

## Investigating The Impact of Implementing Brain-Based Learning to Improve English Language Proficiency

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دراسة أثر تطبيق التعلم القائم على الدماغ في تحسين كفاءة اللغة الإنجليزية

الباحثة: الأستاذة المساعدة الدكتورة لينا لافتة جاسم

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### Abstract

The study examines teachers' perspectives regarding the efficacy of brain-based methods for learning English. This study conducted with five Malaysian teachers once over six weeks at the University of *Utara*, Malaysia. The findings illustrate the effectiveness of these strategies relies on the ability of teachers to facilitate the learners' limited English competence in the language course. Nonetheless, there were challenges associated with the trainees' restricted English proficiency. The results also indicate that there were challenges associated with the trainees' restricted English proficiency. **Keywords:** English learning, Brain-Based Learning, Social constructivist

### الخلاصة

تبحث هذه الدراسة في آراء المعلمين حول فعالية أساليب التعلم القائم على الدماغ في تعلم اللغة الإنجليزية. أجريت هذه الدراسة على خمسة معلمين ماليزيين مرة واحدة على مدار ستة أسابيع في جامعة أوتارا، ماليزيا. توضح النتائج أن فعالية هذه الاستراتيجيات تعتمد على قدرة المعلمين على تسهيل مهارات اللغة الإنجليزية المحدودة لدى المتعلمين في دورة اللغة. ومع ذلك، كانت هناك تحديات مرتبطة بضعف إتقان المتدربين للغة الإنجليزية. كما تشير النتائج إلى وجود تحديات مرتبطة بضعف إتقان المتدربين للغة الإنجليزية.

الكلمات المفتاحية: تعلم اللغة الإنجليزية، التعلم القائم على الدماغ، البنائية الاجتماعية

### 1.Introduction

Since the 1990s, educators have increasingly focused on understanding brain activity in educational contexts and its potential advantages for learners (Wilson and Conyers, 2020). Muscella (2014) describe BBL as acknowledging the brain's codes for significant learning and modifying the teaching process accordingly. Rodgers (2021) describes brain-based learning (BBL) as education aligned with how the brain naturally learns, and it is learning with the brain in mind. Both BBL researchers concur that it is perceived as a conceptual framework for understanding learning rather than a remedy for the challenges encountered by educators. This study aimed to examine EFL students' experiences in applying BBL in EFL classrooms. Brain-based learning provides educators with various brain-compatible pedagogical strategies to engage students in English language Learning (Burkett, 2014). Prior BBL research on English language acquisition has determined enhancements in learners' comprehensive academic performance (Winantaka et al, 2024), speaking proficiency (Jang et al, 2022), reading abilities (Hussien, 2016; Kohar, 2022), and writing performance (Zuhriyah & Augustina, 2020; Wilson et al, 2024). BBL also improved the learners' capacity to remember and recall English vocabulary items presented in the classroom (Kandasamy et al., 2021; Bayer, 2022). Today, people globally want English. Individuals are working hard to grasp the English language. Teachers worldwide struggle to find the best way to teach English language proficiency. Few know the ability to communicate and learn languages is innate. Located in the brain. Teachers can successfully handle English learning challenges by tapping into students' cognitive talents (Jumaah, 2024). According to AlJumaily (2024) studying English is in Iraq a significant barrier for EFL students. Helping students learn English properly is crucial for Iraq's future existence. Effective instructors aim to improve student academic achievement by exploring diverse teaching methods. Each instructor has a distinct learning style.

Recent neuroscientific research has shown the various ways humans gain information. Brain-based learning was developed by educators and academics using brain science to improve teaching practices. Brain-based learning involves detailed lesson planning and their impact on education before, during, and after each session.

### 1.2.Statement of the problem

Many international, especially Arab students, are unable to communicate effectively and clearly in English. They remain incapable of employing the language in practical situations. While they possess a firm grasp of grammar and can read and comprehend English, they lack the confidence to engage in conversations on everyday subjects. This challenge arises from the inadequate techniques and methodologies employed in teaching English at universities. To improve the English proficiency of international learners, the researcher suggested employing Brain-Based Language Learning (BBL) as a valuable technique to promote international learners' English proficiency. In Arab countries, English is taught as a foreign language (EFL) for international students. The primary purpose of inclusion is to enhance their creative expression skills. Secondly, teachers face challenges in improving students' proficiency in an environment where the language is predominantly absent, apart from the limited weekly English sessions (Schurz et al., 2022; Kopczynski & Silvia, 2024). This study investigated BBL in English classrooms, as it may offer an alternative to enhance English learning (Barzinji, 2024).

### 1.3.The significance of the study

This study will furnish essential insights for Intensive English instructors to assess the existing teaching methodologies for integrating BBL into EFL courses. It will also aid English learning administrators and supervisors in resolving challenges that instructors may encounter when using BBL in EFL courses. Advocates of conventional teaching approaches may evaluate how educators employ BBL strategies to increase learners' engagement in the EFL course.

### 1.4.The Study Aims

This research aims to answer these questions: What are Malaysian teachers' views on utilizing BBL in English classes? What are Malaysian teachers' perceptions towards using BBL in terms of usefulness for English learning?

