Developing Preparatory School Pupils’ Speaking Skills Through Brain-Based Learning

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Abstract

The present study was conducted to investigate the effect of brain-based learning on developing preparatory school pupils’ EFL speaking skills. The study used the pre-post tested one group design. The participants were 30 first year preparatory stage pupils from Dr. Mustafa Musharraf Preparatory School in Cairo. To achieve the aim of the study, an EFL speaking skills pre-posttest was designed to measure the pupils’ performance in EFL speaking skills. It was administered to the participants before and after the experiment. Pupils were pre-tested, to identify their entry level of EFL speaking skills. Then, the proposed program based on brain-based learning was implemented. The post-administration of the test was to assess the development in participants’ EFL speaking skills. The mean scores of the pre-post administrations of the test were statistically treated. The results indicated that there was a statistically significant difference at 0.01 in the pre- and post-administrations of the EFL speaking skills test in favor of the post-administration. In light of this finding, it is recommended that the use of brain-based learning should be exploited to develop pupils’ EFL speaking skills.

Keywords:
brain-based learning, EFL speaking skills, preparatory school pupils
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The study aimed to investigate the impact of brain-based learning on the development of English speaking skills among preparatory school pupils. The study was conducted using a single group design, with a sample of 30 students from the first grade of a preparatory school in Cairo. To achieve the study’s objective, a pre-experimental test was designed to measure the students’ performance in English speaking skills as a foreign language. The test was administered before and after the experiment, with the test conducted before implementing the proposed brain-based learning program, and then administered after implementing the program to measure the improvement in English speaking skills. Statistical analysis of the average test scores indicated a significant difference at 0.01 in the pre-test and post-test performances, showing an improvement in English speaking skills. Based on this result, it is recommended to use brain-based learning to develop English speaking skills among preparatory school pupils.

Keywords: Brain-based learning, English speaking skills, preparatory school students.

The study was conducted for the preparation of the learning skills in the English language as a foreign language for preparatory school students. The study was conducted using a single group design, with a sample of 30 students from the first grade of a preparatory school in Cairo. To achieve the study’s objective, a pre-experimental test was designed to measure the students’ performance in English speaking skills as a foreign language. The test was administered before and after the experiment, with the test conducted before implementing the proposed brain-based learning program, and then administered after implementing the program to measure the improvement in English speaking skills. Statistical analysis of the average test scores indicated a significant difference at 0.01 in the pre-test and post-test performances, showing an improvement in English speaking skills. Based on this result, it is recommended to use brain-based learning to develop English speaking skills among preparatory school students.

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Introduction

Communication is the ultimate goal that many learners of English as a foreign language (EFL) seek to achieve. With the recent growth of English as the international language of communication, there is a pressing need for EFL learners to speak and interact in various situations using the English language. Since speaking is the language skill through which communication takes place, it intuitively seems to be very important for learners to acquire and develop their EFL speaking skills. They need to obtain those skills not only to study and pass school exams, but also to use them in the outside world and effectively take part in the global society.

Speaking is an essential skill as it is considered the link which connects people talking the same language. It enables people to express their concerns, thoughts, feelings and emotions to others. It is the only way illiterate people use to convey and explain their ideas because they are naturally unable to write. Ur (2010, p. 120) states that people who know a language are referred to as speakers of that language, as if speaking included all the other kinds of knowing. Therefore, speaking receives an exceptional importance among the four language skills i.e., listening, speaking, reading and writing.

McDonough and Shaw (2011, p. 133) argue that speaking, as a language skill, it is sometimes undervalued or taken for granted. There is a common impression that writing, particularly literature, is meant to be read and as such it is estimable, while speaking is often regarded as colloquial which accounts for its lower priority in some educational contexts. However, speaking is not the oral production of written language, but it involves learners in studying a wide range of skills and sub skills which produce an overall competence in the spoken language. According to Harmer (2007, p. 343) speaking is a complicated skill as it requires learners to be able to pronounce phonemes correctly, use appropriate stress and intonation patterns and speak in connected speech. Moreover, to master speaking skills learners need to speak in a range of different genres and situations and use a set of conversational repair strategies.

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BBL refers to a learning technique which relates to the characteristics the brain is naturally designed to learn (Jensen, 2008, p. 18). It is a teacher facilitated methodology which utilizes learner’s cognitive endowments as it is derived from BBL principles (Thomas and Swamy, 2014, P. 62). Traditionally, teaching techniques concentrated primarily on what teachers do or capable of doing in the classroom with no consideration regarding the learners’ attributes. Conversely, learner-centered methods to teaching and learning focus mainly on what learners can do to optimize their learning rather their teachers. Respress and Lutfi (2006, p. 24) state that in traditional teaching methods, students tend to learn through a basic curriculum designed with homogenous learning styles with no attention to students’ different learning styles and inclinations. This results in lack of engagement, boredom, and low achievement.

In contrast to traditional methods of teaching and learning which hinder learning by ignoring brain’s natural learning processes, learner-centered approaches such as BBL, reinforce learning as they address learners’ whole personal qualities. They are holistic approaches toward learning. Jensen (2005, P. 96) maintains that Brain Based Learning (BBL) favors the brain’s natural operational principles in order to achieve maximum attention, understanding, meaning and memory.

Research in the field of BBL provided educators with strategies and techniques which assist communication between the parts of the brain responsible for storing and processing information (Willis, 2007, p. 1). Brain research indicates that the brain does not act as a computer as some educators formerly assumed. On the contrary, the brain requires to use various strategies to create meaning (Slavkin, 2004, p. 13). The brain regularly rewires itself to access new experiences and memories. There are 100 billion of brain cells (neurons). These billions of neurons alone cannot make the brain intelligent. This happens when the neuron’s dendrites (long tentacles that resemble tree branches) connect to another neuron’s dendrites that learning occurs. These connections are the pathways for new learning (Wolfe, 2001, p. 15).
Being a teacher of English, the researcher noticed that EFL speaking skills are not given due attention in the Egyptian schools despite their great importance. Teachers concentrate mainly on developing reading and writing skills and neglect speaking skills. Moreover, many researchers reported the poor proficiency of EFL speaking skills in the Egyptian context (Abdallah, 2007; Al-Sadaawy, 2017; Awad, El-Nagar and Khalil, 2019; Desouky, 2012; Safein, 2012; Ibrahim, 2019). They assured that EFL learners in primary, preparatory, secondary stages schools as well as university students in Egypt have a lot of difficulties while speaking English and lack many EFL speaking skills. Therefore, the researcher decided to conduct the current research to investigate the effect of BBL on developing preparatory school pupils’ EFL speaking skills.

