram et al., 2013). Liu's (2008) investigation, specifically exploring the perspectives of Chinese postgraduates in a British business education context, highlighted a significant endorsement of case-study group discussions. The data, obtained from a questionnaire survey and focus group discussions, indicate elevated ratings for the effectiveness of this instructional method, with students attributing its value to its ability to illuminate core aspects of the module, connect theoretical concepts with practical scenarios, and foster precision in thought processes.

However, amid positive sentiments, a subset of Chinese students expresses reservations, particularly related to challenges in linguistic proficiency and fears of potential errors in discourse. Importantly, Esteban and Cañado (2004) noted that case studies typically assume a linguistic proficiency at an upper-intermediate level, validating the hesitancy observed among certain Chinese students.

Contradictory viewpoints within the literature emerge, as evidenced by studies such as Sham (2001) and Cathcart et al. (2006). Chinese students, as illuminated by Cathcart et al.'s (2006) investigation, have expressed an appreciation for group discussions based on the anticipation of forging social connections and garnering assistance from Western peers. However, incongruities in learning expectations arise, with Chinese students emphasizing the significance of a group leader, ideally a British student, for guidance (Cathcart et al., 2006). This deviation from the collaborative learning ethos expected by British lecturers, as elucidated by Mercer (1995), underscores cross-cultural disparities in educational paradigms.

Furthermore, Chinese students' receptivity to group discussions appears to evolve over time, with longitudinal exposure to Western university seminars diminishing the perceived importance of classroom discussion techniques (Auken et al., 2009; Rodrigues, 2005). Auken et al.'s (2009) study, conducted on Chinese students following an American curriculum, delineated a prioritization of fundamental business skills over group discussion. Rodrigues (2005) corroborated these findings, indicating a diminished emphasis on classroom discussions among Chinese students compared to their American counterparts.

The multifaceted nature of Chinese students' attitudes toward group discussions in Western educational contexts is underscored by incongruent findings in existing literature. The diverse origins of these attitudes, including prior educational experiences in China, perceptions of the instructor's role, and conceptualizations of business and management as academic disciplines, highlight the intricate interplay of factors shaping Chinese students' participatory dynamics within Western university seminar group discussions.

2.3 Discussion and Research Questions

Capitalizing on the identified gap in the literature regarding the inconsistent applicability of discussion styles and the multifaceted nature of Chinese students' attitudes toward group discussions in the British academic context, this study aims to probe into the dynamics surrounding the adaptation of Chinese students to British seminar group discussions within Western academic environments. At the core of this investigation lie two interconnected research questions. Research Question 1: In the context of Chinese students' adaptation to British seminar group discussions, how do they modify their discussion approaches? Research Question 2: What distinctions exist in the intentions between Chinese and British students concerning their participation in seminar group discussions? The inquiry aims to scrutinize how these students modify their familiar discussion styles in the new academic setting, delving into potential disparities in the objectives or motivations guiding engagement in collaborative learning activities between these two student groups.

Addressing these two research questions not only serves to deepen our understanding of the nuanced nature of cross-cultural learning dynamics but also bridges potential gaps and rectifies inconsistencies in the current understanding of how Chinese students navigate and participate in British seminar group discussions within diverse academic settings. This, in turn, underscores the necessity for further exploration and the development of targeted pedagogical strategies that can enhance meaningful and inclusive discussions in such multicultural educational environments.

3. The Study

3.1 Context

Conducting research within a collaborative degree program jointly hosted by Chinese and British institutions, this study engaged a cohort of students. Their academic journey unfolded with a two-year phase at a Chinese university, followed by integration into a British university alongside peers enrolled in the standard three-year

British degree program. Part I of the program was designed to impart essential subject knowledge, cultivate proficiency in the English language, and instill foundational study skills. The progression to Part II in the British academic setting hinged on the successful completion of Part I and the attainment of an English language proficiency score equivalent to IELTS 6.5. The British curriculum prescribed three core modules—International Business, Business Strategy, and Advanced English for Business—augmented by optional modules. The structural framework for lectures and seminars, excluding the English module, adhered to one-hour sessions. Notably, the Business Strategy module exhibited a diverse composition, with 45% of participants originating from countries beyond Europe. Culminating in the successful completion of their third year, students were awarded a bachelor's degree in international business. The study placed specific emphasis on evaluating their performance in British seminars vis-à-vis their participation in Chinese seminars.

3.2 Sample and Data Collection

The research employed a comprehensive methodology, including classroom observation, audio recording, and follow-up interviews (see Table 1). Over a span of 15 weeks, six mandatory business seminar classes were consistently observed, resulting in a total of 30 seminar classes, each featuring small group discussions. To gain insights into expected discussion behaviors, the researcher interviewed six British lecturers. As both students and lecturers became accustomed to the researcher's presence, the last 10 seminars saw the audio recording of 10 groups, comprising seven mixed group discussions (Groups 1–7) and three homogeneous Chinese group discussions (Groups 8–10). The selection of the seven groups ensured a balanced representation of Chinese and non-Chinese students. The three Chinese groups, conducted in their native language with the same lecturer, were included. Notably, the recording quality of Group 7 was insufficient due to unclear audio. Consequently, this recording was omitted from the analysis. Table 2 provides a summary of each group discussion outlining details of questions and group composition.

Table 1. Data collection procedure

Procedure	Data collection	Participants
Step 1	Classroom observation	30 seminars (last for 15 weeks)
Step 2	Interview with British lecturers	6 British lecturers
Step 3	Audio-recording	10 group discussion from 10 seminars
Step 4	Follow-up interview	20 Chinese participants of the recordings

Table 2. Basic information of group discussion

Group	Questions/Tasks under discussion	Group composition
1	Analyzing Strategic Groups in Dutch Polytechnics	Chinese, British, French, and Nigerian
2	Strategic Group Analysis in the Console Game Industry	Chinese, French, and Polish
3	PESTEL Analysis of Shanghai Futures Company	Chinese, French, and Indian
4	Evaluating Google's Resources and Competence Through the VRIO Model	Chinese and French
5	Examining the Role of Government as the Sixth Force in Porter's Five Forces Model	Chinese and Greek Cypriot
6	Critical Evaluation of Competition in the Fixed Line Telecom Industry Using Porter's Five Forces Model	Chinese and French
8,9,10	Impact of Chinese Business Culture on Foreign Investment Ventures	Chinese

The study has been ethnically approved by the ethnics office of the British university. All the students and lecturers who participated in the study have approved the informed consent and agreed to be observed or audio-recorded for the use of this study.

3.3 Data Analysis

Gaining insights into varied discussion approaches hinges on comprehending speakers' intentions. Therefore, this study employed functional encoding of utterances alongside introspection by speakers. The Initiation, Response, Follow-up (IRF) model encompasses six turn types: Initiation (I), Response (R), Follow-up (F), Response as Initiation (R/I), Follow-up as Initiation (F/I), and Failed Initiation (Ix). The researcher included Ix in the model for the purposes of this study. Whereas I and R elements are obligatory in an exchange, Ix, F, R/I, and F/I turns are considered optional. Following Coulthard's principles (1985) and Coulthard and Brazil's insights (1992), responding turns are required to follow initiating turns. The minimal pair of an exchange is represented by I-R.

Initiating turns typically draw out others' comments or guide actions. Ix represents a failed initiating turn, resulting in an incomplete exchange. It is unforeseen, optional, and an initiating turn without extracting a response. In this investigation, Chinese students tended to employ it to impart facts or express opinions to others. Responding turns (R and R/I) serve the purposes of validating the previous speaker, providing a response, or expressing a reaction. The R turn is expected but does not anticipate a subsequent turn. Conversely, the R/I turn is both expected and anticipates a response. Follow-up turns (F and F/I) aim to validate, assess, challenge, or elaborate on the preceding speaker's input. The F turn indicates reception of information and acknowledgement but is neither predicted nor predictive of a subsequent turn. In contrast, F/I is an optional turn following an R turn, initiating the next utterance by introducing new information and extracting further validation. It is not predicted but predicts a response. A synthesis of predictability and interactive functions is provided in Table 3.

Table 3. The predictability and interactive functions of six types of turns

Turn	Code	Predictability	Interactive functions
Initiation	I	Not predicted	state, extract, direct
Failed initiation	Ix	Not predicted	state, command
Response	R	Predicted	validate, respond, dismiss
Follow-up	F	Not predicted	validate
Response as initiation	R/I	Predicted	validate, rephrase, evaluate, challenge, affirmative challenge, or expand the preceding speaker's contribution
Follow-up as initiation	F/I	Not predicted	validate, rephrase, evaluate, challenge, affirmative challenge, or expand the preceding speaker's contribution

Using the IRF exchange structure, this study initially aimed to examine Chinese students' group discussion approaches and their understanding of the seminar's purpose in British settings. However, challenges in interpreting some turns led to the integration of follow-up interviews within 3 days of recording. In contrast, conversation analysis and speech act theory, although offering data-specific descriptive categories, lacked a comprehensive framework.

The research employed a methodological framework to discern and categorize distinct approaches within group discussions, namely, the spiral, individual, and cumulative approach reported in Section 4. The identification process involved meticulous analysis of sequential expectations (predictability) of speakers (Basturkmen, 2002) and how the interactions and topics (interactive functions) are navigated (Coulthard, 1985). The provided discussion examples exemplify the three identified approaches albeit with the limitation that the surrounding discourse is omitted, and the interview data is not explicitly referenced. A comprehensive analysis of this interaction and its counterparts can be found in Section 4. For instance, the spiral approach became evident when participants consistently navigated around the initial question without addressing the viewpoints of the preceding speaker. Illustrated in Table 4, an exploration of the PESTEL analysis of Shanghai Futures Company reveals a notable incident. Here, a Chinese student, C1, skillfully introduces an unexpected economic subtopic, tactfully steering the conversation back to the initial topic set by the lecturer.

Table 4.

No.	Transcripts	Turn	Functions
50	F1: the political landscape holds significant importance because	I	Extract
51	C1: =yeah I believe it's the primary driver for this firm, and also, I think the economy is...a fundamental aspect of this company because...	R/I	Validate State

Note. C1: a Chinese student F1: a French student

=: interruption; - -: pause equals more than 3 seconds; erm:long filler noise; er: short filler noise; ↗: rising tone

In contrast, the individual approach was identified when the individual who initiated the topic explained their perspective without subsequent contributions from others. Table 5 showcases students making individual contributions to the examination of the government's role as the sixth force in Porter's five forces model. The initiators take on the responsibility of offering explanations.

Table 5.

No.	Transcripts	Turn	Functions
25	C1: currently we're compiling reasons for the affirmative - - er what's your rationale ...	I	Extract
28	C3: resource industry ...	R	Respond
30	C3: for instance tobacco industry	R	Respond
31	C1: tobacco yes ...	F	Validate
34	C2: stock ↗	R/I	Extract

Note. C1,C2 and C3: Chinese students

The cumulative approach was characterized by instances where students not only acknowledged but also expanded upon preceding opinions within the group discussion. In Table 6, the participants focused on one topic and engaged in further discussion by expressing agreement and raising concerns. This collaborative effort would ultimately result in the emergence of a new subtopic.

Table 6.

No.	Transcripts	Turn	Functions
45	B1: the obstacles ↗ for us to expand nationally↗ it will only be competitive if ...	I	Extract
46	N1: yeah	R	Validate
47	C2: but I reckon there are two different kinds of school and er poly- and polytechnics are er more erm - -	I	Repeat Dismiss

Note. C2: a Chinese student B1: a British student N1: a Nigerian student

4. Results

The Chinese students discuss in a spiral fashion, repeatedly circling back to the initial point instead of using the lecturer's question as a starting point. They adopt three approaches: spiral, individual, and cumulative. Sections 4.1 and 4.2 explore these approaches and diverse perspectives on group discussion.

4.1 Three Discussion Approaches

4.1.1 The Spiral Approach

The spiral method of discussion is a recurring pattern in the six mixed group discussions, where students frequently introduce new topics abruptly, often before the current topic is thoroughly explored. According to the interviews, the students indicated that they did not consider statements containing opinions as effectively

extracting comments from others, and they were reluctant to provide feedback or elaborate on others' viewpoints.

In Table 7, a Chinese participant, along with French and Italian peers, engages in a macro-environmental analysis of the Shanghai Futures Company. The conversation covers political, economic, and social aspects, cyclically returning to politics three times within 14 turns. Notably, F1 adeptly links C1's idea to a professional perspective on politics, seeking concurrence and amplifying C1's input. However, in line 50, F1 introduces a novel subtopic on the political environment, leading C1 to introduce an unexpected economic subtopic in line 51. I1 signals a desire to delve into politics in line 60. C1's spiral approach in line 51 perplexes European participants, and in the interview, C1 interprets F1's line 50 as information sharing. C1's perspective on 'the economy' in line 51 is seen as sharing opinion, revealing a nuanced understanding that frames the discussion as information exchange rather than opinion elicitation. This perception may unintentionally limit exploration of their chosen topic.

Table 7.

No.	Transcripts	Turn	Functions
47	C1: ...administration...	I	State
48	F1: thus they receive political safeguard↗	R/I	Expand
			Extract
49	I1: yeah	R	Validate
50	F1: the political landscape holds significant importance because	I	Extract
51	C1: =yeah I believe it's the primary driver for this firm, and also, I think the economy is...a fundamental aspect of this company because...	R/I	Validate
			State
52	I1: absolutely	R	Validate
53	F1: alright, and the societal surroundings	I	Extract
54	C1: I'm uncertain how to characterize the social aspect	R	Respond
55	I1: it's like establishing a platform for everyone to exchange their products	I	Extract
56	C1: yes	R	Validate
57	F1: and many individuals engage in that↗	Ix	Extract
58	I1: socially, you can elucidate it like this	I	Extract
59	C1: yes exactly	R	Validate
60	I1: politically intervention is essentially a ... institution so they will be politically er er influenced...	I	Extract
61	F1: right	R	Validate

Note. C1: a Chinese student   F1: a French student   I1: an Italian student

Table 8 illustrates the spiral dynamic with a clear extract-state sequence. C1 leads the discussion by posing questions to C2, C3, and C4, eliciting their answers. Although there is a semblance of coherence as C2 and C3 express (dis)agreement, a closer look reveals a lack of engagement in reformulating or evaluating each other's rationales. In the interview, C2 revealed their inclination to share personal opinions, influenced by guidance from British lecturers on creativity and critical thinking. Interestingly, C2 considered commenting on others' opinions impolite, inadvertently steering the discussion back to the initial question.

Table 8.

No.	Transcripts	Turn	Functions
12	C1: what's your perspective ↗	I	Extract
13	C2: I concur with you we should include government as the sixth force because ...	R	Respond
14	Cy1: erm	F	Validate
15	C1: and your thoughts ↗	I	Extract
16	C3: I'm probably the only one who disagrees I think cos ...	R	Respond
17	C1: how about you ↗	I	Extract
18	C4: erm I believe this model should be expanded because ...	R	Respond
19	C1: so how should we structure it with different opinions ↗ yes and no ↗	I	Extract
20	Cy1: just say yes	R	Respond
21	C1: part part part yes part no	F/I	State
22	Cy1: yeah	R	Validate
23	C1: first of all	Ix	State
24	C3: I find it challenging to say a clear yes or no	Ix	State
25	C1: now let's gather reasons for yes - - er what's your reason ↗	I	Extract
26	C2: erm all these main entry and exit barriers	R	Respond

Note. C1, C2 and C3: Chinese students   Cy1: a Greek Cypriot student

In an interview, C1 explained their view of the discussion question as divergent and lacking a definitive answer, advocating for an agonistic approach. They described simulating one aspect of the answer to encourage group members to present opposing viewpoints, fostering an agonistic discussion. This tactic, similar to the cumulative method, has the potential to prolong discussions through simulated agreement and disagreement, challenging clear topic development. Interestingly, Cy1 appears unaware of the agonistic method employed by the Chinese students, as evidenced when C1 seeks an answer and Cy1 aligns with the majority by endorsing 'yes' in response.