## 2.Review of Related Studies

In Brain-based learning classrooms, students demonstrate their talents by building on previous knowledge to gain new, relevant material (Bada and Jita, 2022). These classroom changes have invigorated brain-based learning and expanded students' skills. Children grasp thought's role in learning and its structure, according to Bada and Jita (2022), Cognitively friendly schools use "alerting," "coordinated immersion," and "active therapy" (or solve a problem). Restrictive environments, the curriculum, instructors' perspectives, and the preliminary implementation of "learning with packing" have obstructed consistent training in Pakistan (Massaro, El-Dib, Glass, and Aly, 2008). Paralinguistic and prosodic distinctions divide spoken language from written language. Widiati and Cahono (2016) identify the voice's tone, rhythm, volume, gestures, precise speech pronunciation, pitch, emphasis, rhythm, and stops. Bygate (1987) asserts that written language is more structured and rational than spoken language. Although less structured and rational than written communication, voice is succinct. According to Sana and Fenesi (2013), grammatical, discursive, social, and strategic competencies influence communication. Bender (2023) asserts that fundamental repetition, substitutes, and slotted substitution exercises intensify learners' short-term memory efforts without enhancing their communication abilities. Encouraging student engagement in communicative activities that strengthen teacher-student and student-student relationships would foster more confidence in public speaking and cultivate a conducive language-learning environment (Pardede, 2019). Unrestricted dialogue, task-oriented instruction, jigsaw puzzles, games, problem-solving, dramatization, role-playing, collaborative work, paired activities, and oral reading may enhance public speaking confidence. Contemporary educators might examine neuroscience to enhance their pedagogical choices. Brain-based learning (BBL) assists children with various academic challenges in meeting their needs. "brain-based education" refers to education that considers current brain research. Brain-focused education is growing globally (Connell, 2009). Willis (2007) examined the improvements in evidence-based classroom cognitive skills. Duman (2006) stressed the need for brain-based solutions to improve teaching and learning and speed up learning. Manipulative, active field trips, guest speakers, and real-world projects can help students leverage their learning talents. BBL is popular in science, humanities, and foreign language classes. It blends methods (Bada, & Jita, 2022). Brain-based learning (BBL) can help us build an environment that facilitates learning. Positive learning settings help students learn more while memorizing fewer cliches (Willis & Willis, 2020). Because of this major

issue, this study investigated how BBL may enhance the English skills of International postgraduate learners at UUM.

## 2.1. Social-Constructivist Theory

Constructivism is fundamentally the theory that individuals generate knowledge and meaning via interactions that integrate their experiences and ideas (Jahan& Alam, 2022). Vygotsky (1978) says learning occurs through classroom interaction, not teacher instruction. He believes learners acquire information from social contexts. He also claims that collaborative learning is a social activity in which students learn from their peers by taking on new roles, exchanging perspectives, tutoring each other, and completing difficult tasks. Many scholars have employed Vygotsky's social constructivism to teach foreign languages (Swain et al., 2015). Researchers have noted the importance of social and cultural aspects of language acquisition and the requirement for positive interactions with competent community members. Thus, learning must take into account the learner's background and culture. Social constructivism holds that people develop knowledge and meaning via interaction; students use tools and objects in a supportive environment to improve their understanding and interpretation (Coffman & Klinger, 2007). The genuine educational environment is crucial to constructivist online training. In this study, the use of BBL strategies within an EFL context, utilizing six BBL strategies cited from Caine and Caine (1991) and principles of EF Constructivism classroom (Kapur, 2018) as its theoretical foundation. Constructivism is advocated as a guideline for instructional approaches within the national curriculum (MOE, 2013). Consequently, the justification for integrating both theories by examining their commonalities elucidates the objective of this framework. Furthermore, both methodologies focus more on the optimal learning processes than instructional techniques. Khan et al. (2005) assert that constructivist learning is grounded in contemporary studies about brain function and learning mechanisms. Consequently, they possess intersecting principles to establish optimal conditions for successful English learning (Gulpinar, 2005). Personal and contextual effects, individual variability, meaningful learning, emotional components, and English learning representations are shared by both theories(Kahveci and Ay, 2008).Table (1) illustrates the intersecting concepts of six BBL strategies shared by Caine and Caine (1991) and Kapur (2018) in an FL Constructivist classroom.Table (1) The Connection between six BBL strategies and Social Constructivist Classroom.

BBL strategies	Social Constructivist classrooms
The brain works concurrently during the processing of the parts and the wholes.	In language practice, meaningful and functional usage
We search for meaning through patterns.	New learning builds on prior knowledge.
Emotion is an essential component of learning, with a particular emphasis on meaningful interaction with others.	Learning is facilitated by social contact.
Conducting the process of learning by challenges and slowed down by threats.	Tasks that involve solving problems
Experiential learning enhances understanding and retention by practical engagement.	The process of learning is action-based.
Each brain is different and can grow by maximizing the student's needs, situation, and learning style.	Differences in competence among individuals

Source: Caine and Caine (1994), Kapur (2018)

Experiential learning improves learning outcomes by using spatial memory through hands-on activities. According to Rodgers and Hales (2021), it involves experience, reflection, conceptualization, and experimentation. Rodgers and Hales (2021) state that BBL principles improve experiential learning by encouraging student concentration and participation. This was also confirmed by Kaewkumsai and Phusee-orn (2024) in a brain EEG investigation with 10 adult participants. Enhancing students' attention and interest during physical activities, mainly experiential learning. Constructivism emphasizes active learning. The traits entail students exercising, pondering, understanding, and implementing course information. Second, BBL stresses brain individuality. Individuals process sensory and emotional information differently. BBL research suggests teachers must accommodate students' varied learning styles (Sousa & Tomlinson, 2011). Pang (2022)