Context of the Problem

The Problem of the research was recognized and documented by the researcher through the following:

First: The experience of the researcher

In the light of the researcher's experience as a teacher of English, it was observed that first year preparatory stage pupils face difficulties in the speaking skill which were obvious through their performance in class and in situations which require them to interact in English. The majority of pupils lacked the required EFL speaking skills which enable them to successfully communicate in English.

Second: The Pilot Study

To make sure of what he observed, the researcher prepared a questionnaire and interviewed a group of English language teachers (n=9) in two preparatory schools (Dr. Mustafa Musharraf school and Dr. Magdy Yacoub school). Most of the teachers confirmed that first-year preparatory stage pupils lacked EFL speaking skills despite their importance for learners in different educational stages in general and for preparatory stage pupils in particular. In addition, most of the teachers assured that they used regular instruction in teaching EFL speaking skills. They also mentioned that they did not care much about developing these
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skills as they were usually obliged to finish the long and demanding syllabus they had to teach before the end of the term. Furthermore, some teachers believed that textbooks did not provide enough activities for developing EFL skills and there were no specific methods of assessing them.

Third: Previous Research

The problem of the research was further supported by reviewing past related research. Previous research on EFL speaking skills in the Egyptian context such as (Al-Sadaawy, 2017; Awad, El-Nagar and Khalil, 2019; Desouky, 2012; Ibrahim, 2019; Safein, 2012) reveal the persistence of the actual problem of teaching and learning EFL speaking skills.

Statement of the Problem

Based on the review of literature and the results of the pilot study, the problem of the research can be stated as follows:

Preparatory school pupils have difficulty speaking accurately and fluently. They mispronounce some sounds, misplace stress and speak word – for – word, not at the sentence level. That is why, the present study investigated developing preparatory school pupils’ speaking skills through brain-based learning.

Questions of the study

The present study attempts to answer the following questions:

How effective is the proposed BBL program in developing first year preparatory school pupils’ EFL speaking skills?

The following sub-questions merge from the main question:

1. What are the required EFL speaking skills for first year preparatory school pupils?

2. What is the proposed BBL program to develop first year preparatory school pupils required EFL speaking skills?

3. What is the effect size of the BBL program on developing first year preparatory school pupils’ overall EFL speaking skills?
4. What is the effect size of the BBL program on developing each EFL speaking skill for first year preparatory school pupils?

**Hypotheses of the Study**

In order to answer the questions of the study, the following hypotheses were formulated:

1. There is a statistically significant difference at \( \alpha \leq 0.01 \) between the mean scores of the participants on the pre- and post-administrations of the EFL speaking skills test on the overall required EFL speaking skills in favor of the post-administration.

2. There is a statistically significant difference at \( \alpha \leq 0.01 \) between the mean scores of the participants on the pre- and post-administrations of the EFL speaking skills test on each EFL speaking skill in favor of the post-administration.

**Variables of the Study**

The variables of the research are as follows:

1. The independent variable: Brain-based learning.
2. The dependent variable: Speaking skills.

**Aim of the Study**

This study aims at developing preparatory school pupils’ speaking skills through using a BBL program.

**Significance of the Study**

Significance of the present study lies in the fact that there are very few studies on using BBL to develop EFL speaking skills in the Egyptian context despite its approved effectiveness in developing other EFL skills. The present study is, hence, an attempt to overcome the shortcomings in teaching EFL speaking skills, which are regarded as essential skills. Moreover, it confirms the necessity of providing EFL first year preparatory stage pupils with activities and opportunities to raise their awareness of speaking underlying skills. Additionally, the study introduces some strategies to assist first year preparatory stage pupils
realize how to plan for speaking, monitor their speaking performance, perform confidently in front of their peers and others.

**Delimitations of the Study**

The present study is delimited to the following:

1. A group of first year preparatory stage pupils chosen randomly from Dr. Mustafa Musharraf Preparatory School, Cairo governorate.

2. The first semester of the academic year 2020-2021.

3. Developing some EFL speaking skills included in the domains of grammar and structure, vocabulary, pronunciation, fluency, comprehension and body language i.e., using appropriate grammar structures and tenses, Producing correct sounds, intonations, stress patterns and connected speech, using vocabulary which is significant to the sentences of situations, comprehending and responding to various questions and topics with ease, speaking easily, reasonably quickly and without having to stop and pause a lot, and using appropriate body language while speaking.

**Review of Literature**

Brain-based leaning (BBL) emerged in 1980s as a whole new field based on what scientists were learning about the brain and how it might interface with education (Jensen, 2008, p. 3). Neuroscience disclosed important information about the brain and how it learns. It revealed unprecedented revolution of knowledge about the brain, including how it processes, interprets and stores information. The new BBL theory calls for shifting the focus to the learning process (Sousa, 1998, p. 1). Sousa (2010, p. 2) illustrates that researchers and practicing educators exerted great efforts to establish a legitimate scientific area of study that overlaps psychology, neuroscience and pedagogy which resulted in the rise of educational neuroscience.

Neuroscientists and educators had their role to play in the increasing amount of research done in this field. Their research studies provided a wealth of resources on brain activity and how it learns. Some of the well-known researchers in this field are: Geoffrey Caine and Renata Caine

**Definitions of Brain-Based Learning**

Haley (2010, p. 8) states that BBL emphasizes how the brain learns naturally and is based on what is currently known about the actual structures and functions of the brain at several developmental stages. Haley adds that brain-compatible teaching is not the only solution to solve all of education's problems, so educators need to understand certain principles and use effective strategies in meaningful ways. According to Mehta (2009), BBL is an interdisciplinary field that integrates neuroscience, psychology and education in order to create developed teaching methods and curricula. Jensen (2005, p. 57) argues that BBL could be used to create strategies which are based on the current available research. Jensen adds that BBL can be seen as techniques derived from research in neurology and cognitive science used to reinforce teacher's instruction as well as student learning. Educators ought to combine the findings of brain research and other fields to optimize their teaching techniques.

**Importance of Brain Based Learning**

Brain research indicates that it is essential for educators to become knowledgeable about and understand the general categories of BBL techniques as a way to enhance student learning. Jensen (2005, p. 9) argues that understanding human learning mainly depends on understanding the brain. Wolfe (2001, p. 2) clearly states that understanding the brain enables educators to design instruction to match how it learns best. In addition, Jensen (2008, p. 409) reckons that educators ought to be professional enough to say that they know why they do what they do. This conceptual framework also assists teachers in becoming highly qualified and maximizing achievement for learners.
Similarly, Erlauer (2003, p. 7) suggests that teachers should have at least general knowledge of how the brain physically works. That knowledge could help teachers understand the needs or reactions of learners and might also provide a physiological basis for particular instructional decisions. According to Willis (2012, p. 12), when teachers are aware of the way the brain functions at the level of neural networks, neurotransmitters and synapses, they have tendency to share that knowledge with learners. In consequence, they inspire learners to create a growth mind-set for learning. This gives learners the opportunity to realize their ability to change their brains, which makes them responsible for and have confidence in the learning process. Therefore, students do well in classrooms where teachers have the added tools from their neuroscience understanding.