4.1.2 The Individual Approach

After predicting the answer in Table 8, the four Chinese participants adopt an individual discussion method to gather supportive evidence. In Table 9, C3 introduces the topic of the resource industry (line 28) and explains it in lines 30 and 32. Although it appears C1 aims to develop C3's topic by asking for an example in line 29. From lines 33 to 38, C2 introduces two topics (stock and government procurement), and C1 introduces one topic (fund). However, these topics are not explored further regarding the government's role. The students aim to construct a complete answer swiftly, but Cy1, not accustomed to this discussion approach, does not contribute to this part of the discussion. This method results in many incomplete exchanges with Ix turns lacking proper responses.

Table 9.

No.	Transcripts	Turn	Functions
25	C1: currently we're compiling reasons for the affirmative - - er what's your rationale	I	Extract
26	C2: erm all these main entry and exit barrier	R	Respond
27	C1: for instance in what industry can the government act as the main entry and exit Barriers	F/I	Extract
28	C3: resource industry	R	Respond
29	C1: you should specify an industry give us an example	F/I	Command
30	C3: for instance tobacco industry	R	Respond
31	C1: tobacco yes	F	Validate
32	C3: so the government imposes significant barrier in this industry - - erm the government serves as both a customer and supplier	Ix	State
33	C1: er which industry ↗ for instance where the customer is also a supplier ↗	I	Extract
34	C2: stock ↗	R/I	Extract
35	C1: could stock be considered an industry ↗	Ix	Extract
36	C2: zheng fu cai gou [government procurement]	Ix	State
37	C1: how to say jijin	I	Extract
38	C4: fund	R	Respond

Note. C1, C2, C3, C4: Chinese students

The individual discussion approach is evident in three Chinese group discussion recordings, shorter than mixed group discussions, suggesting a lack of appreciation for the value of group discussion in subject learning. In Table 10, C1 introduces the subtopic of relationship marketing (line 13) and explains their opinion (lines 15 and 17). C3 mentions 'family enterprise' in line 14, seemingly supporting C1's subtopic, but clarifies in the interview that they presented their own answer. C1 ignores C2's attempt to change the topic in line 17, and C2, in the interview, expressed dissatisfaction, similar to findings by Li and Nesi (2004). In line 18, C3 responds to C1's opinion, stating the word was what they were looking for. However, they explained in the interview that they intended to demonstrate their independent ability to make the point and contribute collaboratively to the group's understanding of English vocabulary.

Table 10.

No.	Transcripts (translated)	Turn	Functions
13	C1: A facet of Chinese corporate culture involves...?	Ix	State
14	C3: Family ...?	Ix	State
15	C1: One is about.... And the other one is about family enterprises ...	Ix	State
16	C2: And another one is.	Ix	State
17	C1: = Chinese enterprises ...	I	State
18	C3: Yes, yes. This is exactly what I was going to confirm in English	R	Validate State
19	C2: ... (propose the English expression)	Ix	State

Note. C1, C2, C3: Chinese students

4.1.3 The Cumulative Approach

In the 161 extended turns (R/I and F/I) analyzed from the nine recordings, 30 turns (18.63%) by Chinese students involved acknowledging, reformulating, challenging, or adding supportive evidence to the preceding speaker's point. Despite these cumulative efforts, they appeared to contribute to a spiral topic development. In Table 11, discussing Dutch Polytechnic's strategic development and obstacles, a British student (B1) introduces a possible barrier in line 45, acknowledged by a Nigerian student (N1). In line 46, a Chinese student (C2) repeats factual information from a previous turn and tries to reinitiate the topic, according to their follow-up interview. However, B1 does not seem to recognize her intention as B1 develops their contribution to employers, a key factor in the case industry's strategic development.

Table 11.

No.	Transcripts	Turn	Functions
44	N1: erm so how can we navigate through that↗	Ix	Extract
45	B1: the obstacles ↗ for us to expand nationally↗ it will only be competitive if ...	I	Extract
46	N1: yeah	R	Validate
47	C2: but I reckon there are two different kinds of school and er poly- and polytechnics are er more erm - -	I	Repeat / Dismiss
48	B1: practical ↗	R/I	Extract
49	C2: no profession	R	Respond
50	N1: professional ↗	F/I	Extract
51	C2: yeah professional er they delve into the er technique (B1: =new practice) technology yeah	R	Validate / Respond / Validate
52	B1: yeah the question is er what do employers want to do ... ↗	F/I	Expand / Extract
53	N1: depends	R/I	Expand

Note. C2: a Chinese student   B1: a British student   N1: a Nigerian student

4.1.4 Intercultural Communication Disparities

Consensus typically prevailed among Chinese and non-Chinese students by the end of discussions, but subtle misunderstandings rooted in diverse learning cultures (Crawford & Wang, 2015) persisted. The Chinese students' attempts to steer discussions in a spiral manner often led to misinterpretations by non-Chinese peers, who saw it as supporting their own views. When Chinese students realized this misconception, new sub-topics emerged, hindering reflective learning in collaborative groups. This recurring pattern of incongruent viewpoints, despite apparent agreement, is unveiled in Table 12, where an interview with C1 exposes disagreement with the French students' perspectives. These instances highlight the complexity of cross-cultural communication within collaborative settings, emphasizing the importance of recognizing and addressing subtle misunderstandings rooted in diverse learning cultures for effective collaborative learning outcomes.

Table 12.

No.	Transcripts	Turn	Functions
61	P1: is this our sole focus or is there anything else ↗ do you have any additional thoughts ↗ no ↗	I	Extract
62	F2: consider for instance whether these brands have a global presence existing in every country you can find them ubiquitously	R/I	Respond
63	F1: indeed they are globally recognized em	R/I	Expand Extract
64	F2: so that there are overarching strategies er encompassing a global reach	R/I	Expand Extract
65	F1: well it varies for instance Microsoft [Xbox] dominates in the US while Nintendo leads globally	R/I	Expand Extract
66	C1: however I think PS3 is the er ... Japanese invented the PS3 and ... Xbox is not popular in this country and ... Europe people prefer Xbox over PS3	R/I	Dismiss
67	F2: em do you know why ↗ is it due to technical aspects or something else	R/I	Expand Extract
68	C1: erm I think it is a matter of player the habit is discernible difference er the PS3 does not align with the gaming preferences of Europe people to play	R/I	Respond Expand
69	F1: I possess comprehensive global data on console sales we are the top selling customers followed by Xbox and then PS3 all with a global presence	R/I	Expand Extract
70	C1: but our [Nintendo] ? users are the younger or primarily children beyond this age people tend to er play PS3 so the customer demographics differ greatly and they are not the same market and the gaming styles are different between PS3 and Xbox	R/I	Repeat Dismiss
71	F1: when you say a different market what exactly do you mean ↗	R/I	Expand Extract
72	C1: er the the I think the greatest three cater to different markets	R/I	Respond
73	F1: yeah yeah not precisely the same	R	Validate Rephrase
74	C1: exactly	F	Validate

Note. C1: a Chinese student   F1 and F2: two French students   P1: a Polish student

The word in square brackets is explanation I added.

4.2 Intentions of Discussion Participants

Chinese students viewed seminar group discussions as a platform for exchanging opinions and were eager to identify the correct answer. A student expressed frustration, stating, "They finally accept my opinion. It's easy. I told them this is the only way (referring to the case study). Why didn't they just accept it? The teacher was sure to agree with this. No worry about it." They complained that the answer to the discussion question was apparent, leading to time wastage. C1 perceived the case discussion question as the endpoint rather than a starting point.

Contrastingly, a cumulative discussion approach was evident, utilizing the method of extract-respond-validate/challenge/expand/extract to extend the discussion (Table 13). B1 consistently links N1's opinions to new subtopics, eliciting and exploring N1's perspective. A British lecturer noted in an interview that business discussion involves building on one person's answer, either rejecting it or delving deeper in the next question. This approach indicates participants actively digesting and analyzing the information. These results highlight a notable divergence in the perception and approach to seminar group discussions between Chinese and non-Chinese students. The argument derived from these findings underscores the significance of cultural nuances and individual approaches to collaborative learning, contributing to a nuanced understanding of the dynamics within multicultural collaborative learning environments.

Table 13.

No.	Transcripts	Turn	Functions
15	B1: erm any thoughts on this↗ what's your take	I	Extract
16	N1: well I think that ... we could explore partnerships with them to offer academic courses and	R	Respond
17	B1: can we really provide them↗	F/I	Challenge
			Extract
18	N1: not directly but some technical institutes collaborate with UK universities to provide them... I believe it could enhance our academic focus	R/I	Respond
			Expand
			Extract
19	B1: so you are suggesting a more versatile approach↗	R/I	Expand
			Extract
20	N1: yes because you know technical institutes usually offer a specific type of education	R/I	Validate
			Expand
			Extract
21	B1: true but I see technical institutes as catering to those with a practical focus rather than strong academic skills...however our customers	R/I	Affirmative challenge
			Expand
			Extract
22	N1: right I understand in our region since we weren't originally focusing on	R/I	Validate
			Expand
			Extract
23	B1: it seems like a specialized market fair point because...any objections↗	R/I	Validate
			Expand
			Extract

Note. B1: a British student   N1: a Nigerian student

5. Conclusion and Discussion

This study reveals significant dynamics of spiral, individual, and cumulative approaches in seminar group discussions, highlighting intercultural communication disparities and varying intentions among participants. Subtle misunderstandings persist due to diverse learning cultures, affecting collaborative learning outcomes. Chinese students' attempts to guide discussions sometimes led to misinterpretations, hindering reflective learning, while differing intentions were evident, with some emphasizing correct answers and others adopting a cumulative approach. These nuanced findings emphasize the importance of cultural sensitivity and adaptability in multicultural collaborative learning environments for more effective outcomes.

The discussion behavior observed in both Chinese and non-Chinese students underscores the assertion that the learning styles of Chinese learners differ but are not inherently deficient (Jin & Cortazzi, 2012). Instead, the discussion approaches illustrate unique autonomous learning strategies of self-reflection and inner dialogue within the study groups. Despite transitioning from silence to active participation, Chinese students did not adhere to externally imposed sequences (Hyland, 2002), likely influenced by their diverse prior learning experiences. In business and management subject learning, the study highlights the importance of both goal-oriented and exploratory perspectives in case studies for a comprehensive analysis. This is because the analysis requires iterative examination of the facts of the situation (Lundberg, 1993) and ideas or models as "method sources" (Bizup, 2008: 76), along with the proposed actions and their potential consequences. This dual approach fosters a nuanced understanding of facts, features, and factors often undervalued.

Internationalizing higher education is crucial for participants to acquire lifelong learning skills and personal development through "cultural synergy" (Cortazzi & Jin, 2013:100-101). The recommendation is for British lecturers to leverage the multicultural nature of seminars, incorporating discussion preferences and strategies into the syllabus. This proactive approach can enhance students' intercultural awareness, offering dedicated discussions in both the business program and English language support classes. Encouraging reflection, articulation of discussion behavior, clarification of intentions, and discussion of purposes can further enrich the

educational experience.

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The Development and Effectiveness of Game-Based Learning Prototypes for Daily Life Words at B1 Level: A Case Study of Engineering Students in Thailand

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Abstract

In order to communicate effectively, it is undeniable that language learners should have rich vocabularies. In this study, online games are proposed to be an effective learning method in language teaching and learning. The study aimed at constructing game prototypes–online intermediate daily life lexicon (IDLL) games, assessing quality of online IDLL games, and investigating effectiveness of these games. This study comprised two stages: design and evaluation.

Quality of the online games was validated by four experts and 109 games players. Experts were asked to complete the IDLL evaluation form, whereas 109 game players were assigned to complete the learning experience questionnaire and learners' satisfaction questionnaire. Effectiveness of the online games in relation to English vocabulary knowledge at B1 level was measured by the IDLL mini pretest and posttest. Quantitative data were analyzed by descriptive statistics, arithmetic mean, t-test dependent sample, and the effect size (ES) on learners' gained scores. Qualitative data were investigated using content analysis of the IDLL evaluation form and learners' satisfaction questionnaire.

The findings revealed that the developed online games appear to be good learning material since both experts and learners view the games at the acceptable quality with sone revision needed further, such as learning content, game design, website design, technical limitation, and human errors. The findings also suggested that the developed online games were effective since students' vocabulary knowledge had improved. Furthermore, students reported that they felt positive about the online games since they felt that they could learn in an enjoyable and interactive environment. Therefore, it was considered that this method can be used for teaching vocabulary within the Thai context. However, further development and revision were needed since the study was a trial process.

Keywords: game-based learning and evaluation, web-based learning and evaluation, daily life words, CEFR B1 vocabulary

1. Introduction

This study attempted to develop a prototype for game-based learning for daily life words and to evaluate effectiveness of the prototypes by engineering students. This study also aimed to ascertain learners' perceptions or satisfaction after having experience with the developed online games.

1.1 Background of the Study

This study was mainly developed and designed by synthesizing five important aspects: (1) English teaching and learning in Thailand, (2) the importance of vocabulary, (3) the game-based learning and evaluation, (4) web-based instruction and evaluation, and (5) whiteboard animation.

1.1.1 English Teaching and Learning in Thailand

In Thailand, English is widely recognized as an important foreign language both in academic and occupational fields (Foley, 2005). However, there are two studies indicating the very low language proficiency of Thai students (EF English Proficiency Index, 2023 and ONET-reports, 2018-2022). Thailand came in at 101st of 111 countries (that is in Asia, Thailand ranked 21st of 23), at a very low proficiency level according to the Educational First English Proficiency Index (EF English Proficiency Index, 2023). Thailand's English average scores (2018-2022) for the O-NET (Ordinary National Educational Test) were unsatisfactory; upper-secondary school students scored 31.41, 29.20, 29.94, 25.56, and 23.44 out of 100.

This indicates that English learning and teaching in Thailand are not as successful as they should be; most students lack knowledge and ability to communicate. There are several reasons for this, for example, lack of confidence in speaking, lack of understanding native culture, lack of motivation to learn English, and lack of opportunity to practice in the real world (Noom-ura, 2013; Sornkam et al., 2018; Wiriyachitra, 2010). Moreover, two studies have examined the causes of failure of English teaching and learning in Thailand (Chulalongkorn University Academic Service Centre in 2000 as cited in Wongsothorn et al., 2002; and Dhanasobhon, 2006), and the findings showed that the main factors that led to difficulties and unsatisfactory low English learning and teaching included unqualified and poorly-trained teachers, poorly-motivated students, large class sizes with mixed abilities of learners, inadequate preparation, overloaded teachers' responsibilities, inadequate materials and equipment, overuse of multiple-choice item tests, and lack of opportunities to use English outside the classroom. Therefore, Thai educators have tried to find ways to improve English proficiency of Thai students by using many methods, such as authentic tasks, technology integration, fun activities, roleplaying, and games.

1.1.2 Importance of Vocabulary

Learning vocabulary is an essential part of language teaching (Nation, 2003; Peterson, 2010; Schmitt, 2000; Yudintseva, 2015), and it is undeniable that a person's vocabulary is directly related to language development. Knowing and learning a limited range of grammar structures might help learners convey the target message, but knowing a smaller number of words prevents them from expressing themselves (Noori et al., 2011; Pan & Xu, 2011 as cited in Akramy et al., 2022). In other words, the richness of vocabulary enhances communication skills (Amiryousufi & Dastjerdi, 2010; Salavati & Salehi, 2016; Schmitt, 2000; Wu & Huang, 2017; Yudintseva, 2015).