demonstrated that various tactics utilized by educators facilitated learners' awareness of their learning processes and encouraged positive engagement in the educational experience. FL Constructivism also emphasizes the individualization of learning. Their distinct life experiences influence an individual's sense of learning. Educators should customize their instruction to accommodate students' requirements and learning preferences. A variety of educational approaches and content resources should fulfill student demands. Third, BBL creates a challenging, threat-filled learning environment. Complex tasks can excite or scare students. Ali et al. (2021) found that 98.4% of 250 learners believed that stress, regarded as a threat, hindered learning. To reduce educational risks, 84% said classroom learning must incorporate novelty. Thus, teachers must use students' curiosity and interest to reduce worry and helplessness (Azzahra and Dwiputra, 2024). Balancing risk and challenge might be difficult when learners don't speak other languages (Caine & Caine, 1991). Problem-solving skills describe successful learning in EF constructivism. Learning should be challenging but straightforward. Active learning requires modeling, scaffolding, and examples (Ahmed et al., 2022). Fourth, healthy BBL social connections require emotion. Glick (2012) showed that educators with significant BBL-aligned instruction and social-emotional development training outperformed those with little or no training in student emotions and social interaction. EF constructivism also believes social involvement improves learning. Through teamwork and cooperation, the teacher must foster healthy classroom socialization. Teachers should use various methods, praise pupils, encourage them, and give continual assistance. Instructors' capacity to control students' emotions during class is crucial to social interaction. Fifth, BBL learning is intense when the brain draws meaning from patterns. Patterns emerge when students integrate new material with their prior knowledge or life experiences. Kamenická's (2022) BBL research found that EFL students remembered twelve novel English vocabulary phrases when the instructor used visual aids, gestures, and physical activities. Learners in FL constructivism build knowledge from actual experiences. Feedback and presentations must incorporate the learner's trial-and-error technique. Problem-solving and critical thinking are emphasized. This study underlined the importance of BBL in developing students' capacity in English. The brain processes wholes and pieces. Students should use many learning methods to activate both hemispheres. Khalil (2019) discovered that collaborative instruction, brainstorming, discussions in groups, role-playing, graphic the organizers, presentations via video, and physical movements by teachers enhanced the English competence of Egyptian secondary school students. Constructivism has several benefits. Paraphrasing, visuals, oral review, and altering information are encouraged (Bates, 2021).

### 3. Methodology

The researcher selected a qualitative methodology to gather more details about the activities, classroom interactions, and events occurring throughout the teachers' BBL implementation. The research will involve Arab postgraduate students in an intensive English program at the University Utara Malaysia Language Centre (UUM). The twenty Arab international students were full-time doctoral students for the academic year 2023-2024 selected to collect data for this study. As a result, non-participant classroom observations and interviews of five Malaysian teachers were done during and after using BBL strategies. For Creswell (2014), The qualitative method is appropriate for analyzing and comprehending the viewpoints of individuals or specialized groups about a certain event or topic. This study employed a non-participant observation protocol. The researcher monitored the activity in each classroom without engaging with the teachers or students. Bryman (2012) states that unstructured observation typically utilizes non-participant observation, as it does not require an observation schedule. The objective is to meticulously document the behavior of participants to construct a narrative account of that behavior. This study utilized a temporal open observation sheet with three columns: time, observations, and comments. The researcher documented each session phase's commencement and conclusion times in the time column. The observations column encompassed the educator's oral and written directives and the students' verbal and written replies—the reactions while participating in BBL classroom activities. The researcher recorded inquiries or remarks in the comment area that required further clarification from the instructor. The inquiries were incorporated into the semi-structured interviews with five Malaysian teachers following the six-week BBL sessions. These five teachers requested that the students be observed just once throughout the six-week BBL intervention class session and at other times. The sessions transpired regularly, each lasting ninety minutes. This research utilized a semi-structured group interview methodology to get the necessary data. Creswell (2014) asserts that a focus group interview is advantageous, particularly when interaction among interviews is expected to yield the most important information and while interviewees are comparable and collaborative. Galletta (2013) characterizes a semi-structured interview as allowing participants to offer

supplementary significant information while sufficiently organizing to tackle study-related concerns. The interviewer has the autonomy to modify the phrasing of questions, provide clarifications for unsuitable inquiries pertaining to a certain interviewee, and include or exclude new questions. The preliminary questions were as follows:

- Do BBL strategies help students to participate and engage in class?
- Show how collaborative activities, such as interactions between teachers and students and between students and other peers, would enhance English learning while utilizing BBL strategies.
- How do BBL strategies improve students' communication skills?
- Would BBL strategies in the classroom assist students understand the new lessons? In what manner?
- Would BBL strategies improve students' English learning in the language classroom?
- Show your students' challenging tasks in the BBL classroom.

The researcher interviewed five Malaysian teachers. The researcher conducted all these interviews were one week following the conclusion of the six-week at the professors' discretion in their intensive English course. All sessions were recorded audibly with an electronic device. The data were collected through classroom observation and interviews. The results from the class observation checklist suggest that the teacher has efficiently executed each stage. Implementation of BBL occurs in three stages. 6 sessions were conducted for the group participating in this study. The researcher utilized the identical films employed in the investigations of Ramírez (2012) and Rasheed (2014), with adjustments to suit the subjects of the investigation. Each session lasted sixty minutes. These sessions aimed to demonstrate the student's disposition towards utilizing BBL in English language acquisition. Furthermore, the researcher aimed to assess the enhancements in students' engagement, collaboration, communication, and comprehension in BBL classrooms. All sessions were conducted in the seminar class using PowerPoint. At the start of the first lesson, the teacher introduces the topic to the students and briefly explains the information concerning exposition text. The teacher uses PowerPoint as a framework for instructional activities and allows students to read the content. The teacher provides language pertinent to the content. The teacher informed the students about the objectives and goals of the learning activities, which involved students articulating concerns connected to their daily life experiences. The instructor elucidated the primary assignment, which entails identifying a minimum of three pros and three downsides about the specified topics: social media, smoking, electric motorcycles, and artificial intelligence. The instructor provided an example and a task related to the primary assignment, dividing the students into eight groups. Each group was required to have one presenter and one examiner. Each topic was addressed by two groups, allowing the presenter of each group to present their findings to the other group on the same topic for comparison and information exchange. In contrast, the examiner of each group posed questions based on the presentation. Before permitting the student to commence the assigned activity, the teacher allows pupils to inquire about any uncertainties regarding the task.