**The Brain and Language**

The study of the relationship between language and the brain is called neurolinguistics. Although this is a relatively recent term, the field of the study dates back to the nineteenth century (Yule, 2010, p. 157). Uster (2008, p. 36) states that language skills and the linguistic abilities are centered in the hemisphere in most people, and that Broca's and Wernicke's areas are particularly important interconnected structures in that part of the brain. In addition, the Broca's which is located in the frontal lobe of the left hemisphere processes grammatical structures and word production, whereas Wernicke's area, which is located in the temporal lobe of the left hemisphere, links language and thought. That means, it works for syntax production and comprehension.

According to Yule (2010, p. 162-163) Broca's area stores grammar, vocabulary, and syntax of one's native language, whereas Wernicke's area is considered the center of sense and meaning in the native language. According to Obler and Gjerlow (1999, p. 28), most people have language represented in the left hemisphere. Friederici (2011, p. 361) illustrates that the language center is located in a small area of the brain called the perisylvian region. The perisylvian region surrounds a fissure known as the sylvian fissure that separates the temporal lobe from the
Parietal and frontal lobe. These parietal and frontal lobes are located in the left hemisphere where the understandings of speech sounds are found.

The left-brain hemisphere, particularly the Borca's area, is responsible for the production of speech (Yule, 2010, p. 158). In addition, Zull (2002, p. 198) assures that Broca's area is the place where spoken language is assembled before it is being actually spoken. Zull further gives an example of people with damage to this area of the brain. Those people generally can understand language but cannot produce coherent sentences or phrases. Hagoort et al. (2009, p. 372) proposes further functions for Broca's area as it has been introduced to have a more specific role in language processing, facilitating linguistically prompted operations of syntactic movement and processing hierarchical structures.

Principles of Brain-Based Learning

In order to coordinate how the brain naturally learns with brain compatible strategies, (Caine and Caine 1991, 1994, 1997; Christison, 2002; Deveci, 2014; Klinek, 2009; Jensen, 2005) summarize the theoretical foundations of BBL into the following set of principles:

1. The brain is a parallel processor.
2. Learning engages the entire physiology.
3. The search for meaning is innate.
4. The search for meaning occurs through "patterning".
5. Emotions are critical to patterning.
6. The brain processes parts and wholes simultaneously.
7. Learning involves both focused attention and peripheral perception.
8. Learning always involves conscious and unconscious processes.
9. We have at least two types of memory systems; spatial and rote learning.
10. Humans understand and remember best when facts and skills are embedded in natural, spatial memory.
11. Complex learning is enhanced by challenge and inhibited by threat.
12. Every brain is uniquely organized.

**Brain-Based Instructional Techniques**

Based on research and experience, Caine et al. (2005, p. 6) contend that effective teaching involves three fundamental elements. The previously mentioned principles suggest that there are three fundamental components or basic elements to effective teaching that greatly affect each other. These critical elements are relaxed alertness (the optimal emotional climate for learning), orchestrated immersion in complex experience (the optimal opportunity for learning), and the active processing of experience (the optimal way to consolidate learning).

**A. Relaxed Alertness**

Providing relaxing teaching/learning atmosphere which creates ideal emotional and social environment for learning. Teaching environment, which is relaxed yet challenging with minimal threats, provides effective learning practices (Gulpinar, 2005, p. 302). Learners’ interest in the material taught optimizes their learning, and relaxed brain triggers learning. Therefore, teachers should do their best to eliminate fear in learning environment (Gozuyesil and Dikicl, 2014; Thomas and Swamy, 2014).

**B. Orchestrated Immersion in Complex Experience**

The concept of immersion is multidimensional where information and skills are interlinked. It is based on the fact that meaningful learning involves multiple experiences that challenge learners and motivate them as well (Jack, 2010, p. 36). According to (Lucas, 2004), making learning contextual and related to student interests; structuring learning around real problems; and assisting learning with humor are also helpful in orchestrated immersion (p. 179).

**C. Active Processing**

Active Processing is "the art of digesting, thinking about, reflecting on, making sense of experience and of consolidating learning" (Caine et al., 2005, p. 179). According to (Jensen, 1998, p. 40-41), active
processing embraces the concept that powerful learning and adaptive decision making require more action and effort by learners as experience needs to be processed. The teacher provides many opportunities to engage learners' interests and deepen their thinking. Jensen adds that active processing ranges from systematic practice and creative rehearsal (for memorization) to the deeply probing and ongoing questions that test the limits of a learner’s capacities to call on executive functions and respond within a real-life context.

**Assessment of Brain-Based Learning**

One of the critical components of active processing phase is evaluation, (Caine & Caine, 1991, p. 141). According to Jensen (2000, p. 230), reliable evaluation in BBL consists of five components: the context, the physical environment, the process, the organization and emotions. These areas of evaluation involve mental, physical and emotional processes as well as past, present and future. Opposite to traditional evaluation procedures, such a kind of evaluation does not involve the evaluation activities that exist at the end of each unit or the subject. The evaluation in this procedure is ongoing and cumulative. The goal of the evaluation activities is to find out the interests and the weak and strong learning styles of the students. In order to achieve this goal in evaluation, the procedure should not be threatening, but should have motivating factors for learners (Deveci, 2014, p. 7).

In the brain-based classroom, providing effective feedback is a critical part of the assessment process. According to Jensen (2005, p. 55), the feedback should be corrective and positive enough to tell learners what the desired change is. Jensen assures that providing enough good-quality, accurate feedback could be an influential variable for improving learning. In addition, Erlauer (2003, p. 134) states that educators can make instant, interactive feedback part of the learning process so that students can avoid learning and practicing something that is incorrect. This also has implications in assigning homework. Erlauer argues that students should not be allowed to practice skills they have not been taught.
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### EFL Speaking Skills

Speaking is an essential language skill; it is the channel through which people convey their feelings, thoughts, ideas, desires and attitudes. Howarth (2001, p. 40) defines speaking as a two-way process involving a true communication of ideas, information or feelings. According to McDonuogh and Shaw (2011, p. 133) speaking involves learners in the mastery of wide range of subskills which establish an overall competence in the spoken language. Moreover, Khosrovani (2014) assures that speaking is not a single skill, rather it is an interactive process of constructing meaning that involves producing, receiving and processing information.