This study focuses only on CEFR B1 (Note 1) vocabulary, which is used as the learning content. The reasons why the study focuses on the B1 level is as follows. First, at present, the Thai government has set a policy for universities to develop English language skills (the Office of the Higher Education Commission–OECD) by pushing universities to improve and assess English proficiency of the students. Moreover, Thailand's education system is moving towards using the Common European Framework of Reference (CEFR) to evaluate English language proficiency in schools, and the Thai Ministry of Education has announced a policy to reform teaching of English in primary education.

All sectors recognize the necessity to accelerate upgrading of education quality (Sornkam et al., 2018). The goal of English proficiency has been specified by the Ministry of Education in basic education at CEFR B2 level for those receiving a bachelor degree. However, in reality, many institutes have announced such language proficiency requirements, that is, undergraduates who are not in faculties of language or linguistics can have language results equivalent to the CEFR B1 level.

1.1.3 Game-based Learning (GBL) Method

A game is defined as 'an activity that you do for fun with some rules, and that you can win or lose' (Macmillan Dictionary, 2016). Many researchers have reported that games have potential to improve learning outcomes and motivation in education (Gee, 2007; Squire, 2008). Importantly, using games in the classroom can help improve foreign language education in terms of listening and speaking (Ngiwline & Haruansong, 2020), vocabulary (Rankin et al., 2009), and communicative language competence (Garcia-Carbonell et al., 2001; Namaziandost et al., 2020). Collaborative and interaction in a game environment help promote foreign language acquisition and motivation (Thorne & Reinhardt, 2008; Thorne et al., 2009).

Today, digital games are considered a tool to engage learners and encourage interaction in the target language (Reinders, 2012). Digital game-based learning can promote an active learning process and reduce anxiety among EFL learners (Chen & Law, 2016). A number of studies have explored the effect of digital games on developing EFL student's vocabulary (Lutfah, 2019; Salavati & Salehi, 2016). The study of Lutfah (2019) and Salavati and Salehi (2016) revealed that students felt more motivated to participate in classroom activities and confident with the games, and they were able to remember and retain new vocabulary easily. Moreover, it has been seen that

intrinsic motivation tends to increase when using digital games in a classroom, as well as increasing students' interests (Liu & Chu, 2010) with positive effects on language learning (Sari & Chairani, 2017).

In order to enrich students' repertoire in acquiring new vocabulary and retaining lexical items, language games used as an entertaining technique should be implemented (Darfilal, 2015). Educationists currently are attempting to find ways to improve target language learning by increasing students' enjoyment and engaging learning motivation as students including Thai students like fun activities (Fry & Bi, 2013; Meksophawannagul, 2015; Nguyen, n.d.). A more relaxed environment can help enhance students' learning engagement as well as lessen their fear of making mistakes or losing face.

There are three studies of evaluating effectiveness of the game quality (Connolly et al., 2009; Garris et al., 2002; Oguz, 2012). In the study of Oguz (2012), three indicators used to measure quality of the games are enjoyment, usability, and learning. An evaluation framework for game-based learning includes learner performance, learner/instructor motivation, learner/instructor perceptions, learner/instructor preferences, GBL environment, and collaboration among learners (Connolly et al., 2009). Garris et al. (2002) explained a generally acceptable input-process-outcome game model, where input is aimed at designing an instructional program that incorporates characteristics of the game and where the process comprises user judgment, user behavior and system feedback. Outcome refers to the achievement of learning objectives.

1.1.4 Web-based Instruction and Evaluation

Khan (1997) defines web-based instruction (WBI) as 'a hypermedia-based instructional program which utilizes attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported'. Web-based instruction (WBI) offers easy accessibility and flexible storage and display options, relatively simple publishing formats, and multimedia capabilities (Khan, 1997). That is, WBI extends learning boundaries (Relan & Gillani, 1997), whereas computers and the Internet help encourage a learner-centered approach. In this study, WBI acts as a medium to convey learning content.

Educators have proposed many types of WBI evaluation criteria. Wilkinson et al. (1997) provided assessment criteria of a web-based course: for example, site access and user usability, resource identification and documentation, author identification, authority of author information structure and design relevance and scope of content, validity of content, accuracy and balance of content, navigation within the document, quality of links and aesthetic and affective aspects. Kapoun (1998) provided five criteria for a webpage: accuracy, authority, objectivity currency and coverage. Michigan Virtual University (2002) sets four standard factors: technology, usability, accessibility, and instructional design.

1.1.5 Whiteboard Animation

New tool used to enhance language learning and teaching is whiteboard animation. Whiteboard animation is a process where a story or a storyboard with pictures gets drawn on a whiteboard. Typically, the illustrations are accompanied by a story within the drawing. Although whiteboard animations are increasingly used in education, there is little evidence of their efficacy. There is lack of whiteboard creation in social sciences, especially in Thai contexts. One research by Bradford and Bharadwaj (2015) concluded that creative e-based dissemination approaches such as whiteboard animation can promote insights and new ways of co-producing knowledge that communicates traditional knowledge to wider audiences. Moreover, Wiseman (2014) studied whiteboard videos and investigated viewers' memory after watching video clips. He found that, overall, there was 15% rise in recall across memory questions for those that watched the script video. Turkay and Mouton (2016) measured the impact of whiteboard animations. Their studies showed the benefit of whiteboard animations in terms of enjoyment and engagement in the learning process.

Whiteboard animation is considered as a distinctive and professional tool to explain the concepts of simplicity with entertaining and eye-catching features. Retention of vocabulary is expected to be enhanced through interactive whiteboard animation. In this study, whiteboard animation is used as content preparation for students to learn B1 words.

In sum, in this study, B1 vocabulary functioned as learning content, WBI acted as learning distributions or channels, and GBL functioned as learning method. The evaluation procedure was conducted in three periods: before the implementation, during the implementation, and at the end of the course implementation. Quality of online games was assessed by investigating learners' vocabulary improvement and their attitudes towards the online games. Evaluation of the developed online game phototypes was conducted from the point of view of both experts and learners. Experts were asked to examine quality of the online game phototypes to be ready to be implemented in practical terms by learners. Learners were asked to evaluate effectiveness of the online games. If

the results demonstrated positive effects on English vocabulary knowledge or obtain positive attitudes on learning settings, further implementation in a large group with more categories of English vocabulary should be developed and implemented. The online games developed in this study are standalone activities, not related to any learning courses, and are designed as a phototype or trial instrument to enhance English vocabulary knowledge.

It is noted that the terms online IDLL games, WordWise4B1 games, developed online games, and online games are interchangeable.

2. Objectives of the Study

The purposes of this study are:

(1) To construct the online IDLL games or WordWise4B1 games for engineering student

(2) To evaluate the online IDLL games or WordWise4B1 games for engineering students

(3) To evaluate effectiveness of the online IDLL games or WordWise4B1 games for engineering students

3. Research Questions

This study addresses the following research questions:

(1) How can the online IDLL games for engineering students be evaluated?

(2) What is the effectiveness of the online IDLL games for engineering students?

4. Hypothesis

Statement of Hypothesis: The means of learners' posttest scores are higher than those of the pretest scores after taking part in the online IDLL games.

Statistic Hypothesis:

H_0: $\mu_{posttest} \leq \mu_{pretest}$

H_1: $\mu_{posttest} > \mu_{pretest}$

5. Research Methodology

This study used a case study approach with a single group pretest/posttest design.

5.1 Participants or Evaluators

Participants were divided into two groups.

(1) Two game-based instructional experts and two EFL teachers: They were asked to examine quality of the online games before implementing with learners, that is, they acted as learning materials evaluators or instrument examiners.

(2) Learners: Volunteer learners were selected using the convenience sample method. At the beginning, there were 160 learners; however, only 122 players took a mini pretest, and 94 learners took both the mini pretest and posttest. 109 learners did all games, complete the information needed, and learned every process. Ninety-eight learners (90%) graduated with a high vocational certificate and will spend two to three years to complete their undergraduate degree. Sixty percent of the learners (65 learners) used to work after receiving their vocational certificate.

5.2 Settings

Learners were assigned to freely study WordWise4B1 games for two months. They were assigned into sixteen Avenger groups (e.g. Hulk, Ironman, and Thor) with 10 learners in each group. After two months, their names were changed to Learners 001-109.

The online IDLL games consisted of five themes or modules: appliances, city and countryside, food and drink, personal characteristics, and work and jobs. All of the vocabularies were summarized from CEFR vocabulary word lists (Cambridge CEFR B1 wordlists and Oxford CEFR wordlists).

Learners were asked to follow five learning steps of the online games: (1) pretest, (2) learn, (3) play, (4) module test, and (5) posttest (in Appendix A).

Step 1 (Pretest): Learners were assigned to take a mini pretest (the IDLL test) which focused on B1 vocabulary knowledge (see test specification in Appendix A) and were asked to complete the learning experience questionnaire.

Step 2 (Learn): The online games provide a user-friendly description, explanation, example, picture, symbol, or graphic representation of the terms. Game players learn the target language by VDO clips using the whiteboard animation tools program. In this study, a ready-made program, Doodle is used. Doodle is a user-friendly platform with simple implementation with attractive and interactive interface. Importantly, there is no need for subscription and computer language knowledge.

Step 3 (Play): Learners are asked to play games via a website: WordWise4B1.com. There are five modules and each module consists of two types of games: (1) seven custom-made games and (2) four ready-made games. In all, learners are assigned to play eleven games.

Seven custom-made games were constructed by the researcher using the program Construct-2. Four games were utilized from the ready-made program (WordWall.Net). WordWall.Net is a program that creates teaching resources easily. It helps create interactive games with audio and visual features and has many types of games, such as matchups, quizzes, word searches, maze chases and so on. It is a very user-friendly program. Importantly, the game design of WordWall.Net matches well with the online IDLL game design. Game creators' responsibilities are preparing the learning content and selecting pictures and game patterns that are suitable for learners.

In this study, each game had a user manual provided for players so that they could understand the way to play and limitations of the program.

Step 4 (Module test): After learners played each game, they were asked to test the vocabulary knowledge. All of the tests were designed as game-based testing formats and constructed by a ready-made program (WordWall.Net).

Step 5 (Posttest): This study employed the test-retest method. After learners played all games and did all activities in each module, they were asked to retest on B1 vocabulary knowledge (five themes). After that, learners were asked to give their opinion on the online games by using the learners' satisfaction questionnaire.

5.3 Validating Quality of the Online IDLL Games

Three main assessing procedures included: (1) validating quality of the online games by experts, (2) validating quality of the online games by learners, and (3) examining effectiveness of the online games on English vocabulary knowledge.

The first step was examining quality of the instrument or learning materials (the online IDLL games) and the last two steps were validating quality of the online games with two indicators: vocabulary knowledge (at B1 level) and learners' attitudes or perceptions on the online games.

5.3.1 Validating Quality of the Online Games by Experts

The principal objective of this study was to evaluate quality of the online games in order to ensure that the material used contained a specific behavior domain (i.e. identify and illustrate B1 terms).

Evaluators: Two instructional experts who are specialized in the game-based design and two EFL teachers who have taught English for five years were asked to evaluate quality of the online games.

Research instruments: In order to assess quality of the online games, this study used the framework developed by Connolly et al. (2009), Garris et al. (2002), and Oguz (2012)

The IDLL evaluation form consisted of four parts: general information, overall quality of the online games, quality of each game in each module, and game-based testing design. The last two parts were developed by the researcher.

In the first part, experts were asked to provide general information such as age, gender, and level of education.

The second part included four main attributes for assessing overall quality of the online games: (1) learning content, (2) game design, (3) website design, and (4) usability. All extra opinions and suggestions were given in an open-ended format.

Nine indicators of learning content such as content accuracy, content difficulty, interesting presentation were synthesized from material development and evaluation in language teaching adapted from Tomlinson (1988) and Richards (2001).

Ten indicators of game design such as quality of the picture, audio, visual, and menus were synthesized from the characteristics or attributes of the game-based learning framework based on Connolly et al., (2009), Fang et al. (2010), Fu et al. (2008), Garris et al. (2010), Kiili (2004), Tan et al. (2007), and Oguz (2012).

Eight indicators of website design such as layout, color, background, menu, and navigator were synthesized from the web-based instruction key features proposed by the American Council of Education (1997), Khan (1997), and the Michigan Virtual University (2002).

Five indicators of usability such as user-friendly features, self-learning settings, applicable ways to use knowledge, and user manuals or guidelines were synthesized from Alessi and Trollip (2001), the Michigan Virtual University (2002), and Squires and Preece (1999).

The third part was designed to validate quality of each game. There were six indicators consisting of learning content appropriateness, levels of difficulty, multimedia quality, appropriate length of playing time, interesting game format, and ease of the game.

The last part was designed to assess quality of the game-based test format. Quality of the test was validated by seven indicators including ease of the test, relevant testing content, interesting test format, test content suitability, correct language usage, appropriate number of test items, and appropriate length of test taking time.

Quality of the online games assessed by experts was graded on three-point Likert scales (3 = Agree, Good, 2 = Neutral/Average, and 1 = Disagree/Poor). Quality of the online game was measured by arithmetic mean. The acceptable quality of the online games was equal to or greater than 2.25.

5.3.2 Validating Quality of the Online IDLL Games by Learners

Evaluators: 109 learners were asked to evaluate quality of the online games.

Research Instruments: There were two questionnaires which were developed by the researcher.

(1) Learning experience questionnaire: This was a pre-course questionnaire on English learning experience and game experience. The questionnaire comprised two parts.

In the first part, learners were asked to provide general information, their mastered English skills, and obstacles to their language learning based on the study of Meksophawannagul (2015).

In the second part, learners were asked about their experience with playing games (their feeling about playing games, average playing time, usefulness of playing games, their game platform preference, and their favorite games). Moreover, learners were asked to share their English learning experience with games.

(2) Learners' satisfaction questionnaire was a post-course questionnaire on learners' satisfaction towards the online games. The questionnaire synthesized knowledge of many studies and researches on material development and evaluation, game-based learning and evaluation, web-based design and evaluation, vocabulary teaching and assessing, and whiteboard animation. The questionnaires were delivered online to two experts–one language expert and one instructional design expert–in order to validate their quality.

The questionnaire consisted of four parts: personal information, online games design, learners' game preferences, and learners' satisfaction with test formats. The following information illustrates the post-course questionnaire for learners.

In part one, learners were asked for their personal information. Part two is similar to the second part of the IDLL evaluation form validated by experts. There were four main elements in assessing quality of the online games: learning content, game design, website design, and usability. In part three, learners were asked about their preferred online games with reasons as well as the games they did not care for with reasons. In part four, learners were asked to provide feedback on the game-based testing format. The indicators included ease of the test format, test content, test enjoyment, how interesting the test format was, suitability of language use, and overall satisfaction. The researcher reviewed the questionnaire according to experts' comments and suggestions and resubmitted the revised version to the experts.

Data analysis: Quality of the online games validated by learners was measured by arithmetic mean. It was graded on five-point Likert scales. The acceptable quality of the online games was equal to or greater than 3.50. The issues with arithmetic mean below 3.50 were eliminated, and those with an arithmetic mean equal to or greater than 3.50 were incorporated.

5.3.3 Examining Effectiveness of the Online IDLL Games on English Vocabulary Knowledge

Evaluators: 122 students were asked to take the mini pretest English vocabulary performance at B1 level. However, only 94 students did the mini posttest, which was an online test via Google Forms.