#### **4. Analysis of the Collected Data**

After each observation, the researcher took descriptive field notes and saved them on a computer with the date, study site, and instructor number. The researcher carefully reviewed all observation sheet field notes three times and transferred them into the computer file. Three times every interview, the researcher recorded every word and phrase. They were processed and kept as classroom observation data. Christou (2022) describes thematic analysis as identifying, examining, and reporting themes within data. Data from interviews and classroom observations were subjected to deductive thematic analysis. To tackle the two research inquiries of this investigation. The researcher anticipated that the themes in the data set would correspond to the pre-established topics from previous BBL studies and the theoretical framework. The themes included active student involvement, pleasant social connection, different interactive teaching approaches, management of challenging tasks, adaptation of instruction to learner diversity, substantial pattern identification, and the educator's role as a facilitator. Before coding, After selecting themes and checking codes for patterns or sub-themes, the researcher reread the transcribed material. The researcher analyzed subjects for accuracy and relevance to the research goal. The research questions identified the main subjects. The researcher developed the report using the study's theoretical framework's main elements.

#### **5. Results**

This research aims to show Malaysian teachers' views on utilizing BBL in English classes and their perceptions towards using BBL in terms of its usefulness for English learning at the University Utara Malaysia (UUM). The principal themes that emerged from the analysis of teachers' classroom observations and interviews were:

learning activities, engagement and participation, collaboration, comprehension, communication, social interaction, the teacher's role as facilitator and students' reaction to challenging tasks Data showed that Malaysian EFL teacher used BBL tactics to promote active student involvement, the teacher's position as a learning facilitator, and the student's ability to handle complex tasks. This study's theoretical framework was to investigate their actual behaviors. In the following table , instructors describe their BBL activities in the classroom:Table (2) Activities of the teacher in BBL classroom

Teacher's activities in the BBL classroom
Cooperation(positive social interaction)
Teacher role play(providing a conducive learning environment)
Face to face interaction
Problem solve practice
Using AV aids( whole brain process, individual differences)
Telling moral lessons
Motivation, providing attention-grabbing activities
Providing a challenging and supportive environments

### 5.1 Observation

The researcher recorded all observations about students' conduct and reactions to the memory activities as shown in the table down Table (3)The observation notes for students

The observation Aspects	Were events in lesson observed?	Comments
Students' participation in BBL classes	Well observed	The postgraduate learners were highly participative
Observe the motivation of postgraduate learners to speak and negotiate in English in BBL classes.	Well observed	The attendance was perfect and students were highly motivated.
The active participation of students in the educational activities.	Some what	Initially, the students' participation increased and became more active with time.
Students' collaboration and interaction with their teacher and other classmates in BBL class.	Some what	The interactivity started slowly but improved with use. Brighter students participated more. Lack of self-confidence stopped fewer kids from participating.
Difficulties and challenges encountered while applying BBL strategies.	Some what	Many teachers continue to grapple with identifying the most suitable classroom implementation activities.

The initial column of the above table enumerates the factors employed by the researcher to evaluate teachers' views of learning in the TBLL class. We assessed the satisfaction level for each seen aspect as "well-observed" or "somewhat observed". If a certain feature was adequately noted and provided important insights, it was categorized as "well observed." Aspects identified but necessitating additional elucidation during interviews were categorized as "somewhat"; this classification signified that the level of satisfaction was not as expected. The table has a third column with general observations on the recorded instances. This might enhance readers' understanding of the methods employed in the observation undertaken. The elements of observation are as follows::

#### 5.1.1. Participation and Engagement

Most students were less engaged before using BBL strategies in lessons. According to this research, implementing BBL strategies involved most EFL students more in class. BBL activities also motivated students

to connect with their teachers and classmates, which increased their engagement. The study's initial research question asked students about using BBL strategies to learn English. More students participated in classes. The observation indicated the learners' engagement and participation in the 6th session. During the initial session, many pupils engaged in dialogue with their lecturers, but others remained reticent. Some students collaborated to plan a performance, while others showed disinterest, prompting the teacher to select from the list. To keep students engaged, create varied learning assignments throughout class. Applying BBL strategies provided a true learning environment, which supported pupils' target language participation. Better students participated more. Poor pupils were less interested and involved due to self-doubt. They participated more when they were accustomed to a new educational environment.