According to Harmer (2007, p. 343), speaking includes two categories; accuracy and fluency. Thus, developing speaking skills involves the correct use of vocabulary, grammar, pronunciation and having the ability to speak spontaneously. Nunan (2003, p. 45) defines speaking skills as the speaker’s ability to produce the English speech sounds and sound patterns; use word and sentence stress, intonation patterns and the rhythm of the second language; select appropriate words and sentences according to the proper social setting, audience, situation and subject matter; organize thoughts in a meaningful and logical sequence; use language as a means of expressing values and judgments; use the language quickly and confidently with few unnatural pauses, which is called as fluency.

Throughout the world nowadays, there is a pressing need for people to speak English well. In Egypt and most Arab countries, English is considered a core subject in private and public schools as well as universities. For this reason, it is imperative for students to master good speaking skills and for teachers to know how to teach EFL speaking skills properly. In addition, it is a well-known fact that people speak every day more than they write. Thus, speaking skills grasp the highest importance in the language.

Dorgahm (2011, p. 20) states that EFL speaking is the most commonly used skill in class because it is used as part of the teaching of
other skills such as listening, reading and writing. According to Richards (2008, p. 20), the mastery of speaking skills in English is a priority for many EFL learners. Consequently, learners often evaluate their success in language learning as well as effectiveness of their English courses on the basis of how much they feel have improved in their spoken language proficiency.

However, learners who study English in a context where it has very limited use in the society, as in Egypt, add no advantage outside of the classroom. In addition, the opportunity to use English in the classroom is always minimal because it is not commonly used as a medium of communication outside the classroom Abdallah (2007, 46-47). In fact, English is learnt only formally as Ellis (2012) states “formal learning is held to take place through conscious attention to rules and principles and greater emphasis is placed on mastery of the subject matter that was treated as a decontextualized body of knowledge” (p. 214). Bygate (1987, p. 1) argues that although speaking is a challenging skill in the field of language teaching, it is believed to be an undervalued skill for which it is usually the less practiced skill in the classroom.

In contrast to the previous view, the current research assures that good language learners are supposed to use what they learn in the classroom outside to develop their speaking skills. In addition, teachers ought to find ways to help learners overcome speaking problems they may face. Effective speakers do not give up or hesitate for a long time when they cannot think of how to say something (Marco, 2001, p. 38). Therefore, successful teachers are supposed to use strategies to help learners stay involved in interaction and keep the flow of speaking which may result in developing their speaking skills.

**Teaching Speaking Skills**

Speaking is a basic part of EFL learning and teaching. In practice, however, many learners feel disappointed as they find that speaking a foreign language is not an easy matter. Since speaking involves many factors, the ability to speak fluently requires not only knowledge of language features, but also the ability to process information and language
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on the spot (Ellis, 2012, 54-55). Moreover, teaching speaking has been underrated for decades, and English language teachers have continued to teach speaking only through memorization of dialogues or repetition of drills (Cook, 2008, p. 105).

On the contrary, today's world necessitates that the goal of teaching speaking should develop learners’ communication skills, as it is the only way students can express themselves and learn how to follow the proper social and cultural rules in various communicative circumstances, Susanti (2007, p. 70). Don (2016, p. 75) assures that in order to develop learners' speaking skills, language teachers ought to pay due attention to teaching speaking, rather than leading students to pure memorization. Providing a rich environment where meaningful communication takes place is ultimately sought for.

McDonough and Shaw (2011, p. 134) argue that one of the most controversial issues in teaching and learning speaking skills is to focus on accuracy (language forms and structures), or fluency (the flow of language). They explain that fluency is developed by creating classroom activities in which learners need to negotiate meaning, use communication strategies, correct misunderstandings and work to avoid communication breakdowns. On the other side, accuracy focuses on creating correct examples of language use. According to Richards and Rogers (2010, p. 154), one of the main aims of Communicative Language Teaching (CLT) is to develop fluency in language use.

According to Ellis (2012, p. 44), the functions of spoken language are interactional and transactional. The primary focus of the former is to maintain social relationships, while that of the latter is to convey information and ideas. Since most of humans' daily communication remains interactional, it is essential for learners to interact in target language. Therefore, Shumin (2010) assures that EFL teachers should provide learners with opportunities for meaningful communicative behavior about relevant topics by using learner-learner interactions since the key to teaching language is to teach language for communication.
Assessment of EFL Speaking Skills

Susanti, (2011, p. 15) maintains that speaking skills are difficult to be accurately assessed because they are complex skills to acquire. "Speaking a foreign language is very difficult and competence in speaking takes a long time to develop" (Luoma, 2004, p. 1). The main objective of assessing the speaking skills is to assess fluency not accuracy. Written forms of language can be effectively assessed through evaluating the writing skills as we focus on accuracy. On the other hand, oral skills represent fluency and best assessed through oral communication tasks. Therefore, when teachers assess their learners speaking skills, they should keep in mind that with beginners they should be after fluency, not accuracy. If learners can convey a message or a meaning, teachers should not focus on grammatical mistakes at first, but they should focus on the flow of speech (Luoma, 2004, p. 74).

On the other hand, McDonough and Shaw (2011, p. 152) state that continuous assessment can be an effective way to assess learners' progress in EFL speaking skills in addition to the above-mentioned techniques. Continuous assessment helps teachers to identify their learners' strengths and weaknesses as they learn. In addition, it indicates which skills students need to work on more before final exams. Moreover, some aspects of students' performance are not easy to measure in exams, for instance, co-operation and participation in group tasks. Furthermore, some students are so nervous during oral exams that the do not perform at their expected standard.

Baker and Westrup (2003, p. 150) introduce some guidelines that can help teachers to make the utmost benefit from speaking tests. In order to achieve this goal teachers are advised to:

- Test students in pairs or in groups of three; give the class a writing activity during exam time and call out individuals, pairs or groups to another room to test them where they cannot disturb the writers.

- Avoid writing marks while students are speaking as this can disturb their concentration and write them down immediately after the test. If possible, record the speaking test on a tape recorder.
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- Make sure to prompt or question all students in a similar way i.e., what the examiners say can easily influence a student's performance, so they should be careful while addressing students during the test.

- Video some examinations, as this can be used to standardize marking schemes and to help train new examiners.

- Put the students at their ease so that they may relax and perform at their best; speak in a friendly way and ask a few easy questions first, like "what is your name?" "How are you today?" and so on.

**Brain-Based Learning and EFL Speaking Skills**

BBL can support developing learners’ speaking skills by creating an anticipatory set for learning through interactive activities, using graphic organizers, tapping prior knowledge and encouraging student participation (Lombardi, 2008, p. 220). Throughout the lesson, learners can paraphrase, summarize, categorize information, create visual or graphic representations and form associations. Lists, tables, charts, graphs and mind maps (visual representation of linear notes) can help learners organize information for more effective participation in speaking tasks (Deveci, 2014).