Research Instruments: Intermediate daily life lexicon (IDLL) mini test (see test specifications in Appendix A) was used to assess English vocabulary performance at B1 level. It was validated by two English language experts that have taught English for more than five years.

Data analysis: In order to assess whether learners actually learned the content of the online games, a t-test for dependent samples and effect size with standardized gained scores (ES) were reported.

In order to identify the statistical difference between the pretest and posttest scores in terms of English words at B1 level, t-test dependent sample was used. The significance level was set at alpha = 0.05.

In order to identify the practical differences of the effect size (ES) between the pretest and posttest scores, the effect size of the paired sample t-test dependent sample known as Cohen's d (effect size) was used. The effect size (1988) for the dependent sample t-test was computed by using the following equation:

$$d = \frac{\mu_1 - \mu_2}{\sigma}$$

(1)

The t-test dependent sample's criteria to reject or accept the hypothesis (the t-value is higher than the t-critical or the p-value is less than significance level) was set at 0.05.

This study also employed the criteria provided by Cohen (1988) as they were globally accepted. Cohen (1988) defined effect size (ES) as 'small, d = 0.2, medium, d = 0.5 and large, d = 0.8', stating that 'there is a certain risk in inherent in offering conventional operational definition for those terms for use in power analysis as diverse a field of inquiry as behavior science (p.25)'. Thus, the acceptable ES value should be greater than 0.25 (medium). The values of 0.25 indicates that one-quarter standard deviation separates the two means.

In conclusion, quality and effectiveness of the online games were analyzed using both descriptive statistics and open-ended information which was grouped and qualitatively analyzed.

6. Results

6.1 Assessing Quality of the Online IDLL Games

The quantitative and qualitative analysis consisted of two parts: experts' views and learners' views.

6.1.1 Experts' Views

The findings were reported in three parts: (1) overall quality of the online games, (2) quality of each game in each module, and (3) quality of the game-based testing formats.

(1) Overall quality of the online games: Table 1 showed arithmetic mean of overall quality of the online games assessed by experts.

Table 1. Arithmetic mean of overall quality of the online games assessed by experts

	Statements	Mean	
1	Learning content		
	1.1 Accuracy of content	3.0	
	1.2 Difficulty of content	3.0	
	1.3 Using appropriate vocabularies for learners	3.0	
	1.4 Using correct language	3.0	2.81
	1.5 Clear pictures and sound	2.5	
	1.6 Interesting presentation	2.5	
	1.7 Using appropriate tests that suit learners' performance	2.75	
	1.8 The test is easy to understand.	2.75	
	1.9 The test content is designed to correspond with learning content.	2.75	
2	Game design (Game interface)		
	2.1 Quality of multimedia, suitable image size with colorful pictures	2.75	
	2.2 Fonts are easy to read and colorful.	3.0	
	2.3 Interesting game format	2.75	
	2.4 Clear sound	2.5	
	2.5 English pronunciation is correct.	3.0	2.73
	2.6 Game format corresponds to learning contents.	2.5	
	2.7 The layout and menu are easy to use (user-friendly).	2.5	
	2.8 Games convey learning content that enhances understandable and memorable language learning.	2.5	
	2.9 Learners gain learning benefits after playing the games.	3.0	
	2.10 Overall, what level of satisfaction do you have with this online game design?	2.75	
	Website design (Web interface)		
	3.1 Homepage is well-designed and interesting.	3.0	
	3.2 Website layout is well-organized, and is easy to navigate and logical. The quality of texts, animation, graphics, audio and VDO are well-designed.	2.5	
	3.3 Color of the website is harmonious.	3.0	
3	3.4 Menu design is easy to use.	2.75	2.88*
	3.5 Design of the background color and font color are appropriate for reading and are easy to read clearly.	3.0	
	3.6 Font size and font style are easy to read and are consistent.	3.0	
	3.7 The website contains meaningful and consistent images and learning content.	3.0	
	3.8 Overall, what level of satisfaction do you have with this website design?	2.75	
4	Usability		
	4.1 The games have the features of usability–they are easy to use.	2.75	
	4.2 The website design is usable.	2.50	
	4.3 Learners can study by themselves.	2.75	2.70
	4.4 Learning content can be used in daily life.	3.0	
	4.5 There is a manual for the game playing.	2.50	
	Overall quality	2.78**	

The results showed that experts rated the online games as of good quality as evidenced by the mean (M=2.78 out of 3.0). The arithmetic mean of all the indicators was higher than 2.25, indicating that the online games were quite good. That is, this instrument was acceptable to be implemented by other users (learners or game players).

The arithmetic means of the four attributes–learning content, game interface, website interface, and usability– were 2.81, 2.73, 2.88, and 2.70, respectively. The highest mean was website interface, indicating that human-computer interaction and communication items such as homepage, link, website layout, menu design, font size, font color, picture, display screen, and background were of acceptable and practical quality.

(2) Quality of each game in each module: As shown in Table 2, the arithmetic mean of quality of each game was 2.78 out of 3.0 (M=2.78). All of the mean was more than 2.25 out of 3.0. In other words, quality of each game in each module was quite exceptional. The highest mean (M=2.96) was Hangman game, whereas the lowest mean (M=2.46) was Ballon pop game.

In Table 2, the top-three indicators with high mean were learning content appropriateness (M=2.89), multimedia quality (M=2.86), and interesting game format (M =2.84). The lowest mean was appropriate length of playing time (M =2.43), therefore, the game developer needed to extend the gaming speeding time.

Table 2. Arithmetic mean of quality of each game assessed by experts

Module	Game name	learning content appropriateness	levels of difficulty	multimedia quality	appropriate length of playing time	interesting game format	the ease of game.	
Appliances	Zombie**	3.0	3.0	3.0	1.75*	3.0	2.5	2.71
	Matching definitions	3.0	2.75	2.75	3.0	2.75	3.0	2.88
City and countryside	Matching places**	2.5	2.75	3.0	3.0	3.0	3.0	2.88
	Hangman	2.75	3.0	3.0	3.0	3.0	3.0	2.96*
Food and drink	Spelling-Vegetables**	3.0	2.25	3.0	2.75	3.0	2.75	2.79
	Spelling-Fruits**	2.75	3.0	3.0	2.5	3.0	3.0	2.88
	Hangman	2.75	3.0	3.0	3.0	3.0	3.0	2.96*
Personal characteristics	Spelling adjectives**	3.0	2.25	3.0	2.25	2.75	2.75	2.67
	Balloon pop	3.0	2.25*	2.25*	2.25*	2.5	2.5	2.46*
Work and jobs	Dear lady spelling/Orchoa spelling**	3.0	2.75	3.0	2.5	2.25	2.75	2.74
	Two players quiz games (Spaceship game) **	3.0	2.5	2.5	2.5	3.0	2.5	2.67
		2.89*	2.68	2.86*	2.43	2.84*	2.80	2.78

Note: ** = custom-made games

As shown in Table 2, one indicator–appropriate length of playing time in Zombie game– needed to be revised since the mean was 1.75. It was clear that Zombie game problem was the speed of the game. Thus, the game timing needed to be adjusted. The mean of three indicators (i.e., levels of difficulty, multimedia quality, and appropriate length of playing time) of Balloon pop game was equal to 2.25 (M=2.25). Even though it was of acceptable quality, this game needed to be revised as well.

(3) Quality of game-based test platforms: Table 3 showed quality of the game-based test format. As shown in Table 3, the results indicated that the game-based testing format was fairly good (M=2.80). The highest mean of the game-based format was Maze chase game (M=2.96). According to Table 3, the mean of seven indications was higher than 2.25, indicating that the quality of each game-based test format was quite good. The highest indicator was testing content (M=3.0), revealing that the testing content corresponded well with the learning content.

Table 3. Arithmetic mean of quality of the game-based test format assessed by experts

	Game name	ease of the test	relevant testing content	interesting test format	test content suitability	correct language usage	appropriate number of test items	appropriate length of test taking time	
Appliances	Matching pictures	2.75	3.0	2.75	2.75	2.75	2.75	2.75	2.79
City and countryside	Matching pictures	2.75	3.0	2.75	2.75	3.0	2.75	2.50	2.79
Food and drink	Matching pictures	2.75	3.0	2.75	2.75	2.75	2.75	2.75	2.79
	Airplanes	2.50	3.0	2.75	3.0	3.0	3.0	2.75	2.75
Personal characteristics	Maze chase	3.0	3.0	3.0	3.0	2.75	2.75	2.75	2.96*
	Win or lose quiz	2.75	3.0	2.75	2.75	2.75	2.75	2.75	2.79
Work and jobs	True or false	2.75	3.0	2.75	2.75	2.75	2.75	2.75	2.75
	Crossword	2.50	3.0	2.75	2.75	2.75	2.75	2.75	2.75
		2.72	3.0*	2.78	2.78	2.81	2.78	2.74	2.80*

The experts expressed that the games were fun and interesting even though there were some technical limitations in the custom-made games; for example, the players could not access the games via mobile phone, the screen of some games was frozen if the players made a mistake. Moreover, there were some human errors; for example, one picture did not match the word (Module: food and drink). Even though gaming manuals were provided, some players who were not familiar with the game setting might not understand. The experts provided comments and made some recommendations for further improvement. The following is an example of expert's comments and suggestions.

Quality of the online games

'The sound of the teaching VDO clips was slightly quiet. The speed of some games was quite fast. It might be better if the web developer constructed log-in systems and kept all learning and testing records, especially playing game records. The embedded page should be employed.' (Instructional expert 1)

'Sometimes, there was no interaction – frozen screen or hanged system. Players needed to refresh the game. Mobile phone settings should be a better choice to learn language. It might be better to keep learning and testing the records of each module. The game developer needs to increase the font size.' (Instructional expert 2)

'Players might feel confused since some games use capital letters and some use lowercase letters. Sometimes, I pressed the button but there was no interaction. The game developer should extend the time of playing the game.' (Language expert 1)

Quality of each game in each module

'The Balloon pop game is so fast. Error in one picture in a Food and drink word. Check audio and visuals.' (Instructional expert 1)

'The screen was frozen in the Zombie game if the players lost. Playing speed time is very fast.' (Instructional expert 2)

'Two players game (Spaceship) is fun but it would be better if players could choose to play individually or in pairs. Matching Places games could not be played via mobile phone.' (Language expert 2)

Quality of the game-based format

'Game-based testing design was OK. Check about time. Some tests are too fast.' (Instructional expert 1)

'The tests of each module look good but please check the speed of the testing time. I like 'True or false'. It is clear. Win or lose quiz is very exciting. Airplane test has a problem. I pressed the button but it did not work properly. If game players spell incorrectly, they cannot rewrite or go back in the Crossword game. The pictures in the Maze chase game should be bigger.' (Language expert 1)

After receiving all of comments and suggestions, the online games were adjusted, for example, speed of playing and testing time, size of pictures, human errors-typos, font size, and pictures. Two recommendations could not be met: (1) the technical limitation factor and (2) the log-in page. There were two main reasons for this. First, the researcher tried to hire a specialist in the Construct-2 program but no one was interested; thus, the researcher had to learn how to construct the games via the Construct-2 program. Surely, there were some limitation, bugs, and computer coding problems that the researcher could not find solutions for. Secondly, since the log-in page for website development was quite difficult, professional web creators needed to be employed. However, the project had a limited budget; thus, the researcher had to develop it. In fact, the games in this study were in a trial process in order to examine effectiveness of the developed online games when implemented in a small group. More revision and more technical or game-design expert teams are needed in order to improve the game quality in the future.

6.1.2 Learners' Views

109 game players consisted of 104 learners (96%) and five teachers (4%). Of these, 101 (92.6%) were male and eight (7.4%) were female. The average age was 22.22 years. One hundred and seven were engineering students and two teachers had a master degree and a doctoral degree.

English learning information: For language competency, learners ranked reading skills (74 out of 109 learners = 67.89%) as the highest language competency, followed by listening (18 learners = 16.51%), writing (13 learners = 11.93%), and speaking (4 learners = 3.67%). Learners were asked to rank the top-three causes obstructing English learning. The top obstacle was insufficient English knowledge as they learned and did not understand what the teachers taught in primary school or secondary school or higher vocational institution (44 learners = 40.40%). The second obstacle was that learners felt embarrassed to make mistake (47 learners = 43.52%). The third place was terrible English learning experience (39 learners = 35.80%), followed by complicated learning contents (38 learners = 34.90%).

Gaming information: Seventy-five learners really liked playing games, whereas 6 learners disliked playing games. Twenty-eight learners felt indifferent about playing games. On average, learners spent 2.45 hours playing games per day. The top-four game platforms were PC (89 learners = 82%), mobile phone (57 learners = 52%), PlayStation (6 learners = 5.5%), and iPad (4 learners =3.37%). Fifty-nine percent of learners (64 learners) played games on more than one platform. Most importantly, learners were asked to inform about their experience on English learning through game format. It was interesting that 61 learners (56.48%) had never learned English language via online games. Forty-eight learners (44.44%) gave a list of games that they used to play to improve their English abilities: Duolingo, Kahoot, Echo English, Hangman, Wordsearch, Wordle, Word spelling, and Word puzzles.

Furthermore, learners were asked to rank the three benefits they gain when playing games. The top benefit was relieving stress (49 students = 45%), followed by enhancing enjoyment (40 students = 36.7 %), and improving memory (39 students = 35.8%). The popular or favorite game genre perceived by learners was asked in order to ascertain the top-three games that the learners enjoyed the most. The top-three games were action games (40.4 %), role playing games (30.3%), and strategy games (27.5%). The most popular PC game was DOTA (37 learners = 24.8%), followed by Minecraft game (24 learners = 22%), and Valorant game (23 learners = 21.1%).

In order to examine effectiveness of the online games assessed by learners, the findings are reported in three aspects: (1) overall quality of the online games, (2) learners' satisfaction with each game, and (c) quality of the game-based test format.

(1) Overall quality of the online games: Table 4 demonstrated learners' view on overall quality of the online games after they played for two months. As shown in the table, there were four main attributes in assessing quality of the online games–learning content, game design, website design, and usability. Overall, learners rated the online games as good (M = 4.12) since the average mean of the four attributes was greater than 3.50.

Table 4. Quality of the online games calculated by mean and standard deviation

	Statements	Mean	SD
	Learning content		
	1.1 Accuracy of content	4.14	.755
	1.2 Difficulty of content	3.95*	.681
	1.3 Using appropriate vocabulary for learners	4.09	.708
	1.4 Using correct language	4.13	.716
1	1.5 Clear pictures and sound	4.04	.835
	1.6 Interesting presentation	4.04	.872
	1.7 Using appropriate tests that suit learners' performance	4.03	.755
	1.8 The test is easy to understand.	4.01	.779
	1.9 The test content is designed to correspond with learning content.	4.19*	.763
		4.07	
	Game design (Game interface)		
	2.1 Quality of multimedia, suitable image size with colorful pictures	4.06	.795
	2.2 Fonts are easy to read and colorful.	4.05	.754
	2.3 Interesting game format	4.09	.792
	2.4 Clear sound	4.07	.817
2	2.5 English pronunciation is correct.	4.27*	.744
	2.6 Game format corresponds to learning contents.	4.15	.783
	2.7 Layout and menu are easy to use (user-friendly)	3.90*	.864
	2.8 Games convey learning content that enhances understandable and memorable language learning.	4.13	.786
	2.9 Learners gain learning benefits after playing games.	4.17	.791
	2.10 Overall, what level of satisfaction do you have with this online game design?	4.16	.763
		4.11	
	Website design (Web interface)		
	3.1 Homepage is well-designed and interesting.	4.20*	.758
	3.2 Website layout is well-organized, easy to navigate and is logical. The quality of texts, animation, graphics, audio, and VDO are well-designed.	4.07	.758
	3.3 Color of the website is harmonious.	4.14	.755
3	3.4 Menu design is easy to use.	4.01*	.881
	3.5 Design of background color and font color is appropriate for reading and is easy to read	4.20*	.758
	3.6 Font size and font style are easy to read and are consistent.	4.19	.699
	3.7 The website contains meaningful and consistent images and learning content	4.18	.803
	3.8 Overall, what level of satisfaction do you have with this website design?	4.18	.734
		4.15	
	Usability		
	4.1 Games have the features of usability–they are easy to use.	4.12	.862
	4.2 Website design is usable.	3.98*	.875
4	4.3 Learners can study by themselves.	4.21	.786
	4.4 Learning content can be used in daily life.	4.32	.721
	4.5 There is a manual for the game playing.	4.15	.841
		4.16 *	
	Overall quality	4.12	

The highest mean was usability (M=4.16), indicating that learners viewed that the *online games* had easy user interfaces. In other words, capacity of the online games could provide conditions for users to perform the tasks safely, enjoyably, and effectively while learning.