#### *5.1.2. Collaboration*

One crucial point is that numerous inactive students became more active during the class. Collaboration and engagement were evident. Most students shared and interacted with their teacher and classmates in the BBL class. In conducting the experience of this study, BBL strategies enabled students to interact with their teacher and other students in meaningful situations that were not available in a previous traditional class. Consequently, EFL students expressed enthusiasm for including diverse activities in their sessions. Furthermore, students exhibited increased motivation to acquire and refine their English abilities with the application of BBL techniques. This theme was related to the study's second research question, which was supposed to show the teachers' perception toward the use of BBL strategies in terms of usefulness for language learning. There was a noticeable increase in student engagement. The chosen subjects, particularly technological materials, were captivating. Furthermore, the new generations are acutely conscious of the importance of these techniques. The researcher chose to conduct interviews one week after the six-week BBL sessions ended. An electronic gadget recorded all sessions audibly. All three teachers used cooperative learning to engage students. The learners worked in pairs or fours on designated teaching tasks. Discussion among pupils on ideas. The teachers used three techniques: simulations and group presentations, including students' real-world experiences. They exercised regularly in class. These teachers also had students give feedback and reflect. The teacher told students, "I need each group to present their work." Your peers will critique your responses after each presentation. I'll summarize later. Students carefully reviewed and improved their responses during peer feedback sessions. All observations showed consistent transitions between at least two to three learning activities in a class. These activities, which lasted 10–25 minutes and used varied methods, kept students engaged in the learning process. Problem-solving tasks and inter-group or whole-class presentations worked well. T3's pupils had to brainstorm, mind map, and present their ideas.

#### *5.1.3 Comprehension*

As defined by Raid (2017), comprehension is a cognitive development that arises from listening, thinking, observing, and experiencing. In BBL classes, using AVAs enhanced students' concentration on the subject matter. Creating a dynamic atmosphere that immerses participants in a realistic setting. Following the integration of BBL strategies into courses, students demonstrated an improvement in their comprehension abilities over time. The superior individuals exhibited enhanced advancement. The students with proficient English encountered no difficulties, even with challenging questions. The inquiries were mainly about reading proficiency and comprehension of the video content, namely in the first and sixth lessons. Nevertheless, the less proficient individuals faced challenges understanding and responding to such queries. Moreover, online films can stimulate students' pre-existing understanding of the subject.

#### *5.1.4. Teacher's Role as Facilitator*

The teacher's facilitation of learning was a significant subject. The teacher successfully engaged students at the start of learning activities. The teacher quietly put key phrases on the board while he created a simple image with an empty speech bubble to encourage students to guess in another lesson. These methods kept students' attention during class. Next is educators' capacity to inspire students. The teacher congratulated students who completed learning tasks. These acts created a good learning environment. After some pupils seemed to have given up, four teachers guided and motivated them to do complex tasks. The teacher used open-ended questions to help students complete challenging assignments and encouraged them by saying, "I'm sure you can discover a better one. Additionally, The teacher illustrated and elucidated the procedure for executing an activity when most learners were perplexed by the job. He inscribed on the board and illustrated the application of sentence patterns to elicit reasons from peers in an alternate group. Provide an example of extracting evidence from a reading text. This teacher also utilized scaffolding and modelling strategies when his students encountered

challenges in the learning activities. The data within this study's six theoretical constructs were analyzed. Initially, experiential learning was apparent when learners engaged in hands-on activities, including physical movements within cooperative learning, accompanied by reflective thinking on their acquired knowledge. Secondly, the reflective practices during the feedback sessions were congruent with pursuing meaning via the patterning component. This was facilitated during their presentations when they effectively linked their peers' prior comments to their original work. Furthermore, the diverse problem-solving exercises aligned with significant patterns as the learners utilized their essential abilities. Third, individual variances in learning were considered by assigning particular responsibilities to each group or pair member according to their learning styles and preferences for instruction demonstration methodologies. The majority of learners indicated a preference for their teachers to demonstrate the exercise initially since it enhanced their learning experience. Fourth, educators effectively mitigated components of threats in demanding tasks. Two teachers fostered a feeling of novelty and curiosity to engage their attention in problem-solving exercises. All the educators offered help and support and utilized scaffolding approaches to enhance learning when their students faced challenges throughout the session. Fifth, good social relationships in the classroom were apparent when the teacher commended or recognized his achievements in class. Intentional social grouping in cooperative learning has fostered certain elements of pleasant social connections when learners collaborate to accomplish learning goals. The sixth component pertains to the brain's inclination to concurrently process wholes and portions, which is intrinsic to the continual change of activities. The diverse activities facilitated the brain's lateralization process, enabling the right and left hemispheres to collaborate due to the integration of information from several sources. The utilization of visual texts and spoken presentations engaged their various learning modalities.

#### 5.1.5 Student Reactions to Challenging Tasks

Despite the educators implementing BBL tactics grounded in the six components of this study's theoretical framework, certain learners reacted adversely to the demanding problem-solving tasks during two of the three observations. During the first observation, many pairs of students exhibited passivity and a lack of responsiveness. It is challenging to formulate phrases in English. The students had challenges translating each time they constructed a statement in English. In observation three, The teacher instructed the learners to compose a conversation based on a scenario from the designated English text. The students encountered challenges in completing the exercise despite the teacher's clarifications. It was noted that they could not identify the appropriate FL vocabulary to articulate their thoughts effectively. Comparable answers were noted in the teacher's classroom training about problem-solving exercises. This led to some learners conceding defeat, as they were noticeably uncommunicative or stayed mute until the conclusion of the course. A few problematic learners disrupted their group, exhibiting restlessness and a reluctance to engage actively. In the context of this study's BBL theoretical framework, these adverse emotions negatively impacted two elements: a learning environment characterized by low danger yet high challenge and the promotion of pleasant social relationships inside the classroom. Initially, these learners saw learning as challenging and threatening due to their inadequate proficiency in FL. Secondly, some elements of pleasant social connections were undermined by the recalcitrant learners inside their respective groups. In summary, BBL methods were evident in the classroom when experiential learning facilitated active engagement or immersion of the learners in the learning process. Additional BBL tactics utilized were customizing learning to accommodate individual learner variances, establishing settings that necessitated the brain's search for meaning through pattern recognition and using the brain's propensity to process wholes and pieces concurrently. Even though most teachers effectively fulfilled their roles as learning facilitators, the results regarding BBL strategies associated with low-threat yet high-challenge learning conditions and the encouragement of positive social interactions in the classroom were somewhat inconsistent.