According to Lombadri (2008, p. 221), BBL may reinforce developing EFL speaking skills through read-alouds, reader’s theater, pair-shares and use of kinesthetic activities and audiovisuals to stimulate discussions. Furthermore, rhythmic games, songs, and oral rehearsal may effectively enhance EFL speaking skills. Zadina (2015) emphasizes that learners must feel they are in a welcoming, nonthreatening environment when experiencing learning through BBL strategies. Teachers can put learners at ease by cooperative-learning activities like pair-share and jigsaw and by not interrupting fluency to correct students when they speak. In addition, asking students to write autobiographies and share elements of their personal experiences helps them feel more socially grounded in the class. Moreover, practicing the social language used in restaurants, stores, and other social situations through skits and role-playing can help students rehearse and build their speaking skills.
Related Studies

There are some studies including (Jampamoon 2012; Panse 2012; Nurhasanah 2013; Yagcioglu 2014; Kusumaningrum 2015; Al-Sadaawy, 2017; Syahbandi 2018; Awad, El-Nagar and Khalil, 2019) investigated the effect of brain-based learning on developing EFL speaking skills.

Awad, El-Nagar and Khalil (2019) investigated the effect of BBL on developing some EFL speaking skills of secondary school students. The results of the study indicated that the experimental group surpassed the control in the post administrations of the EFL speaking test. In addition, the experimental group showed a significant improvement in the post administrations of the speaking test than in the pre-administration. Therefore, it could be concluded that BBL had facilitated and accelerated the development of EFL speaking skills of secondary school students.

Al-Sadaawy (2017) investigated the effectiveness of a BBL strategy for developing some English language speaking skills of the preparatory schoolers in the Egyptian context. The findings revealed that the students taught by the proposed BBL strategy outperformed those taught traditionally. It was concluded that the proposed BBL strategy was effective for developing some of the speaking skills of the preparatory schoolers. In addition, Syahbandi (2018) conducted a study to find out the significant effect of BBL toward students’ speaking skills at the second-grade senior high school at Praia in Cabo Verde. Based on the results of the research, it can be concluded that the use of BBL had positive effect on speaking skills of the students at Praia school in academic year 2017/2018.

Kusumaningrum (2015) aimed to find out whether using Whole Brain Teaching (WBT) method could improve students’ speaking skills of the tenth-grade students at SMA Negeri 2 Boyolali in the academic year 2014/2015. The results of the research indicated that there was improvement in the students’ speaking score in each cycle after implementing Whole Brain Teaching method. In addition, there were also obvious improvement during the teaching and learning process. The
students were more active and enthusiastic while learning through Whole Brain Teaching method.

Yagcioglu (2014) investigated the advantages of brain-based learning in improving language skills and motivating EFL learners. All students found the experimental tasks very useful and they realized that they improved their language skills. Their fluency and accuracy also improved day by day while they were doing pair and group work activities with their pictures and photos. They confirmed that telling jokes in their class time made them happier. The researcher concluded that brain-based learning helped the teachers to deliver more effective lessons, made students more motivated and helped them to be more successful and enjoy learning English.

Jampamoon (2012) investigated the effects of BBL activities on developing students' speaking ability, and learners' opinion toward studying English at Prathom Suksa Thammasart School in Bangkok, Thailand. The findings showed that they had improved considerably after applying the BBL. The students believed that BBL activities helped them to be more interested in speaking English and learning in English class. They maintained that BBL activities created an enjoyable studying atmosphere. They could also apply their Knowledge to daily use and their future study.

Nurhasanah (2013) aimed at improving speaking ability using Whole Brain Teaching Method at junior level (Young Leaners) students of “Speakup” English Course in Bandung, Indonesia to find out whether or not using the whole brain teaching method was effective to improve students’ speaking ability and to find out the students’ opinion towards teaching speaking using the whole brain teaching method. The findings of the research showed that teaching speaking using whole brain teaching method was effective for improving the students' speaking ability, and 93% of students agree that they like to learn English by using the whole brain teaching method.

Panase (2013) studied the development of brain-based program for enrichment of oral communication of first standard deprived students.
The results indicated that the program was effective to enrich the oral communication skills and that 90% of students show readiness for giving oral responses. 10% of students were giving their responses after some efforts. All students showed readiness for oral response while interacting individually with researcher. However, only 5% students performed in front of the class. It has been observed that students showed eagerness towards the activities. There was significant increase in post test scores as compared to pretest scores of the experimental group in oral communication after the implementation of BBL program.

Going through the above-mentioned research it can be inferred that BBL approach is very helpful, fun and interesting in the teaching and learning process. It can avoid the students' boredom during speaking activities. In addition, using BBL is effective to improve the learners speaking skills. It was found that the students felt fun, happy and enjoyed when they were speaking in English classes. The variety of techniques made the learners more interested in the learning process and more confident to speak English. The results also showed that students had positive opinion towards studying English through Brain-Based Learning activities. It was also revealed that students who were evaluated as less proficient have improved considerably after applying the BBL.

Moreover, the previously mentioned researches also revealed that BBL is an effective approach as compared to traditional approaches which are either teacher centered or text-book based learning. It also indicated that BBL is a learning approach that takes into the diversity of learners, their emotional, physical and social environmental conditions which are critical for improving their speaking skills. Therefore, such advantages of BBL urged the researcher to design a program based on BBL principles and strategies to develop preparatory school students’ EFL speaking skills in the Egyptian context.

Design of the Study

This study adopted the quasi-experimental design. It followed the one group pre-posttest test experimental design in which only one group of participants was used in the implementation process.
Developing Preparatory School Pupils’ Speaking Skills Through Brain-Based Learning

Participants of the Study

A group of 30 first year preparatory stage pupils was randomly selected from Dr. Mostafa Musharrafa Preparatory School in the first semester of the academic year 2020/2021. All participants were girls as the preparatory stage at this school was devoted for girls only. There were three classes at the first-year prep stage; however, the researcher selected class 1B because the class teacher was experienced and qualified enough to teach the program. She had a degree in TEFL, 20 years of experience and above all, she was enthusiastic to teach the program.

The EFL Speaking Skills Checklist

In order to design the instruments of the study a speaking skills checklist was designed to determine the required EFL speaking skills for first year preparatory stage pupils. The checklist consisted of six speaking domains. The first column included the main domains which were: comprehension, grammar, vocabulary, pronunciation, fluency and body language; The second column included the targeted EFL speaking skills; The third column included the related EFL speaking sub-skills. These skills had to be rated by a panel of jury members according to a rating scale with three levels of importance. Each level of importance was given an estimated degree (very important=3, important=2 and less important=1). In addition, the jury members were requested to add other EFL speaking skills they considered important for the first-year preparatory stage pupils.