Moreover, the mean for all indicators was more than 3.50, indicating that the learners felt pleasant when playing the online games. That is, the online games were of acceptable quality or fairly good. When investigating the four attributes closely (Table 4), the findings could be concluded.

Regarding learning content attributes, there was a correspondence between learning content and test content (item 1.9), with the highest mean of (M = 4.19), suggesting that there was a correlation between the online games and the game-based test format. The lowest mean was content difficulty (M = 3.95), suggesting that the learning content did not appear to be difficult.

Pronunciation (item 2.5) was positioned at the highest mean of game design or game interface attributes (M=4.27). The lowest mean was ease of use of the layout and menu (M=3.90), revealing that some learners felt that the design of layout and menu might create an uncomfortable condition.

Regarding website design or interface, the appropriate background color and font color (item 3.5) and well-designed and interesting homepage (item 3.1) were ranked as the most satisfying indicator (M= 4.20).

In terms of usability, learners rated 'learning content can be used in daily life' (item 4.4) as the favorite feature of the online games (M=4.32). The lowest means (M=3.98) was the usability of the website design (item 4.2).

The mean of three indicators (items 1.2, 2.7, and 4.2) was less than 4.0 but within acceptable quality. This revealed that some issues or features needed to be improved in the future.

(2) Learners' satisfaction with each game: Table 5 illustrates learners' satisfaction or perception on each game.

Table 5. Learners' satisfaction or perception on each game calculated by mean and standard deviation

	Mean	SD
Module 1: Appliances		
Zombie game **	3.82*	1.021
Matching definitions	4.16	.738
Module 2: City and countryside		
Matching place 1/2/3 **	4.11	.813
Hangman	4.17*	.791
Module 3: Food and drink		
Spelling-Vegetables**	4.05	.836
Spelling- Fruits**	4.06	.789
Hangman	4.21*	.684
Module 4: Personal characteristics		
Spelling adjectives**	4.11	.813
Balloon pop	4.13	.775
Module 5: Work and jobs		
Dear lady spelling (Orchao spelling) **	4.06	.823
Two players quiz (Spaceship game) **	4.06	.789

Note: ** = custom-made games

Overall, learners liked the online games as the average mean was greater than 3.50. The top-two most enjoyable games were Hangman game from food and drink module (M=4.21) and from the city and countryside module (M=4.17). The least enjoyable game was Zombie game from appliances module (M=3.82).

Moreover, learners were asked to identify their favorite game in an open-ended format, the game they wanted to be revised or the game that they were not satisfied with, as well as suggestions for improvement.

Favorite game: Overall, 12 of 109 learners (11.01%) (Ls 21,38, 50, 82, 90, 91, 92, 98,99, 100, 101, and 108) noted that they liked all of the games because they were fun and easy. They felt excited while playing the games, the

words in the games were everyday life words, and the answers were provided in the website. The most satisfying game was Hangman (16 learners =14.68%), followed by Matching definitions (14 learners = 12.84%) and Balloon pop (13 learners = 11.93%).

The following is an example of learners' viewpoints on their favorite games.

Hangman:

'I enjoy play Hangman games. It is fun game.' (Ls 20, 36, 44, 84, 93,109)

'The game is easy to understand.' (Ls 47, 103, 107)

'It helps me remember the words and write it correctly. I like it.' (Ls 51, 58, 104)

'It is easy to play' (Ls 70, 81)

'I feel so excited. I think I have to survive.' (Ls 94)

'I really like the effect sound. It is so exciting.' (Ls 97)

Matching definitions:

'The game helps me remember the English words easily.' (Ls 4)

'It is very fun.' (Ls 1, 13, 37, 28, 29)

'The game is very easy. I like it.' (Ls 42, 85, 95)

'I can remember the words easily because they are not difficult with illustrations. I really like it. Fun.' (Ls 46)

'It is fun and they are everyday life words.' (Ls 62)

'There is correspondence between learning content (words) and pictures. The pictures are clear and beautiful.' (Ls 26, 64)

Balloon pop:

'The game is not complicated but you need to read fast.' (Ls 5, 17, 55)

'The score of the game is very high. I like it. I feel happy when I get high score.' (Ls 6)

'The game is very fun.' (Ls 35, 41, 49, 54, 57, 59, 86, 88)

'I need to work on game because playing time is fast.' (Ls 60)

The qualitative results were in line with the quantitative results. That is, the top-three favorite games validated by learners were Hangman, Matching definitions, and Bollon pop. Note that, four learners (3.67%) did not give their opinions (Ls 27, 32, 85, and 96).

To sum up, most learners 'gave fun, easy, and exciting games'; 'employed everyday life words'; and 'contained visual and sound effect' as the main reasons for their satisfaction.

Unsatisfying games: Learners were asked to identify the game they felt uncomfortable with. Twenty-one learners (19.27%) (Ls11, 20, 21, 22, 23, 25, 30, 37, 50, 52, 53, 61,78, 90, 91, 92, 97, 98, 100, 101, and 103) pointed out that there was no game that they disliked. Twenty-three learners (21.10%) rated the Zombie game as the most unfavorable game, followed by Dear lady spelling (17 learners: 15.60%). The main reason why players did not like the Zombie game was fast speed of the game. The main reason why they did not like Dear lady spelling game was the word difficulty. Seven learners (6.42%) did not give any reasons (Ls 12, 27, 32, 85, 96, and 108).

The following is an example of learners' viewpoint on their unsatisfying games or the games that need to be revised.

Zombie game:

'The speed of game is so fast.' (Ls 4, 13, 18, 19, 28, 41, 42, 56, 57, 60, 75, 85, 94)

'If you have no ideas about the answer, you will die from Zombie.' (Ls 14)

'The game has bug' It was frozen if I couldn't answer. I need to refresh it but sometimes it is hanged.' (Ls 59, 104)

'This game couldn't play via mobile phone.' (Ls 64)

'I am afraid of ghost.' (Ls 58, 84)

Dear lady spelling:

'I am the one who types very slowly so it is timeout. I feel so sad.' (Ls 5)

'It is difficult. I don't know how to play it.' (Ls 35)

'The game is so fast.' (Ls 9, 24, 38, 44, 54, 77, 80, 81, 83, 89, 106)

'I don't like the pictures. I feel confused.' (Ls 70)

'The spelling words are very difficult.' (Ls 68, 69, 79, 82)

(3) Quality of the game-based test format: Overall, learners preferred the game-based testing format since the arithmetic mean was greater than 3.50 (Table 6). As seen in Table 6, the highest pleasant attribute was 'the test content suitability for the test takers' (item 5: M = 4.26). The second ranking was 'correspondence between the test content and the learning contents' (M=4.19). Item 1 'The test design is easy to understand and practice' was ranked third (M=4.17). In general, learners were satisfied with the game-based test format (M=4.17).

Table 6. Learners' satisfaction with the game-based test format calculated by mean and standard deviation

Statements	Mean	SD
1. The test design is easy to understand and practice.	4.17*	.803
2. The test contents correspond well with the learning contents.	4.19*	.742
3. I enjoy the game test format.	4.12	.862
4. I think the test format is interesting.	4.14	.814
5. The test content is suitable for English language learners.	4.26*	.753
6. Overall, at what level are you satisfied with the game test design?	4.18	.771
	4.17	

Learners were asked to point out the game-based testing module they liked the most. 42 learners (38.53%) really liked the Matching pictures and Airplane games from food and drink module. The main reasons were 'daily life words, easy to understand, and fun'. The three modules (appliances, city and countryside and work and jobs) were equal in terms of learner's satisfaction (20 learners = 18.35%). Only seven learners (6.42%) liked the game-based testing format in personal characteristic module.

The following is an example of reasons of learners' preferences on the game-based testing format.

Food and drink module:

'There are everyday-life words, vegetables and fruits. It is very easy.' (Ls 16, 47, 70, 83, 107, 109)

'I feel hungry. the picture looks so nice.' (Ls 24)

'Easy words. They are used for cooking.' (Ls 33, 68, 69)

'Easy to understand and easy to play.' (Ls 39, 49, 51, 54, 57, 65, 66)

'I like it. It is fun and knowledgeable.' (Ls 43, 45, 75, 87)

'There are many words and menu. I like eating.' (Ls 108)

Appliance module:

'The pictures are beautiful.' (Ls 8)

'I can apply what I learn to my work.' (Ls 19)

'It is fun. I feel happy to play games or do the tests.' (Ls 20, 32)

'It is fun. I acquire more words.' (Ls 35, 60,79, 80)

'It seems that I travel to many places and learns new words.' (Ls 38, 97)

'I learn city and countryside words and some words I don't know them.' (Ls 55)

Work and Jobs module:

'There contain frequency words. Every day words.' (Ls 1, 58)

'Easy to understand.' (Ls 15, 40)

'I have chance to learn new words. It is fun.' (Ls 22, 23, 48)

'I am good at this category because I have learned in the classroom.' (Ls 73, 76, 100, 102, 105)

Learners were asked to provide suggestions and recommendations for further development. Twelve learners provided some suggestions. Eighty-one learners did not give any comments or suggestions.

Comments and suggestions from twelve learners are as follows.

'I think overall is very good. But some games, they are difficult to drag and drop the English letters.' (Ls 3)

'Pictures of rice cooker and water boiler are similar. I cannot identify it.' (Ls 15)

'The games are fun and gain vocabulary knowledge. I would like to add more player-name when I finish play games.' (Ls 31)

'I would like to have 'clues' to help me. Also, if I can talk and pronounce the words, it will be perfect.' (Ls 44)

'They are good games. I can play without feeling boring.' (Ls 55)

'Learning clip should use the authentic pictures. Sometime drawing pictures are not real and should provide more time to watch it.' (Ls 69)

'I think I have problem with accessing the games because of layout and menu. I would like to have more interactive features.' (Ls 70)

'Sometimes games are frozen and I need to refresh it.' (Ls 97)

'I would like to play game both PC and mobile phone. It might be better to play only on PC.' (Ls 103)

'Some games, the pictures are quite small.' (Ls 105)

'I hope to have more varieties of games.' (Ls 107)

To sum up, these findings reported that the online games were quite good. That is, learners had positive' attitudes towards the online games. In fact, they liked the online games as shown from learners' views on the online games both quantitatively and qualitatively. However, learners pointed out that the games might be better if some problems were fixed and more interactive features were added on.

6.2 Examining Effectiveness of the Online IDLL Games Regarding English Vocabulary Knowledge at B1 Level

One hundred and twenty-two learners did the pretest, whereas 94 took the posttest, as shown in Table 7 (mean, standard deviation, standard error mean, and the number of observations). The results indicated that the average test score before training with the games was 81.62 (SD=15.76), and the average test score after training was 88.13 (SD = 9.17).

Table 7. Descriptive statistics of the variables (mean, standard deviation, standard error mean, and the number of observations)

	N	Minimum	Maximum	Mean	SD	Variance
Posttest	94	56.0	100.0	88.127	6.461	9.171
Pretest	122	20.0	100.0	81.623	13.936	15.759
Valid N (listwise)	94					

Tables 8 and 9 showed correlations between pretest scores and posttest scores after online training. The correlation coefficient showed that there was a significant positive relationship between the test score before training and after training [r (94) = .283, p = .000].

Table 8. Paired Sample Statistics

		Mean	N	SD	Std. Error Mean
Pair 1	Posttest	88.127	94	9.171	0.946
	Pretest	80.680	94	16.587	1.711

Table 9. Paired Correlations

		N	Correlation	Sig
Pair 1	Posttest & Pretest	94	0.283	.000

Table 10 showed the paired sample t-test results. In this study, p = .000. indicated that there were significant differences between pretest score and posttest score after playing the online games.

Table 10. Paired Sample Test

		Paired Differences			95% confidence Interval of the Difference		t	df	Sig
		Mean	SD	Std. Error Mean	Lower	Upper			
Pair 1	Posttest-Pretest	7.447	16.525	1.070	4.062	10.831	4.369	93	.000

In this study, an effect size (ES) Cohen's d was 0.505, indicating a 'medium' effect'. That is, learners performed significantly different on the B1 vocabulary after playing the online games.

The results of the t-test dependent sample [t (94) =4.37] together with a 'medium' effect size (ES = 0.505) indicated that learners' English vocabulary knowledge at the B1 level slightly improved after playing the online games. Therefore, we can reject the null hypothesis is that posttest scores are less than pretest scores. In other words, there is 'positive' effect of the online games on English vocabulary knowledge and research hypothesis 'the means of students' posttest scores is higher than that of pre-test scores after studying the online IDLL games', was accepted.

A 'medium' effect size also confirmed that learners had learned and performed differently after playing the online games.

To sum up, these findings suggested that the online games effectively improved learners' performance (vocabulary knowledge), with a medium effect size.

7. Discussion

This study aimed at constructing online game phototypes in order to enrich English vocabulary knowledge. Findings of the study were systematically discussed in two parts according to the research questions.

7.1 Assessing Quality of the Online IDLL Games

Two parties–experts and learners–were involved in this process. The results revealed that experts and learners viewed the online games as good activities, though the games needed to be revised in some parts. The findings also reported that learners had positive attitudes toward the digital games.

The findings were quantitatively and qualitatively concluded in three aspects: overall quality of the online IDLL games, learners' game preferences, and game-based testing.

Overall quality of the online games: Experts expressed that the games were fun and interesting, whereas learners articulated that the games made them enjoy language learning and that they felt excited, the games contained daily life words and helped them remember words easily with visual and audio effects. Experts rated the website interface as the highest feature (M=2.88), whereas learners positioned usability as the best feature (M=4.16).

Qualitative information also confirmed that learners felt pleased and excited when playing the games and that the games helped them remember and understand B1 words easily. They liked the pictures, which helped them remember the words comfortably. They realized that each game had different difficulty level. Most importantly, they mentioned that what they learned in the game-based learning matched with what they were tested on and what they faced in daily life.

Learners' game preferences: Both experts (M=2.96) and learners (M=4.21) liked 'Hangman' game. The design of Hangman game was simple, while the game provided learners with opportunities to practice their vocabulary by spelling, pronouncing, and guessing letter by letter (Munikasari et al., 2021).

The unsatisfying games assessed by experts and learners were Ballon pop game (M=2.46) and Zombie game (M=3.82), respectively. For experts, three main attributes that caused unfavorable preferences were high level of difficulty, short length of playing time and quality of the multimedia. The small font size was the main reason for dissatisfaction with Ballon pop game. As players needed to read definitions and match them with the correct B1 words, if the definition of each word was too detailed, it would cause a small font size on the screen, and then it was difficult to read. For learners, a fast game like Zombie might cause pressure and; thus, was the main reason for their dissatisfaction. Also, the game players were lost or frozen when they made mistakes.