#### 5.2 Interviews

The international postgraduate EFL students' perceptions after implementing BBL techniques was condensed into three principal topics. They were instructed on tactics for learning, significant learning, and social interaction within the classroom. Themes were further developed and analyzed about the six elements of this study's theoretical framework. The students' replies towards BBL classroom activities are summarized in Table (3) as follows: Table (3) Summary of BBL classroom activities included in responses of Students



BBL classroom activities
Interactive activities using bodily motions
Frequent variation across various assignments
Generating learning interest for learners
Identify tasks according to learners' requirements and learning preferences.
Modeling and Scaffolding
Improve collaboration among learners
Improve Communication between students themselves and students and their teacher

#### 5.2.1 Participation and Engagement

This theme relates to BBL class participation. Learners answered this semi-structured question: **Interview Question 1: Do BBL strategies help your students participate and engage in class?** The students agreed that BBL techniques facilitated their engagement during hands-on interactive activities, necessitating significant physical activity within the classroom. This aligned with experience learning. T1 stated, "BBL strategies are useful teaching strategies to enable students to be highly involved." T2 said that BBL "Offered students practical activities ... rather than the teacher's performing the reading, my students were required to read it by themselves. Subsequently, students were required to perform it". T4 said that "These strategies were effective due to the frequent alterations in activities, which successfully engaged students actively". T4 also remarked that all classmates showed interest in engaging in various activities, including acting, group presentations, and gallery walks. These interactive activities aligned with the brain's propensity to process wholes and portions concurrently. Moreover, the teacher afforded enjoyable experiences despite demanding class tasks. That is why, the threat of learning was minimal, but the challenge was enormous.

#### 5.2.3 Collaboration

This topic examined the use of BBL methods as facilitators of student cooperation in English language acquisition. An open-ended inquiry pertained to Interviews Question 2: Show how collaborative activities, such as interactions between teachers and students and between students and other peers, would enhance English learning while utilizing BBL strategies. The topic of collaborative learning among students gaining English through internet videos concerns the shared viewpoints of four students who have enhanced their English skills by employing BBL tactics in the classroom. Students expressed favorable opinions on the use of these measures to enhance English language proficiency.. T5 indicated that students' performance improved with implementing BBL strategies, as they did not engage in collaborative learning to accomplish assignments using traditional teaching methods. Likewise, T1 said that using online films with classes, stating: "Collaborative learning occurred while engaging with my classmates in BBL class; this tool is indeed effective for enhancing our English learning." T2 similarly expressed positive opinions on using BBL strategies in the English classroom. In his view, these techniques enhanced students' English communication skills: "Collaborative learning activities enhanced students' communication skills through interactions with me and other students in the classroom."

#### 5.2.3 Communication

The "communication" subject reveals how EFL students view BBL strategies in learning and enhancing English communication abilities. This study's second research question relates to this issue. Students answered this open-ended question: **Interview Question 3: How do BBL strategies improve your students' communication skills?** Teachers' remarks demonstrate how these strategies aid learning. The teachers understand the value of strategy for the near and distant future. Many researches have shown that communicating with other students or teachers in the target language is essential to learning. Examples of participants responses: T 1: "BBL strategies were more interesting and fun to use, so they helped to improve their English communication skills." T3: "BBL strategies helped students to speak English. Therefore, their communication abilities increased." T4: "BBL strategies were crucial as innovative English teaching approaches. My students could connect with me and other classmates in real-life."

#### 5.2.4 Comprehension

This issue is associated with Question 1, which was to investigate the teachers' attitudes toward using BBL strategies for learning the English language. **Interview Question 4: Do you believe that utilizing BBL strategies**

in the language classroom might enhance your students' comprehension of the new lesson? In what manner? According to the teacher' perspectives, BBL classrooms facilitated the customization of their pedagogical approaches to meet their students requirements. This adhered to the concept concerning individual differences. T2 stated, "when I anticipate my students to undertake various tasks according to their proficiency levels. It is effective due to the inclusion of these tasks, which facilitates comprehension and simplicity, rendering it enjoyable. The less proficient individuals will produce a reduced writing volume compared to their more adept counterparts. T4 emphasized " Utilizing modelling and scaffolding to enhance my student's comprehension of the material presented in the classroom." T3 acknowledged that modeling facilitated my students' comprehension of the novel.". T5 emphasized that " The help of the teachers in facilitating the transmission of knowledge is necessary for task completion. Moral stories facilitated connections, demonstrating the significance of narrative-based strategies in enhancing my students' comprehension and critical thinking skills. The preceding responses indicate unanimous agreement among teachers regarding the significance of BBL strategies in facilitating the understanding of new subjects. This subject emphasized the importance of learning depending on the brain's tendency to seek meaning via pattern identification. T4 said that " my students' comprehension evolves through the remarks of other peers since this motivates students to evaluate their work and enhance their knowledge. Peer assessment requires critical thinking from learners since it involves the BBL meaning-making process". T1 stated that " students; utilization of essential thinking abilities improved their understanding of the instructional content in the BBL classes". The findings indicated that most instructors saw applying BBL strategies as effective, emphasizing three elements: active learner engagement, instruction customized to learners' requirements, and significant learning process.