Validity of the Checklist

The checklist was submitted to a panel of jury composed of eight members specialized in the field of curriculum and EFL instruction to determine:

a. The degree of importance of each skill to the first-year preparatory stage pupils.

b. Its appropriateness to the first-year preparatory stage pupils.
So, as the jury indicated, the checklist became valid and EFL speaking skills became clear and adequate after analyzing the jury responses.

**Instruments of the Study**

1. **The Pre-Post EFL Speaking Skills Test**

**Test Aim**

A pre-post EFL speaking skills test was used in the study. The pre-test was used to assess the pupils’ level of achievement in EFL speaking skills before the intervention, and hence the progress achieved by the participants could be attributed to the program it has been exposed to. As for the post-test, it was used to investigate the effect of the BBL program on developing the pupils’ EFL speaking skills.

**Construction of the Test**

The test items were constructed in the light of the following points:

- Previous studies concerned with EFL speaking skills.
- The procedural objectives and standards included in the teacher’s guide as well as the course books of the first-year preparatory stage.
- The directives of the Ministry of Education (2020-2021) for the first-year preparatory stage.

**Validity of the Test**

To ensure the validity of the EFL speaking skills test, the first form of the test was submitted to eight EFL specialists in the field of curriculum and EFL instruction to decide the following:

- Appropriateness of test items to pupils’ linguistic level.
- Clarity and linguistic correctness of test items.
- Ability of the test items to measure the specified skills.
- Suitability of the test items to the objectives of the test.

The test was mostly valid as the jury members approved most of the questions and suggested the following modification:
• Adding the skills measured next to each question item.

• Making instructions clearer.

• Adding warm and welcoming introduction before the questions.

In the light of the jury’s suggestion and notes, some modifications were made in the wording of test instructions and some test items. In addition, an introduction was added before the questions. The jury members decided that the test is valid to be used in assessing the first-year preparatory stage pupils’ EFL speaking skills.

Description of the Final Form of the Test

The final form of the test was divided into two main parts. The first part of the test was interview questions. The pupils were asked ten interview questions and they were requested to respond to them. The second part of the test was a role-play task. The pupils were given two role cards and asked to conduct a conversation in pairs about the situation mentioned in their cards. According to Underhill (2000, p. 87) an interview is the simplest and most frequently used technique of assessing oral proficiency. It is a realistic means of assessing speaking skills in a natural situation. Harmer (2007, p. 385) states that interview questions and role-plays are effective techniques to test EFL speaking skills as they replicate real-life interaction. Ur (2010, p. 37) maintains that interview questions and role-plays are authentic elicitation techniques to test speaking skills as they are open and thought provoking.

Piloting the Test

The EFL speaking skills test was administered to a group of (N=20) first year preparatory stage pupils other than the participants of the research. The pilot study of the test aimed at:

• Estimating the time needed for conducting the test.

• Testing the suitability of the test for the pupils.

• Testing the clarity of vocabulary meanings included in the parts of the test.

• Testing the clarity of the test instructions.
Establishing the reliability of the test.

Reliability of the Test

To guarantee that the pre-post EFL speaking skills test was reliable, the researcher used the inter-rater reliability. The pupils were evaluated by two independent raters after they were instructed in scoring tests using the scoring rubric. Using Pearson’s coefficient correlation between the two raters’ scores, it was found that the correlation coefficient was (0, 98).

Scoring the EFL Speaking Skills Pre-Post Test:

The scoring of the test was as follows:

The test was divided into two parts. Each part was marked out of ten marks. Then, the total of the two parts was divided by two. Thus, the test was scored out of ten.

Administration of the Test:

After ensuring the test reliability and estimating the adequate time for administering the test, the test was pre-administered to the participants. It was administered two days prior to the intervention. Time allocated for the test was 270 minutes. The test was post-administered three days after the intervention. The Post-administration of the test conditions were relatively the same as those of the pre-administration in terms of place and time.

The EFL Speaking Skills Scoring Rubric

The scoring rubric contained six domains of EFL speaking skills. Each domain of speaking skills was scored on basis of a five-point rating scale arranged from one to five. While "one" represents the lowest performance level, "five" represents the highest performance level. So, the mark of each skill was 5 and the total marks of the rubric was 30.

Validity of the EFL Speaking Skills Scoring Rubric

To ensure the validity of the rubric, it was submitted to eight specialists in the field of curriculum and EFL instruction. The jury
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members indicated that the components of the rubric were valid and the sentences describing each component were comprehensive.

Teacher’s Guide

A teacher's guide was developed to aid English language teachers during the teaching process. It included an introduction to the program which included a definition of BBL, the principles it is based upon and the general aims of the BBL program.

Aim of the Program

The main aim of the proposed program was to develop the required EFL speaking skills for the first-year preparatory stage pupils through the use of BBL.

Learning Objectives of the Program

By the end of the program, pupils were expected to:

• Express ideas and responses with ease in accurate sentence structure.

• Make precise and impressive use of vocabulary available in and beyond of the course book.

• Produce clear pronunciation using correct sounds, intonations, stress patterns and connected speech.

• Easily comprehend and respond to various questions and topics related to their daily life.

• Speak English fluently and naturally with minimal stops and hesitation.

• Demonstrate a proper use of body language such as miming and gestures.

• Effectively conduct long and short conversations and take part in group discussions.

Content of the BBL Program
The BBL program was designed to develop the required EFL speaking skills for the first-year preparatory stage pupils through the use of BBL. It was made up of ten lesson plans to be taught in twenty sessions. The lesson plans were based on the list of EFL speaking skills, BBL principles, strategies and lesson stages.

Activities and Tasks of the Program

The activities used in the program were adopted from the following resources:

- The first year preparatory stage English student book, workbook and teacher’s guide.
- Online educational websites.

Evaluation Techniques

The evaluation system in the proposed BBL program was based on the following:

1. Initial Evaluation:

The initial evaluation was conducted to determine the pupils’ level of EFL speaking skills before implementing the program.

2. Formative Evaluation:

Formative evaluation was done for the purpose of assessing pupils’ gradual progress in EFL speaking skills. In addition, it helped in providing necessary feedback on their overall performance. The formative evaluation was accomplished in the following processes:

A. Teacher’s reflection: a teacher’s reflection report was written after each session to record pupils’ performance and progress during the program.

B. Monitoring pair and group work: the teacher quickly assessed and highlighted each group member’s actions and contributions by observing group and pair activities.