Game-based testing: The highest mean of the game-based testing format viewed by experts was testing content, indicating that the test content corresponded well with the learning content (M=3.0). On the other hand, learners rated suitability of the test content for test takers (M=4.26) as the first rank, followed by 'correspondence between the learning content and test content' (M = 4.19). Experts liked Maze chase game (M =2.96), whereas learners liked Matching pictures and Airplane games (42 learners = 38.53%). The qualitative information indicated that learners liked the game-based testing as each word was used in daily life and was easy to understand. Learners had fun with the test format.

In sum, game-based learning proves to be a useful method for educators to enrich language performance. Learners prefer an enjoyable environment and a playful spirit (Ni Chiarain & Ni Chasaide, 2017) as it enhances interactive learning experiences and bolsters independent learning (Lin et al., 2018, and Lin and Lan, 2015), and enhances vocabulary knowledge and motivation (Fithriani, 2021). That is, learners' vocabulary knowledge is easily acquired and directly influences or has an impact on language development.

Moreover, from the findings, as learners spent 2.45 hours playing games per day, it might be an intellectual curiosity for educators to use it as a learning method to help learners enhance language knowledge. The more playing time spent, the greater the language knowledge can be acquired. In other words, the long-playing game time with a well-designed and enjoyable environment will enhance learner's language performance.

There were many types of games used in this study, for example, 'diversion features and fantasy' settings': flying, driving a space ship, fighting with Zombies. Undeniably, there were some problems regarding learning content, game design issues, website design, technical limitation, and human errors in the online games.

Regarding learning content issues, the B1 vocabulary used in this study was suitable for learners and was not too difficult.

In terms of game design issues, the design was generally at an acceptable level; however, the 'layout and menu' needed to be adjusted in order to enhance accessibility. At the same time, learners might feel confused with capital and lower-case letters of two games: the lower-case letters in Spelling-vegetable game and capital letters in Dear lady spelling game. Importantly, the fast game time could cause negative emotions because of losing competition, and later losing the learning content. Psychologists concluded that humans are truly competitive and do not like losing; thus, too much competitiveness in the game time might cause unfavorable issues. In order to minimize the negative feelings, extending the playing time is needed in the future. The researcher also hopes that high learning outcomes (analyzing and evaluating) proposed by Bloom's taxonomy (1956) might be acquired if game players think about why they lose and learn to solve the problems. This process is called constructing a productive failure (Anderson et al., 2018).

With reference to website design issues, a significant problem might be difficultly of the menu attributes, making users feel uncomfortable while playing the games. Moreover, both experts and learners recommended inclusion of learning and testing records in order to mark their improvement.

Technical limitation issues included no accessibility in the mobile platform for some games, especially the custom-made games. Note that all games were constructed by the researcher since no one accepted the hiring agreement. It is hoped that in the next development and implementation, there should have more game-based instructional designers and specialized computer programmers to join the team. More varieties of custom-made games are required in the future. Finally, the online games had some typos; however, human errors can be solved quite easily.

Online games mostly concentrated on spelling since objectives of the game activities are to remember and understand English vocabulary at B1 level. However, the game genres preferred by learners were action games, role playing games, and strategy games. It is a challenge to design a digital game for EFL learners as an action game, role playing games, and strategy games. There are significant differences between the world of PC games and that of educational games. If the world of games meets the world of educational games, English language learning and teaching can be improved dramatically.

From the researcher's experience, English-speaking ability of gamers is quite 'good' in terms of gaming orientation. Learners feel confident in communicating about their preferred games. If learners want to win the game, they need to have some assistance from their game partners. As a result, they communicate in English with their partners or enemies. If language educators and game technicians work closely together, EFL learners' performance might be significantly improved because of interactive, authentic, challenging, fantasy, curious, mysterious and diversified game-based settings. One caution is that educators need to beware of violent games used in educational contexts.

Note that, in this study, the games acted as 'standalone activities' that were not related to the learning course. In fact, some vocabulary learned in the games was in the textbooks as well. EFL teachers need to recognize the roles of digital games in the classroom; digital games can be the main teaching method, supplementary materials, or extra activities. Each role has different ways to be implemented. For example, if EFL teachers use digital games as the main teaching method for an entire course, there might be difficult utilization and a need for more methodical, systematic, and pedagogical design. The standalone extra activities in this study might help learners feel less anxious because there was clearly no effect on their grade.

7.2 Assessing Effectiveness of the Online IDLL Games

The t-test dependent sample [t (94) =4.37] together with a 'medium' effect size (ES = 0.505) indicated that the learners' English vocabulary knowledge at B1 level slightly improved after studying the online games. Although the number of test items might be 'small', the medium effect size proved the enhancement of English vocabulary knowledge at B1 level. At least, evidence on 'what works was found' in this study.

The online games are currently positioned as 'phototype' games; they need further development to include more innovative games as well as more themes. It is suggested that all issues need to be revised, professionally reconstructed, more themes need to be incorporated, and with a variety of games as well as learning and testing records in order to ensure that learners are placed in a safe entertainment with educational settings.

Moreover, future studies on identifying teacher's perceptions of game-based learning in the EFL classroom might be studied as well. Digital games are not easy to implement as teachers have to take many responsibilities, for example, connecting the games with the course content, creating enjoyment and educational games and minimizing learners' stress. This might cause overloaded responsibilities. As a result, positive attitudes towards games are a key success factor in implementing digital games.

One surprising finding was that EFL learners lack English game-based learning experience. Digital game engagement in the EFL classroom in the Thai context should be increasingly implemented both inside and outside classroom because of effectiveness of their quality. Both the advantages and disadvantages of implementing games in the language learning and teaching process need to be systematically researched as well.

Most importantly, it is a challenge to design games or digital games to reach the six learning outcomes on Bloom's taxonomy. Design of the online games focused on helping learners acquire only two levels of learning outcomes (Bloom's taxonomy): remembering and understanding (Bloom, 1956). The other four learning outcomes were not included. The higher learning outcomes to acquire, the harder learning activities or material design will be. Due to complicated activities, materials, learning process, and learning assessment, language educators need to put more energy into designing digital games as well as having a professional team to support each process of the game development. Thus, it is quite challenging and worthwhile to examine the effectiveness of digital games.

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Notes

Note 1. The Common European Framework of Reference for Languages (CEFR) is an international standard for describing language ability. It describes language ability on a six-point scale, from A1 for beginners, up to C2 for those who have mastered a language. The CEFR B1 level means learners or someone can (1) understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc.; (2) deal with most situations likely to arise whilst travelling in an area where the language is spoken; (3) produce simple connected text on topics, which are familiar, or of personal interest; and (4) describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans.

Appendix A

Activity Packages

Online intermediate daily life lexicon (IDLL) games: The online games or WordWise4B1 games consist of five modules: appliances**,** city and countryside, food and drink**,** personal characteristics, and work and jobs.

There is no need to study sequentially; for instance, learners can begin at Module 5, 3, 1, 2, and 4. After volunteer learners apply for playing the games, they will receive game player numbers, Line ID, and website links. Most importantly, in order to increase learners' comprehension of participating of the online games, the Q&A VDO clip or talks, together with the website developer clip, were provided, and learners were asked to watch them before playing games.

I. Learning Activities: Five main activities of the online games were (1) pretest, (2) learn, (3) play (game-based activities), (4) module test, and (5) posttest.　Both pretest and posttest were used for assessing effectiveness of the developed online games only.

Activity 1: Pretest. The learners were assigned to take a mini pretest and complete the learning experience questionnaire.

Activity 2: Learn.

Step 1: Learning Objectives. Learning objectives were provided on the website in VDO clip PowerPoint presentation.

Step 2: Learn. Some words were presented in whiteboard animation together with visual and audio features. Visual features included each word illustration, whereas audio features include word pronunciation (Doodle program).

Step 3: Worksheet. The whole word sets of each theme were equipped via VDO clip PowerPoint presentation. Definitions of each word and visual and audio features were provided as well.

Activity 3: Play.

Step 1: Game manual. A manual for the games was included in a VDO clip PowerPoint presentation.

Step 2: Play. Learners played the games. They could play them as often as they like. Duration of the online games was two months.

Activity 4: Module Test.

Step 1: Exam manual. A manual for the game-based testing format was provided in a VDO clip PowerPoint presentation.

Step 2: Test. Learners were asked to take module tests in a game-based format.

Activity 5: Posttest. Learners were asked to retest on B1 vocabulary knowledge and completed learners' satisfaction questionnaire.

II. Learning Materials and Evaluation

2.1 Learn (Game-based learning): There were two types of learning games, namely, seven custom-made games and four ready-made games.

2.2 Formative test/Module test (Game-based testing): Eight game-based testing formats were ready-made games. The following table listed the game-based learning and game-based testing.

| Module | Game-based learning | | Game-based testing |
	Custom-made games	Ready-made games	(Ready-made games)
Appliances	Zombie	Matching definitions	Matching pictures
City and countryside	Matching place 1, 2, 3	Hangman	Matching pictures
Food and drink	Spelling-Vegetables Spelling-Fruits	Hangman	1. Matching pictures 2. Airplane
Personal characteristics	Spelling adjectives	Balloon pop	1. Maze chase 2. Win or lose quiz
Work and jobs	Dear lady spelling/Orchoa spelling Two players quiz games (Spaceship game)	–	1. True or false 2. Crossword

2.3 Summative Test (Pretest and Posttest): The mini pretest and posttest consisted of 25 items. Each theme had five words with total scores of 100 points. The mini pretest and posttest have five parts. The test specification is presented in the following table.

Part	Test Specification
1. Appliances	Pictures of appliance words are shown in the online test. Test takers need to type letters or characters into the blanks. The first character or the first two characters are provided.
2. City and countryside	Pictures of city and countryside words are shown in the online test. Test takers need to type letters into the blanks. The first character or the first two characters are provided.
3. Food and drink	Pictures of food and drink words are shown in the online test. Test takers need to type letters into the blanks. The first character or the first two characters are provided.
4. Personal characteristics	Test takers need to complete the sentences with correct words. The test includes pictures and there are three multiple choices.
5. Work and jobs	Definitions and pictures are shown in the online test. Test takers need to choose the correct answer from three multiple choices.

An Empirical Study on Enhancing English Reading Skills among Female Middle School Students in Government Schools in Saudi Arabia and its Direct Impact on Academic Achievement

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Abstract

This study aimed to address the issue of low English reading proficiency among female middle school students in government schools in Saudi Arabia. The study targeted a sample of year-seven students; forty-two students were under direct observation in classroom and participated in interviews, questionnaire, and assessment forms. The primary focus of this study was to employ reading comprehension assessments as the major influencing factor.

The main research question was how reading comprehension assessments was used to enhance the English reading proficiency of year 7 female students. This study primarily examined reading comprehension assessments, gathered existing literature on the topic, and formulated a hypothesis to help resolve the problem. The result of this study shows clear indication that reading comprehension assessments had a positive impact on students' attitude toward the English language subject. Students' reading proficiency improved, and their confidence in reading in front of their peers increased. Incorporating various activities contributed to achieving lesson objectives, deepened comprehension, and enhanced reading comprehension skills. Integrating modern technology into education stimulated students' motivation to learn.

Keywords: an empirical study, English reading skills, middle school, government schools, academic achievement

1. Introduction

Language is one of the most distinctive characteristics of humans, taking various forms, including spoken, written, and read. It is a tool that humans use to express their feelings, emotions, and thoughts. Without language, humans would not be able to communicate with each other or express their opinions (Abdul Bari, 2002). Each country and community has its own language, chosen to be their primary means of communication and expression. Notably, English has emerged as a significant global force in the modern era. Since the early 21st century, it has assumed the role of a lingua franca, particularly in international contexts. This role is evident in its widespread use in international scientific conferences, seminars, and academic discussions, where it facilitates communication across a diverse array of native languages (Al-Houshani & Al-Nassyan, 2020).

Language, in general, relies on four basic interrelated skills: listening, speaking, reading, and writing. Some literature shows that receptive skills (listening and reading) are developed before productive skills (speaking and writing). This view aligns with previous studies, such as those by Bozorgian (2012), Liu and Costanzo (2013), and Pae and O'Brien (2018). These studies revealed that receptive skills like listening and reading could be significant contributing factors for successfully acquiring productive skills such as speaking and writing. This phenomenon occurs as learners, through receptive skills, can recall knowledge or cognitive input, which then aids in the language production process. This also resonates with Krashen's (1982) claim that the ability in productive language skills naturally increases as receptive language skills are fostered. Therefore, these abilities are often referred to as the lSRW skills (Abdullah, 2014; Abu Jamous & Youssef, 2014).

Reading, whether silent or aloud, is an act that humans use to understand, express, and influence others (Al-Asaf, 2016). Reading is a cognitive process that involves decoding symbols to reach the stage of understanding and comprehension. It serves as a means of receiving information but requires an understanding of symbols and meanings, as well as the ability to interpret emotions through creative or innovative reading (Khawja, 2015).

Reading comprehension is defined as "the process of extracting meaning from written texts by relying on the coherence between several related sources of information" (Mastropieri et al., 2012, p.147). Abu Meshref (2016) describes reading comprehension as a complex cognitive activity involving interaction among the reader, the text, and its context. This process is strategic, allowing the reader to derive meaning from written material. It is a complex process that requires coordination among various interrelated sources of information. Reading comprehension skills have levels, including literal understanding, deductive understanding, critical understanding, taste appreciation, and creative understanding (Al-Sabai and Manasirah, 2017).

According to Ahmadi and Gilakjani (2012), reading comprehension is a complex process which needs a special skill such as decoding the words and identifying the meanings of the words. Al- Asaf, (2017) and Al- Harithi, (2013) claimed that comprehension is a process in which readers make meaning by interacting with text through the combination of prior knowledge and previous experience, information in the text, and the views of readers related to the text. According to Klingner (2007), reading comprehension is the process of building meaning and the capacity to interpret and analysis words and phrase to understand the main point of the text. In addition, Van den Broek and Espin (2012, p.315) suggest that "Reading comprehension is a complex interacting among automatic and strategic cognitive processes that enable the reader to create a mental representation of the text".

According to Lin et al. (2021), the multifaceted nature of reading comprehension encompasses various levels of understanding, ranging from the basic extraction of explicit information to more complex processes like inferential thinking and deductive reasoning. A deeper exploration into these different layers is crucial for a comprehensive understanding of how individuals process and interpret written text. This discussion will delve into the definitions and distinctions between several key concepts in the realm of reading comprehension: Literal Comprehension Scale, Inferential Comprehension Scale, Literal Comprehension Assessment, and Deductive Comprehension Assessment. Each of these plays a pivotal role in assessing and understanding the depth and breadth of a reader's comprehension skills. By examining these aspects, we gain insights into the cognitive processes involved in reading and understanding texts, which are fundamental to both educational practices and the broader field of cognitive psychology.

Budi & Zuhro (2023) indicate that literal comprehension involves the ability to grasp the primary, explicit meaning of a text. This skill enables readers to efficiently locate key information through techniques such as identifying essential words, quickly reviewing the text (skimming), and methodically searching for specific details (scanning). On the other hand, inferential comprehension is essential for integrating various ideas within a text to create a cohesive and meaningful understanding (Clinton et al., 2020).

Nurhana (2014) pointed out that reading skills are associated with the ability to recognize letters and spelling patterns, retain language fragments in memory, recognize the essence of words, and interpret word order and categories. Reading is a fundamental skill in language learning as it reflects a set of linguistic and cognitive activities for a range of written symbols and visual forms, aiming to decode, translate symbols, and understand the written content by recognizing and comprehending words (Zuhair, 2017).