#### 5.2.5 Social Interaction

This topic focused on social interaction within an educational setting. **Interview question 5:** Would BBL strategies improve students' English learning in the language classroom? In what manner? Teachers' perspectives revealed a varied response, comprising two favourable and six unfavourable replies about social interaction. Productive classroom engagement among students transpired when T3 remarked, "The more skilled peers assisted the less competent ones with the task." Notwithstanding the favourable replies, there were also some adverse ones. T5 said, "A student began to disrupt his classmates due to inadequate proficiency in the English language." T2 said that the majority of international Arab students have deficiencies in the English language. Consequently, these five teachers perceived BBL as possessing some constraints in fostering healthy social connections among learners. Learning was perceived as simultaneously high in threat and difficulty when learners could not correctly utilize the English language throughout the course. Despite adverse reactions regarding two factors: low threat but high difficulty and positive social connection, the five international students indicated that BBL learning methodologies effectively enhanced their English learning and provided opportunities for meaningful engagement. The researcher predominantly aligned affirmative replies with all six elements of this study's BBL conceptual framework. In summary, moral stories facilitated connections, demonstrating the significance of narrative-based strategies in enhancing students' comprehension and critical thinking skills. Moreover, most students recognized music as a method for stress relief, suggesting that it may assist in mitigating anxiety and tension during the educational experience. The five teachers held a favorable view of BBL strategies, implying their efficacy in enhancing learning experiences and understanding. The results indicated that students possess considerable confidence in their professors' competencies, as they feel their instructors have the requisite expertise to facilitate their learning.

#### 5.2.6. Student Reactions to Challenging Tasks

This topic relates to the students' challenging tasks in BBL classrooms. **Interview question 6:** Show your students' challenging tasks in the BBL classroom. The five teachers indicated that tackling challenges is an effective method for learning English, highlighting the need to instruct EFL students in critical thinking and problem-solving throughout language acquisition. Moreover, the five teachers perceived that brain-based activities emphasized communication and emotions, indicating the interdependence of cognitive and emotional domains in the learning process. Finally, the study observed that educators primarily assess their students' English proficiency through conversation, underscoring the importance of practical communication skills and oral fluency in language assessment. Contemplating and disseminating teachers' perspectives and experiences enables educators to more effectively address their students' needs and elevate the standards of student achievement. The study's possible endorsement of brain-based learning methodologies may improve their English proficiency.

### 6. Discussion

The connection between six BBL strategies and social constructivist classroom are the best option for teaching and studying English. Rodgers and Hales(2021) found that this connection improves student involvement in class. Galletta (2013)found that practical lessons were more engaging because students could utilize their language in a more real-world setting. For McConchie (2020) , practical sessions improve students' English. Deveci (2008)states that BBL techniques allow students to practice English in real-life settings. Teachers' BBL classroom practices and students' views of active learner participation were mostly good. According to Park (2024), all three teachers used brain-compatible cooperative learning methodologies to engage students in hands-on learning projects. These projects typically involved classroom mobility for simulations, visualizations, and focus-group discussions. Similarly, Al Hosni (2014) found that physical motions and images kept Iraqi EFL learners interested. Haghighi (2013)contended that BBL techniques facilitated students' active participation in the English classroom. According to this researcher , BBL tactics sustain elevated student engagement in language acquisition and significantly promote involvement in learning activities. Consequently, BBL approaches serve as essential educational instruments for foreign language learners since they offer a distinctive chance to practice language with the instructor and fellow students. In this regard, students' comments were highly engaging, supporting the acquisition of English with the aid of modern technologiesAndreas et al. (2010) defined collaborative learning as small, interactive groups participating in learning. Dang (2018) identified five categories of cooperative learning: reciprocal teaching, where students help each other improve discipline-based skills; (b) discussion, where students interact primarily through the spoken word; (c) collaborative writing, where students write to learn course content, (d) problem-solving: where students apply problem-solving strategies, and (e) graphic information organizing: where students use technological tools to manage and expose information. This study shows collaborative learning significantly enhances language acquisition, particularly in BBL classes. EFL students and their instructors cooperated to generate new information. They engaged and interacted with one another throughout lessons rather than utilizing separate venues for participation. Students' feedback indicates that collaborative activities positively influenced their learning capabilities. Ali (2017) asserts that cooperative learning is fundamental to success in English language acquisition. This study demonstrated cooperation through online videos in six classes, mainly when the teacher instructed students to work in groups to respond to the assigned questions. Teachers used students' prior knowledge in these BBL-compatible practices to aid learning. BBL teaching methods, such as role-play and brainstorming, push learners to use previously taught or real-life experiences in new scenarios. The combining of new information and pre-existing knowledge increases significant BBL learning. (Khalil,2019). A successful learning via hands-on activities and applying past knowledge to new settings aligns with experiential learning. In experiential learning, interactive BBL-compatible strategies can enhance learners' comprehension and conceptualization of lessons in many situations (Caine & Caine, 1991).Peer assessment showed active student involvement through feedback and reflection. Other BBL research found that regular peer feedback engaged English Language learners (Hussien, 2016). These feedback sessions allowed students to regularly review their grasp of the topic by relating it to fresh ideas or opinions from others. Rajeshkumar (2023) shows that BBL exercises allow students to link new material to their prior knowledge. Finding and developing patterns and links drives the mind to make sense of life's events, making BBL learning meaningful (Lagoudakis et al.,2024). In this study, students actively attempted to understand the course material. Teacher-led sessions allowed students to explore for meaning via patterns continually. Patterning involves connecting brain neurons and integrating new information (Darmawan et al. , 2022).For Khalil(2019), Educators' consistent use of varied instructional strategies enhanced student involvement in the classroom. This enables BBL learners to engage themselves in a stimulating and enriching educational environment. Exhibition space Walking, role-playing, and mind mapping were standard interactive activities employed by teachers in problem-solving exercises involving students' senses. Various learning representations use the left and right cerebral hemispheres interchangeably to enhance brain lateralization (Genesee, 2000). The right hemisphere is intuitive, artistic, visual, and creative, whereas the left is logical, analytical, and objective (Abidin et al., 2024). Chowdhury(2020) indicates that the right hemisphere perceives the whole, but the left analyzes the individual components, and their interaction facilitates learning. Prior studies have demonstrated that integrating visuals with verbal explanations, written materials, and role models can enhance affective learning engagement The findings indicate that educators used several educational tactics to emphasize individual variations in the BBL classroom. Sousa and Tomlinson (2011) assert that effective learning through BBL transpires when educators utilize diverse teaching and learning methodologies, acknowledging the distinctiveness of each brain. The integration of sensory experience and emotions varies among individuals; hence, educational approaches must