C. Projects: pupils were asked to work on projects to present the information they learned to the class.
3. Summative Evaluation:

The summative evaluation was conducted through the post-administration of the EFL speaking skills test at the end of the experiment. The main purpose of the summative evaluation was to investigate the effect of BBL program on developing first year preparatory stage pupils’ EFL speaking skills.

Statistical Analysis

Verifying the Hypotheses of the study

The first hypothesis states that there is a statistically significant difference at (α ≤ 0.01) between the mean scores of the participants on the pre- and post-administrations of the EFL speaking skills test on the overall EFL speaking skills in favor of the post-administration.

For testing this hypothesis, the dependent paired samples t-test was used to compare the mean scores of the participants on the overall EFL speaking skills on the pre- and post-administrations of the EFL speaking skills test.

Table 1.1 presents the mean scores, standard deviation and level of significance on the pre- and post-assessments of the overall EFL speaking skills.

Table 1.1

<table>
<thead>
<tr>
<th>Test</th>
<th>Std. Deviation</th>
<th>Mean</th>
<th>t-value</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>.89955</td>
<td>4.4667</td>
<td>27.643</td>
<td>Sig. at 0.01</td>
<td>0.96 Large</td>
</tr>
<tr>
<td>Post</td>
<td>.94989</td>
<td>7.1667</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Close inspection of data presented in table 4.1 reveals that there is a statistically significant difference between mean scores of the research subjects in the pretest and posttest on the EFL speaking skills test favoring the posttest. Therefore, the hypothesis is accepted, i.e., there is a statistically significant difference between mean scores of the subjects in the pretest and posttest on the EFL speaking skills posttest in favor of the posttest scores. Since the participants share all the same variables saved by the new program, the significant development in their EFL speaking skills can be attributed to the effect of the new program. Hence, the BBL program had a significant effect on developing the subject's EFL speaking skills.

To assure that this significance is attributed to the effectiveness of the designed program, the effect size was calculated by Eta Square. The effect size represents evidence that the results are really significant according to Mansour (1997). The value of the amount of effectiveness was found to be (0.964), a high value showing the effectiveness of the program in developing EFL speaking skills.

![Participants' Pre & Post Means of Overall EFL Speaking Skills](image)

*Figure 4.1 T-test results of pre-post testing of pupils' overall EFL speaking skills.*
The second hypothesis states that there is a statistically significant difference at ($\alpha \leq 0.01$) between the mean scores of the participants on the pre- and post-administrations of the EFL speaking skills test on each EFL speaking skill in favor of the post-administration.

For testing this hypothesis, the independent paired samples t-test was used to compare the mean scores of the participants on each EFL speaking skill on the pre- and post-administrations of the EFL speaking skills test. Table 1.2 indicates the mean scores, standard deviation and the level of significance on the pre- and post-assessments of the first EFL speaking skill which is related to the domain of grammar and structure.

Table 1.2

<table>
<thead>
<tr>
<th>Domains of EFL speaking skills</th>
<th>Ass.</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t-value</th>
<th>Sig.</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Grammar and structure</td>
<td>Pre</td>
<td>2.5667</td>
<td>.67891</td>
<td>7.180</td>
<td>Sig.at 0.01</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.3667</td>
<td>.49013</td>
<td></td>
<td></td>
<td>large</td>
</tr>
<tr>
<td>2- Vocabulary</td>
<td>Pre</td>
<td>2.6333</td>
<td>.61495</td>
<td>7.167</td>
<td>Sig.at 0.01</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.3333</td>
<td>.47946</td>
<td></td>
<td></td>
<td>Large</td>
</tr>
<tr>
<td>3- Pronunciation</td>
<td>Pre</td>
<td>2.3667</td>
<td>.49013</td>
<td>17.954</td>
<td>Sig.at 0.01</td>
<td>0.91</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.5000</td>
<td>.50855</td>
<td></td>
<td></td>
<td>Large</td>
</tr>
<tr>
<td>4- Comprehension</td>
<td>Pre</td>
<td>2.0667</td>
<td>.63968</td>
<td>18.228</td>
<td>Sig.at 0.01</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.8000</td>
<td>.61026</td>
<td></td>
<td></td>
<td>Large</td>
</tr>
<tr>
<td>5- Fluency</td>
<td>Pre</td>
<td>1.8667</td>
<td>.50742</td>
<td>15.456</td>
<td>Sig.at 0.01</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.6333</td>
<td>.66868</td>
<td></td>
<td></td>
<td>Large</td>
</tr>
<tr>
<td>6- Body Language</td>
<td>Pre</td>
<td>1.9000</td>
<td>.54772</td>
<td>26.029</td>
<td>Sig.at 0.01</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td>3.8667</td>
<td>.62881</td>
<td></td>
<td></td>
<td>Large</td>
</tr>
</tbody>
</table>

Table 1.2 indicates the following:
The mean scores of the first EFL speaking skill are 2.5667 for the pre-assessment and 3.3667 for the post-assessment, where t= 7.167, is statistically significant at 0.01. In addition, it is shown that there is a large effect size of the BBL program 0.64 on developing the first required EFL speaking skill which is related to the domain of grammar and structure.

The mean scores of the second EFL speaking skill are 2.6333 for the pre-assessment and 3.3333 for the post-assessment, where t= 7.167, is statistically significant at 0.01. In addition, it is indicated that there is a large effect size of the BBL program 0.64 on developing the second required EFL speaking skill which is related to the domain of vocabulary.

The mean scores of the third EFL speaking skill are 2.3667 for the pre-assessment and 3.5000 for the post-assessment, where t= 17.954, is statistically significant at 0.01. In addition, it is shown that there is a large effect size of the BBL program 0.91 on developing the third required EFL speaking skill which is related to the domain of pronunciation.

The mean scores of the fourth EFL speaking skill are 2.0667 for the pre-assessment and 3.8000 for the post-assessment, where t= 18.228, is statistically significant at 0.01. Moreover, it is indicated that there is a large effect size of the BBL program 0.92 on developing the fourth required EFL speaking skill which is related to the domain of comprehension.

The mean scores of the fifth EFL speaking skill are 1.8667 for the pre-assessment and 3.6333 for the post-assessment, where t= 15.456, is statistically significant at 0.01. In addition, it is shown that there is a large effect size of the BBL program 0.90 on developing the fifth required EFL speaking skill which is related to the domain of fluency.

The mean scores of the sixth EFL speaking skill are 1.9000 for the pre-assessment and 3.8667 for the post-assessment, where t= 26.029, is statistically significant at 0.01. In addition, it is shown that there is a large effect size of the BBL program 0.96 on developing the sixth required EFL speaking skill which is related to the domain of body language.
Figure 4.8 The difference between the mean scores of the participants on the pre-post- assessment of all six EFL speaking skills.