Reading is an important skill for several reasons; it helps people learn from human knowledge, culture and experience. According to Sadiku (2015) reading is fun-way to knowledge hunt; it is true indeed- reading brings wisdom. In addition, reading is an enjoyable activity such as reading novels, stories or pomes (Maharsi et al., 2019). Reading also stimulates brain cell development and mental health. Al Sulami and Dakhiel (2021) indicate that researchers from the Mayo Clinic in the US studied the daily habits of 200 people from 70 to 89 years with mild memory disorders, during different life stages. They found that middle-aged readers who devoted time to reading and other creative pursuits, such as handicrafts, faced 40% less risk of experiencing further memory impairment or Alzheimer's. In short, reading is the best way to enable humans to grasp a new experience and replace an old view. Reading is the bath to increase your knowledge, get more information, and improve mental health.

Alshamali (2016) conducted a study to investigate the effect of using the Preview, Question, Read, Reflect, Recite, and Review PQ4R strategy in developing reading comprehension skills and reflective thinking among the 5th grade students in south Hebron directorate. PQ4R approach begins with 'Preview', where the reader skims the text for an initial understanding. In 'Question', questions are formulated about the text's potential content. 'Read' involves the thorough reading of the text, aimed at answering these questions. 'Reflect' allows the reader to ponder over the text's deeper meanings and implications. In 'Recite', the reader summarizes or articulates the main points, enhancing retention. Finally, 'Review' involves revisiting the entire content and process to consolidate understanding. This structured method is designed to improve reading comprehension and reflective thinking.

Shoaib, et al. (2016) conducted a study to investigate the effect of PQ4R strategy on slow learners' level of attention in English subject at secondary level in Pakistan. The sample consisted of 20 slow learners who were selected from 9th grade students. An observation sheet was used to observe the sampled students' level of attention during the experiment. Descriptive statics and chi-square test were used for data analysis and data were also shown in graphical form. The result showed that PQ4R strategy proved to be effective in increasing "slow learners" attention.

Keshta (2016) investigated the impact of using the jigsaw strategy on improving reading comprehension and communication skills among 11th grade students in Rafah. She adopted a quasi-experimental approach and employed a sample of 76 EFL female learners studying at Al – Quds secondary school in Rafah. Three tools were used: a questionnaire, an achievement test, and an observation card. The study showed that there were significant differences in learning English reading comprehension and communication skills in favor of the experimental group; thanks to using the Jigsaw strategy.

The Al-Anzi study (2019) aimed to identify the impact of using concept mapping strategies in developing creative reading skills in the English language among year 10 high school students. Achieving the study's objective, a quasi-experimental approach was applied to a purposive sample of year 10 high school students in Tabuk city. Two classes were randomly selected, with one serving as the experimental group, which studied a selected unit using concept mapping strategies, while the other represented the control group and was taught through conventional methods. A list of creative reading skills was constructed and a test in creative reading related to the selected unit was developed. Additionally, a teacher's guide for teaching the selected unit using concept mapping strategies was prepared and validated for accuracy and reliability using appropriate statistical and methodological procedures. The study's results indicated that there were statistically significant differences at the 0.05 level between the mean scores of students in the experimental and control groups in the post-test of creative reading skills in the dimensions of fluency, flexibility, originality, and total score in favor of the experimental group. Furthermore, there was a significant effect on fluency and flexibility reading skills, while the effect on the originality reading skill was moderate.

Since the middle school stage, typically encompassing grades 6 to 8 in many educational systems, is a pivotal phase for building and acquiring the English language, it becomes crucial to address the issue of low reading achievement in English among students in these grades. The importance of this focus stems from its direct impact on academic performance. Consequently, there is an urgent need to emphasize the learning and practicing of English reading, a fundamental language skill that must be mastered. This research aims to provide clarification and propose solutions through a strategic plan that could help alleviate this problem, at least partially.

1.1 Study Problem

Through teaching English for more than ten years at the middle school level, it has been observed that reading in the English language poses a burden on female students, resulting in a decline in their English language proficiency. This study specifically focuses on female students because it is conducted in schools exclusively for girls, where gender-specific challenges in language learning have been noted. As a result, male students were not included in the research. The central issue of the study is the low level of English reading proficiency among middle school female students in these government schools, and how this affects their academic achievement. By concentrating on this group, the study aims to understand and address the unique challenges they face, which may differ from those encountered by male students. This issue directly affects their academic achievement, as reading in the English language is the foundation of language learning. Upon closely monitoring and examining the students' academic and educational performance, the following issues were revealed: a lack of motivation among female students for reading in English, a lack of confidence in correct pronunciation of English vocabulary during oral reading.

in the classroom, and limited practice of English reading. Consequently, the research problem can be formulated as follows: the low level of English language reading proficiency among middle school female students in government schools and its direct impact on academic achievement.

1.2 Study Objectives

The primary aim of this research is to address the issue of low English language reading proficiency among middle school female students in government schools; particularly year 7, using English language reading comprehension assessments. This leads to the following specific objectives:

(1) To determine the impact of using the literal comprehension assessment on improving the reading proficiency of year 7 female students.

(2) To identify how to encourage year 7 female students to practice deductive comprehension assessments when reading in English.

(3) To explore strategies for addressing the low level of English language reading proficiency among year 7 female students.

1.3 Research Questions

The research attempts to answer the main question of how reading comprehension assessments were used to enhance the English reading proficiency of year 7 female students.

This main question gives rise to the following sub-questions:

(1) What is the impact of using the literal comprehension assessment on improving the reading proficiency of year 7 female students?

(2) How can deductive comprehension assessments be encouraged during English language reading among year 7 female students?

(3) How can the low level of English language reading proficiency among year 7 female students be addressed?

1.4 Study Hypothesis

The use of English language reading comprehension assessments increases students' motivation to read continuously and enhances their reading practice by stimulating them to read, following up, and correcting their mistakes.

1.5 Study Significance

The significance of the research lies in:

(1) addressing the issue of low English language reading proficiency among female students;

(2) providing procedural steps that can partially solve the problem; and

(3) developing the researcher's professional performance and improving educational practice.

2. Methodology

This study is an individual procedural study conducted by the practitioner herself to gain a better understanding of the learning process and to bring about the desired change in order to address the problem they aim to solve. The fieldwork for the study was carried out according to the methodological procedures and tools commonly used in field research.

In this study, the methodology involved a detailed process. Initially, forty-two Year 7 female students in an intermediate school, all at an intermediate level in English, were selected based on specific criteria. The data collection included administering reading comprehension and reflective thinking tests, with clear instructions and set durations for each. A particular teaching method or intervention was implemented over a specified period, using defined materials and strategies. The data analysis involved meticulous processing using SPSS, with careful coding and application of statistical tests such as test-retest reliability, Pearson correlation, and ANCOVA. Additionally, follow-up procedures were conducted to assess the long-term impacts of the intervention, involving further tests or interviews with the students. This comprehensive approach ensured a thorough understanding and assessment of the research problem.

The research design is descriptive and exploratory, focusing on a sample of year 7 female students in a government school. Forty-two students participated in this study, all of whom are at an intermediate level in their English language proficiency. This inclusion of their English proficiency level provides a clearer context for the study's scope and the participants' capabilities.

In the study, three key research tools were utilized. Direct observation by the researcher assessed the female students' English language reading proficiency, pinpointing areas of low performance. Additionally, both individual and group interviews were conducted with the study sample, aiming to identify specific weaknesses in their English reading skills. Furthermore, a questionnaire was developed to determine the underlying reasons for the observed low proficiency levels in English reading among these students, and to gain insights into the challenges they face, with the goal of addressing these issues effectively.

In the study, the intervention spanned approximately four months within an academic semester. Bi-weekly direct observations and mid-semester interviews were conducted, with both being recorded and transcribed through audio recordings and note-taking. The questionnaire, consisting of multiple-choice and open-ended questions, was paper-based and distributed in classrooms towards the end of the semester. The assessment form was meticulously designed, drawing upon educational research and methodologies, particularly referencing works like those of Shoaib et al. (2016), Keshta (2016), and Al-Anzi (2019) on strategies impacting language acquisition and reading comprehension, such as the PQ4R strategy, jigsaw, and concept mapping.

An assessment form was designed, incorporating comprehension assessments including literal comprehension, deductive comprehension, critical comprehension, and creative comprehension. These assessments were distributed to the female students to be applied with each new reading material to improve their English language reading proficiency. The researcher used two instruments for data collection: a reading comprehension test and reflective thinking test. In addition, two statistical analyses were used to analyze the collected data: The Statistical Package for the Social Sciences (SPSS) software was employed for data analysis. The specific statistical tests used in the analysis included test-retest reliability, Pearson correlation, and Analysis of Covariance (ANCOVA). The study's findings revealed that the implementation of the PQ4R strategy significantly enhanced both reading comprehension and reflective thinking skills in the experimental group of 5th graders, compared to a control group. This indicates that students who were taught using the PQ4R method showed a more pronounced improvement in these areas than those who did not receive this intervention.

3. Results and Discussion

Approximately half of the sample i.e. 22 students (52.8%) finds reading in English moderately difficult, while about a quarter of the sample i.e. 11 students (25%) finds it difficult. Only 13.9% i.e. 6 students of the sample find it very easy (Figure 1). This suggests that reading in English is challenging for the participants.
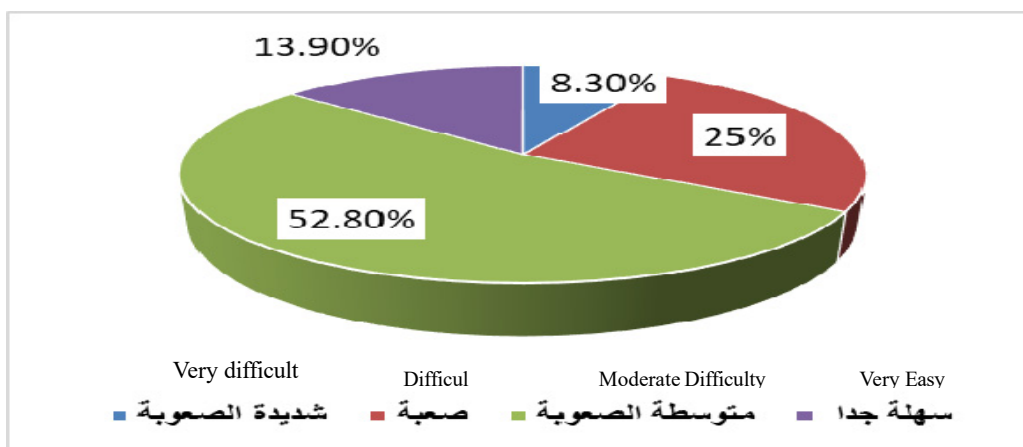

Figure 1. Response of the study sample to the first question: is reading in English considered challenging?
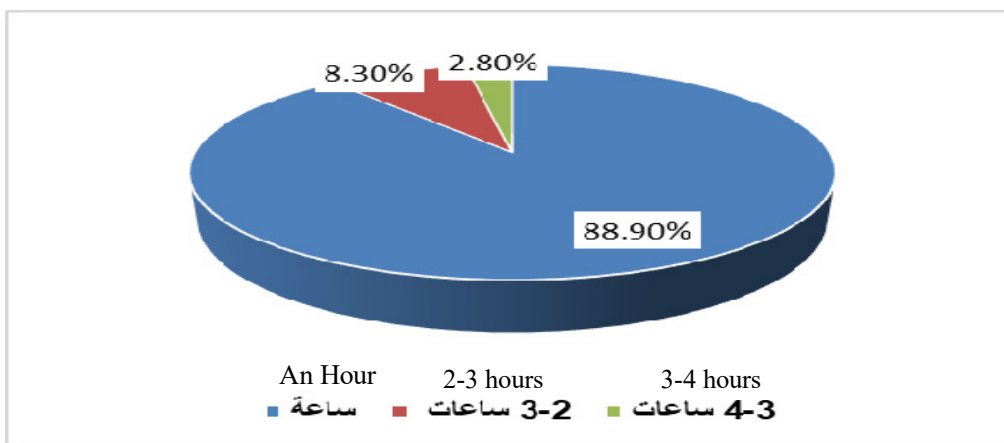

Figure 2. Response of the study sample to the second question:

How much time do you spend reading in English every day?

Figure 2 shows the majority of the sample i.e. thirty-eight students (88.9%) spends only one hour per day reading in English. Only three students (8.3%) spend 2-3 hours daily, and one student (2.8%) spends 3-4 hours.

As illustrated in Table 1, most participants strongly agree on the necessity of understanding a text before being able to read it. In addition, they are aware of the importance of knowing the correct pronunciation of words to be able to read them. Finally, they consider learning English as an important matter.

Table 1. Research sample responses to the survey questions

Question	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
I have difficulty when reading English texts.	16.7%	19.0%	38.1%	7.1%	4.8%
I struggle with pronouncing many English words.	11.9%	23.8%	38.1%	9.5%	2.4%
I feel embarrassed when speaking or reading in English in front of others.	16.7%	21.4%	23.8%	11.9%	11.9%
I believe I need to understand a text completely before I can read it.	38.1%	33.3%	7.1%	4.8%	2.4%
I think I can't read any word in English if I can't pronounce it correctly.	28.6%	28.6%	19.0%	7.1%	2.4%
I feel that learning English is entirely unimportant.	2.4%	16.7%	21.4%	45.2%	2.4%
I don't see a reason to speak English outside the classroom.	7.1%	11.9%	23.8%	23.8%	19.0%

These findings indicate that there is a perception of the difficulty of reading in English among the participants. They emphasize the importance of understanding texts and correct word pronunciation in the reading process, and participants generally consider learning English as important.

4. Proposed Solutions for the Plan

In this study, conducted in an intermediate school, we explore strategic solutions to enhance English reading proficiency among Year 7 female students. The school faces challenges in fostering English language reading skills, impacting students' overall academic performance. The proposed solutions aim to address these challenges through a combination of direct engagement, innovative teaching methods, and technology integration. Each solution is tailored to the unique needs of the students at this school, with a focus on improving comprehension, confidence in reading, and promoting a sustainable interest in the English language. This comprehensive plan is designed to transform the learning experience and elevate the students' proficiency in English reading.

(1) Sit with the students, guide them, understand the reasons for their weaknesses, and motivate them by encouraging their love for the English language both inside and outside the classroom.

(2) Design a comprehension measurement form and distribute it to the students with every new text studied to record their levels of reading comprehension: literal comprehension, inferential comprehension, critical comprehension, creative comprehension for continuous application.

(3) Use the "literal comprehension" scale from the comprehension measurements when reading a new piece in the lesson by segmenting the text, placing questions on the paragraphs, and extracting the main ideas from them. This scale is an integral part of a reading comprehension assessment form utilized in the study in an intermediate school. This scale is specifically designed to evaluate the most fundamental level of understanding of a text. It encompasses several key components essential for basic comprehension. Firstly, students are tasked with identifying the main idea of the text, which involves understanding the central theme or primary message conveyed by the author. Secondly, the scale requires students to determine the literal meanings of words as they are used in the text. This aspect focuses on the explicit, direct meanings of words, avoiding any interpretations or inferences that go beyond what is stated. Lastly, an important part of this scale is organizing the sequence of events. Here, students arrange the events or ideas presented in the text in their correct chronological or logical sequence. This structured approach is crucial in ensuring that students grasp the basic contents of the text, laying a solid foundation for more advanced levels of comprehension, such as inferential or critical understanding.