adjust to the distinct learning characteristics of pupils (Duman, 2010). When teachers used demonstrations, modeling, and scaffolding to improve their students' learning experiences, there were clear differences in the learning that took place. The students' inclination for demonstrative instruction was evident when they accomplished BBL activities. Gozuyesil and Dikici (2014) assert that presenting examples before learner participation in functions is an essential BBL-compatible strategy educators utilize to enhance learning. The current study demonstrated good and negative social interactions associated with BBL methodologies. Advantageous social ties emerged when students cooperated in small groups, shared ideas, and accepted individual errors during peer review sessions. Permitting these learners to engage in groups enhanced their social abilities for efficient cooperation (Azzahra and Dwiputra, 2024). Furthermore, the instructors motivated students to engage and take risks in problem-solving tasks, commending them through mini-classroom celebrations. Consequently, an optimal environment for efficient learning was established and bolstered by further BBL studies proving its improvement of the learning process (Wilson et al, 2024). The brain functions as a social organism, and successful learning arises from the learner's need for significant and engaging relationships. (Caine & Caine, 1991). Nevertheless, unfavorable social interactions were noted in certain courses when learners appeared to lack support for one another during classroom activities. The educators expressed dissatisfaction with the learners' lack of cooperation and bad behavior towards peers. This indicated that despite prior training in BBL, its implementation exposed certain difficulties concerning constructive social connections inside the classroom. Mekwan and Poonputta (2023) indicate that healthy social interactions in the classroom are intricately linked to the efficient implementation of BBL methods by instructors during lessons. The efficacy of BBL tactics utilized was contingent upon instructors' responses to students' emotional connections through the instructional process to enhance healthy social interactions in the classroom (Chowdhury, 2020; Mohd et al ,2022).

## **7. Conclusion**

This study examined the impact of BBL methods on international students in English courses. Results demonstrated a notable increase in the participants' English proficiency in BBL courses. They had a generally favourable disposition towards the implementation of BBL. The findings indicate that teachers are crucial for facilitating English communication among their students, which is vital for learning and achieving fluency. This illustrates the importance of employing pedagogical approaches that engage and stimulate students' enthusiasm for language learning. The study's findings underscore the importance of creating environments that foster attention, engagement, and concentration, as these factors enhance student learning. This underscores the need for educators to consider the psychological and physiological aspects of the classroom environment. The majority of students' belief that moral stories facilitated connections underscores the significance of employing narrative-based approaches to enhance students' comprehension and critical thinking skills. Moreover, most students recognized music as a method for stress relief, suggesting its potential to mitigate anxiety and tension throughout the educational experience. This study's significance indicates that, despite teachers' extensive exposure to BBL strategies and their satisfactory implementation in classrooms, The effectiveness of these strategies relies on teachers' ability to facilitate and accommodate the student's limited English proficiency during the learning process. This study demonstrated that, instead of the learners' minimal experience with the language, the BBL courses were student-centred and actively engaged the learners in sufficient foreign language skills. This study's implications offer fresh insights into international EFL students' perceptions of BBL approaches for improving their English ability. The perceptions of learners revealed that their EFL teachers successfully created a significant, participatory, and supportive learning environment. Nonetheless, concerns over its overall efficacy emerged when more arduous BBL-compatible techniques were used. These findings will guide English courses in addressing BBL difficulties and support a suggestion for teachers to take further comprehensive training to improve their theoretical understanding and classroom practices. This research has limitations: First, the results were constrained to interpretations derived from the six selected BBL principles. BBL principles can directly or indirectly affect the brain's capacity as a parallel processor, overall physiological engagement in learning, the interplay of focused attention and perception, and the dynamics of conscious processes. This impact is beyond the parameters of this investigation. Subsequent research may particularly investigate these themes within an EFL environment. Additional research may examine the effect of BBL on EFL educators' academic performance and views. Second, purposive sampling methods were used to gather the data, and results may have been altered if cluster or random sampling methods had been used instead. The research was only based on EFL learners enrolled in the UUM English course, thereby limiting its generalizability to other learners in other situations.

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**Appendix :Confirmation of Completing the Data Collection of the Study from University of Utara Malayssia**



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We want to confirm that Mrs Lina Lafta Jassim  
has conducted interviews and collected  
data for her research.

The data was collected from the participants  
at the intensive English Course centre at  
University of Utara Universiti.

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