Discussion of Results

The statistical analysis illustrated above indicated the achievement of the study’s main aim, which was developing EFL speaking skills for first year preparatory school pupils. The results presented above indicated that pupils’ EFL speaking skills improved after the implementation of the research program. This significant development emphasizes the effect of the program on improving pupils’ EFL speaking skills.

This significant development could be attributed to the following factors:

- Lesson plans were designed according to BBL strategies and principles to develop the intended EFL speaking skills.
- Various learning resources were used (visual aids, clips, charts, mind-maps, puzzles, crosswords, games, power point presentation, music etc.) keeping in mind the principles of BBL.
- Pupils were involved in preparing the teaching aids with the teacher; they showed great interest and creativity.
- Most of the activities and projects were student driven where the teacher acted only as coach.
The teaching process in the classroom was engaging, relevant and appealing to various learning styles.

Comfortable and multi-dimensional communication was provided with the absence of a threatening atmosphere.

Making sure that pupils work together by forming small groups; making pupils discuss with the class what they learned together and having them look for solutions by providing them with problem situations.

Attention was given to the pupils’ feelings during the BBL classes which made them feel they are important.

Learners were given the opportunity to write journals to reflect on their learning experiences and express what they have learnt in their own words.

The program provided a rich environment which is meaningful and challenging for all types of learners (Light music, seating arrangement, practical experiences, meaningful curriculum through problems, projects, simulations, choices, bulletin board and white board, natural flowers and plants). All that helped pupils collaborate, discuss, reflect, present, plan topics, share ideas and feelings.

Pupils’ interaction through working in small groups provided a less anxiety-producing context in terms of thinking, discussing and creating in a group rather than as a whole class. This relaxed non-stressful atmosphere helped pupils to have more fun, be more motivated and interested in doing their tasks and to gain more confidence.

Finally, the results of the present study are consistent with the results of some previous research such as (Bayindir, 2003; D’Alesio, 2007; Kiedinger, 2011; Pennington, 2010; Soonthornrojana, 2007) which stressed the effectiveness using of BBL in developing EFL skills. In addition, the results of the study support the results of previous studies.
such as (Azadi et al., 2015; Don, 2016; Desouky, 2012; Farah, 2013; Ibrahim, 2019; Kivi et al., 2013; Malmir and Shoorcheh, 2012; Prasetyo, 2015; Rahayu, 2015; Safein, 2012; Sirisrimangkom and Suwanthep, 2013; Susanti, 2011) which assured the importance of using various effective approaches and techniques to develop EFL speaking skills. Moreover, the results of the present study are in line with the results of some previous studies which confirmed the positive impact of applying the principles and strategies of BBL on developing learners’ EFL speaking skills such as (Jampamoon 2012; Panse 2012; Nurhasanah 2013; Yagcioglu 2014; Kusumaningrum 2015; Al-Sadaawy, 2017; Syahbandi 2018; Awad, El-Nagar and Khalil, 2019).

Conclusion

The present study found that the effect of the intervention on pupils’ EFL speaking skills and their learning motivation was statistically significant. The significant differences are due to exposing participants to the BBL program. The significant difference was at 0.01 between the mean scores of the participants in the pre- and post-administration of the speaking test in the overall EFL speaking skills and in each speaking skill favoring the post administration. These results indicated that the English-speaking ability of the participants was significantly increased at the 0.01 level after studying the BBL program.

Pupils participated in the program mastered the targeted EFL speaking skills; using appropriate grammar structures and tenses, producing correct sounds, intonations, stress patterns and connected speech, using vocabulary which is significant to the sentences of situations, comprehending and responding to various questions and topics with ease, speaking easily, reasonably quickly and without having to stop and pause a lot, using appropriate body language while speaking). Such development in EFL speaking skills can be attributed to training through the BBL program and applying some effective BBL strategies during the seven stages of BBL lessons. BBL reinforces learning by enabling pupils’ cognitive features, as well as enriching their positive feelings, interests, and reducing fear, stress and anxiety. Consequently, pupils feel more relaxed, passionate and openly engage in the speaking activities.
Furthermore, incorporating activities such as role-play and real-life situations helped learners to become more motivated and more effective in BBL classes. In addition, utilizing some authentic materials such as realia and videos aided in preparing pupils for the real world of communication. That is, they practiced speaking English in a relatively authentic context. When pupils were provided with intriguing and varied resources of language input e.g., videos, games, chants etc., they were motivated to manipulate EFL speaking skills to communicate and interact confidently and fluently.

Recommendations

Based on the findings of the present study, the following recommendations are presented:

1. BBL approach should be incorporated in teaching speaking in different educational stages in order to develop pupils’ EFL speaking skills.

2. Teaching speaking should be given more attention in Egyptian EFL classes and more efforts should be exerted to develop this essential skill and its sub-skills.

3. Curriculum designers are recommended to enrich English text books with BBL strategies and techniques which tackle EFL speaking skills.

4. Pre-service and in-service teacher training programs should focus on the importance of BBL in developing EFL skills and provide teachers with guidance on how incorporate its strategies and techniques in their daily lessons.

5. Due attention should be given to teaching EFL speaking skills in order to be developed at pre-college levels especially at primary and preparatory stages. Therefore, educators should take into account manipulating various strategies when teaching speaking.
6. Adopting BBL in teaching other EFL skills i.e., listening, reading and writing.

**Suggestions for Further Research:**

The present study presented the following suggestions for further research:

1. Further research is needed to investigate the effect of BBL on developing other EFL skills such as listening, reading and writing.

2. Further research is needed to investigate the effect of BBL on developing EFL speaking skills in the primary and secondary stages.

3. Further research is needed to investigate the effect of BBL on learning other school subjects.

4. Further research is needed to investigate the effect of other teaching approaches on developing pupils’ EFL speaking skills.

5. Further research is needed to investigate effect BBL on learners’ attitudes towards learning English as a foreign language.

**References**


Dorgham, R. (2011). The Effectiveness of a Proposed Program in Developing the Speaking Skills of English Language Among Preparatory Stage Pupils in the Light of Multiple Intelligence Theory. Institute of Educational Studies: Cairo University.


Developing Preparatory School Pupils’ Speaking Skills Through Brain-Based Learning

the Tenth Grade Students of SMA Negeri 2 Boyolali, Indonesia: Boyolali.


Panase. S. (2013). Development of Brain Based Program for Enrichment of Oral Communication of 1st std Deprived Students. S.N.D.T. Women’s University, Mumbai, India


Developing Preparatory School Pupils’ Speaking Skills Through Brain-Based Learning