(4) Utilize the "inferential comprehension" scale from the comprehension measurements by identifying unfamiliar words and assigning students to write down new words in a special notebook for practice, reviewing them with them in the upcoming sessions. This scale represents a crucial component of the reading

comprehension assessment form used in the educational study. This scale delves into a deeper and more interpretative level of understanding text, beyond just the surface-level meanings. It primarily involves two key aspects: firstly, students are tasked with inferring the author's purpose for writing the text. This requires them to think critically about the underlying themes, messages, or intentions that are not explicitly stated but are implied within the narrative or exposition. Such an exercise encourages students to consider the broader context, hidden motives, or subtle cues that an author might have embedded in the text. Secondly, the scale requires students to identify nouns that are referred to by pronouns within the text. This aspect of inferential comprehension is crucial for understanding relationships and references that are not directly spelled out but are essential for grasping the full dynamics of the text. For instance, in a narrative, students may be asked to deduce why certain plot developments occur or to connect pronouns to their respective nouns, thus enriching their comprehension with a more nuanced understanding of the text's structure and content. This approach cultivates students' ability to interpret and engage with texts at a more sophisticated level, fostering critical thinking and deeper reading skills.

(5) Change the English reading style and methods by pronouncing words correctly and reading sentences that contain new words with a harmonious reading.

(6) Encourage students to read in English by providing a mobile library, selecting suitable books for students and encouraging them to read and borrow them.

(7) Activate the effective use of technology by enhancing reading through the Teams program, which uses artificial intelligence to motivate students by inserting a text on the platform. When the student reads this text aloud, it monitors the score and corrects errors while training.

(8) Activate the effective use of technology by incorporating a digital library into the platform to facilitate browsing and access.

(9) Top of Form

5. Designing the Action Plan and Testing the Hypothesis

In this section, the researcher focused on systematically improving English reading skills among Year 7 female students in an intermediate school. The action plan incorporated a blend of direct student engagement, comprehension assessments, and innovative teaching methods. The implementation involved interactive reading sessions, using comprehension scales like literal and inferential comprehension, and integrating technology to engage students actively. The effectiveness of these strategies was tested through pre-and post-intervention assessments, allowing for data-driven analysis of the improvements in reading comprehension. The results indicated a positive impact, leading to adjustments in the approach for enhanced effectiveness. The plan emphasized sustainability and adaptability, ensuring long-term benefits in students' reading proficiency.

This section presents the real difficulties faced by Year 7 female students in their English reading classes. The table is not merely a proposal, but rather an evaluation of the actual challenges encountered during the implementation of the reading improvement plan. It details both the strategies applied to address these difficulties and the outcomes observed, providing a clear and practical overview of the interventions and their effectiveness in the educational setting.

Table 2. Implementation of the Plan and Testing Hypotheses

The Proposed Assumptions for the Plan	Tools Required	Difficulties	Solution	Time
Using reading comprehension measures to be applied when studying each new text.	Designing a form that gathers all the reading comprehension measures (literal, inferential, critical, creative).	Initially, the limited time during the class was burdensome for the teacher, but later on, the students adapted to this approach, resulting in improved performance And increased engagement.	This difficulty can be overcome by implementing effective time management strategies, optimizing lesson plans, and incorporating technology-enhanced learning. Teachers can prioritize key learning objectives, utilize online resources for self-study, and adopt a flipped classroom approach. Encouraging peer learning, conducting regular assessments, and maintaining flexibility in teaching methods can also contribute to addressing this challenge. Through these measures, both teachers and students can adapt positively to the learning approach, leading to improved performance and increased engagement in the classroom.	Two complete academic semesters.
Using the inferential comprehension measure in reading comprehension assessments by identifying unfamiliar words and assigning students to write the new words in a special notebook for practice, reviewing them with them in the upcoming lessons.	Designing and executing a dedicated notebook for each student.	Absence of students.	This difficulty can be overcome by implementing a comprehensive attendance monitoring system, enhancing lesson engagement and relevance, establishing open communication with students and their families, and providing makeup assignments for missed classes. Additionally, offering flexible learning options, promoting peer support, implementing attendance incentives, and involving parents in the process can collectively address the challenge of student absence. These measures aim to foster regular attendance and provide necessary support to ensure students' academic success.	Two complete academic semesters.
Changing the English reading style and methods by pronouncing it correctly and reading sentences containing new words with a harmonious reading style.	Encouraging students to engage in synchronized reading.	No issues.		Two complete academic semesters.
Motivating the students to read in English by providing a mobile library and selecting suitable books for the students, encouraging them to read and borrow them.	Preparing a digital library accessible at any time and a mobile library in school for leisure time.	Lack of interest from some students in reading these books.	This difficulty can be overcome by implementing strategies that foster a love for reading among students. To address the lack of interest from some students in reading books, educators can introduce a variety of engaging and culturally relevant reading materials. Additionally, personalized reading choices, book clubs, and discussions can be encouraged to make reading a more interactive and enjoyable experience. Teachers can also integrate multimedia	The implementation of the plan began at the start of the academic year and has been ongoing for two complete academic semesters.

			elements, such as audiobooks or digital resources, to cater to diverse learning preferences. Moreover, celebrating reading achievements and providing positive reinforcement can motivate students to take a more active interest in reading, ultimately cultivating a lifelong love for books.	
Activating the effective use of technology by incorporating text into the Teams program, which utilizes artificial intelligence technology to monitor grades and correct errors.	Inserting new text every week via the platform into the TEAMS program.	No issues.		The implementation of the plan began at the start of the academic year and has been ongoing for two complete academic semesters.
Encouraging students to read in English outside the classroom. | Providing students with a list of recommended books and online resources. | Lack of interest or motivation.	Providing students with a list of recommended books and online resources.	Lack of interest or motivation.	To solve the issue of lack of interest or motivation in an English reading classroom, it is effective to use engaging and relevant texts, employ interactive teaching methods like group discussions, provide positive feedback and achievable goals, involve students in choosing reading materials, and create a supportive classroom environment. This approach aims to increase engagement and sustain students' interest in learning.	Throughout the academic year.
Providing students with a supportive and engaging learning environment.	Creating a comfortable and welcoming classroom atmosphere. | Limited resources and time constraints.	Limited resources and time constraints.	To overcome limited resources and time constraints in an English reading classroom, educators can utilize free online resources and digital libraries to expand the range of available reading materials. Collaborative learning strategies, such as peer-to-peer teaching and group discussions, can maximize learning within limited time frames. Efficient lesson planning focused on key learning objectives and incorporating brief, focused activities can also help make the most of the available time. By creatively using available technology and emphasizing collaborative and efficient teaching methods, teachers can effectively address these challenges.	Throughout the academic year.
Encouraging students to practice deductive comprehension assessments when reading in English.	Providing students with examples and practice exercises.	Difficulty in understanding the concept.	To overcome difficulties in understanding concepts in an English reading classroom, teachers can employ diverse instructional strategies. Simplifying complex ideas into smaller, more manageable parts helps in gradual comprehension. Using visual aids, such as charts and diagrams, can aid in	Throughout the academic year.

| | | | visualizing and reinforcing concepts. Encouraging interactive discussions and questions allows students to clarify doubts and deepen their understanding. Incorporating real-life examples and relatable contexts can make abstract concepts more tangible and easier to grasp. Additionally, providing additional resources or supplementary materials can offer different perspectives and explanations, aiding in a more comprehensive understanding of challenging concepts. | |
| Exploring strategies for addressing the low level of English language reading proficiency among year 7 female students. | Conducting research and consulting with experts in the field. | Limited resources and time constraints. | To tackle limited resources and time constraints in an English reading classroom, educators can leverage free online resources and e-books for diverse reading materials. Implementing group activities and discussions maximizes learning within limited time. Efficient lesson planning that focuses on core concepts, along with short, targeted exercises, ensures effective use of time. This approach helps in optimizing both resources and time for enhanced learning experiences. | Throughout the academic year. |

6. Implementation of the Plan and Recording the Results

In implementing the study's plan, the central hypothesis focused on using reading comprehension scales in English to enhance students' reading practice and motivation. To achieve this, a specialized form covering literal, inferential, critical, and creative comprehension was designed and used in each lesson involving a new text.

This form is given to the students with every lesson that includes a new text. In the study, the specialized assessment form designed to gauge various levels of reading comprehension was used in a total of 15 lessons. Each of these lessons introduced a new text, allowing for the consistent application of the form and ensuring that students had multiple opportunities to practice and improve their reading comprehension skills over the course of the semester. This structured approach provided a robust framework for evaluating the effectiveness of the reading strategies being studied. After the students read the text from the book, we start discussing these levels in the following way refer to the figure below:

(1) In literal comprehension, students identify the main idea of the text, determine the literal meaning of words in the text, and organize the sequence of events.

(2) In inferential comprehension, students infer the author's purpose in writing this text. They also identify the nouns referred to by pronouns.

(3) In critical comprehension, students can distinguish between the main and secondary ideas, between fact and opinion, and between reality and imagination.

(4) Finally, in creative comprehension, the student can suggest a new title for the text or a different ending, and she also asks three questions about the text.

The mechanism involves distributing a worksheet (the form) to all the students, which includes these four levels of reading comprehension as illustrated in Figure 3.

Figure 3. Sample form of reading comprehension levels (Source: Researcher's Construction)

7. The Objectives

The objectives of the study aim to address specific aspects of English language reading proficiency among middle school female students. They focus on engaging students in the reading process through questioning and critical thinking, enhancing reading comprehension by information collection and organization, and facilitating practical application of reading skills. These objectives are designed to not only improve students' ability to understand and use English in various contexts, but also ensure effective implementation of reading comprehension abilities in real-world scenarios. The study aligns these objectives with teaching methods and assessments to effectively address the low level of English reading proficiency observed among the students. These objectives are as follows:

(1) Engaging students in stimulating the reading process by asking questions and critical thinking.

(2) Enhancing reading comprehension skills among students by collecting information from the text and organizing it.

(3) Facilitating the practical application and reinforcement of reading skills in students, so that they can easily understand and use these skills with new texts both inside and outside the classroom. This objective focuses on ensuring that students not only learn but also effectively implement their reading comprehension abilities in various real-world scenarios.

8. Objectives

The study objectives primarily focus on two key areas. First, it aims to help students acquire a larger number of new words and vocabulary, along with practicing them. The second objective is to enable students to master pronunciation, articulation of letters, and correct spelling, as these are crucial in conveying the correct meaning. While Table 2 in the study outlines these two steps, it is noted that the other steps have not been detailed. This omission is due to the specific focus of the study on these foundational elements of language learning, which are essential for building further language skills. Future work could expand on these initial steps to include a broader

range of language learning aspects.

In addition, the use of the (Inferential Comprehension) scale within the reading comprehension measures was more profound. This was achieved by identifying unfamiliar words and assigning students to write down these new words in a specially designed research notebook, which includes the name of each student individually. This approach aims to stimulate their motivation to commit to reviewing these new words in the coming lessons, while also practicing their spelling as illustrated in Figure 4 below.
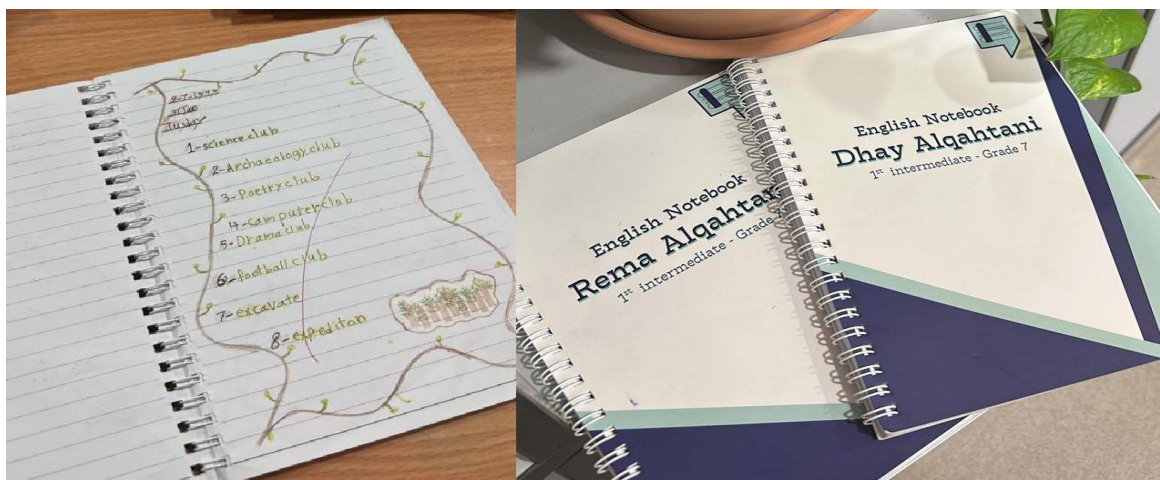
Figure 4. A model of the notebook for each student for the (Inferential Comprehension) scale

9. Discussion of Findings

These findings emphasize the effectiveness of the plan in enhancing students' English reading skills. The plan, not only improved their language proficiency that was measured by using a pre-test and a post-test, but also boosted their confidence and motivation to excel in English reading.

(1) The reading comprehension assessments had a positive impact on students' interest in the English language. This finding aligns with previous research by Sadiku (2015), which emphasizes that reading is a fun way to gain knowledge and wisdom. Reading also stimulates brain cell development and mental health (Dowrick et al., 2012). Therefore, enhancing reading skills can lead to increased knowledge and improved mental health, reinforcing the importance of the study's results.

(2) Students' English reading skills significantly improved. The improvement in students' English reading skills was assessed using a combination of methods. This included reading comprehension tests, both before and after the intervention, to quantitatively measure changes in proficiency. The reading assessments were designed to evaluate various levels of comprehension, such as literal, inferential, critical, and creative comprehension. This finding is consistent with the findings of Al-Shamali (2017). Their study found that the PQ4R strategy led to the development of reading comprehension skills and reflective thinking among students. This parallels the positive impact of the reading assessments in the current study.

(3) Students gained confidence in themselves and became more comfortable reading aloud in front of their peers. This increase in confidence and willingness to read aloud supports the idea that reading contributes to improved mental health, as suggested by Sadiku (2015).

(4) In the study, the inclusion of various activities significantly contributed to the achievement of lesson objectives and the enhancement of reading comprehension skills. These activities encompassed assessments of literal comprehension, such as understanding key ideas and words, inferential comprehension tasks like identifying and noting unfamiliar words, and critical comprehension exercises that distinguished between main ideas, facts, and opinions. Additionally, creative comprehension was encouraged through tasks like suggesting alternate titles or endings for texts and formulating questions about them, paralleling Keshta's (2016) findings on the effectiveness of varied activities in improving reading skills.

(5) Satisfactory results motivated students to exert more effort. This motivation is crucial for learning, as highlighted by Shoaib, et al. (2016), who found that the PQ4R strategy increased the level of attention among slow learners.

(6) Understanding the text, identifying challenging words, and knowing how to use a dictionary helped students develop their language skills and made reading more accessible. This finding aligns with Al-Anzi's (2019) study, which aimed to develop creative reading skills using concept mapping strategies.

10. Recommendations

The finding of this study:

(1) emphasize the importance of teaching the English language to enhance students' speaking and reading fluency;

(2) provide training for teachers on English language reading comprehension assessments;

(3) implement the reading comprehension levels form for students with each new text studied;

(4) encourage students to participate in English language training programs; and

(5) motivate students to track their performance and achievements, highlighting the importance of self-assessment in helping them progress and develop.

11. Conclusion

This empirical study demonstrates that enhancing English reading skills among female middle school students in government schools can significantly influence their academic achievement. The research highlights the critical role of targeted strategies and interventions in bridging the gap and ensuring that students receive the support necessary for their educational success. These findings provide a strong foundation for further research and the development of evidence-based policies and practices to enhance English reading skills and, consequently, academic outcomes in government schools in Saudi Arabia.

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