The Effectiveness of an Embodied Learning Based Program in Enhancing Official Language Preparatory School Pupils' EFL Productive Skills

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المستخلص

تهدف الدراسة الحالية كيف يمكن استخدام التعلم التجسيدي لتعزيز المهارات الإنتاجية لدى تلاميذ مدرسـة دار التربيـة الرسـمية الإعداديـة للغـات. تضـمن المشـاركون ٣٠ تلميذًا مـن المرحلـة الإعدادية. أعدت الباحثة قائمـة مراجعـة للمهارات الإنتاجيـة، واختبارًا للمهارات الإنتاجيـة، و استمارة لتصـحيح المهارات الإنتاجيـة وبرنـامج قائم على التعلم التجسيدي. تم تعليم الطلاب كيفية استخدام التعلم التجسيدي وخطواته خلال الفصل الدراسي الثاني من العام الدراسي ٢٠٢١/٢٠٢٢. بعد ذلك تمت ملاحظة أداء التلاميذ باستخدام الاختبار البعدى حيث اثبتت النتائج وجود فرق دال احصائيا بين الاختبار القبلى والبعدى لصالح الاختبار البعدى.

الكلمات المفتاحية: برنامج قائم على التعلم التجسيدي – المهارات الإنتاجية – طلاب الصف الأول من المرحلة الإعدادية

Abstract

The current study investigates how embodied learning can be used to enhance EFL productive skills of Dar El-Tarbia official language school preparatory pupils. The participants included 30 preparatory stage pupils. The researcher prepared a productive skills checklist, a productive skills test, and a rubric for scoring productive skills test and an Embodied Learning based program. The study group was taught during the second semester of the academic year 2020/2021. Participants were observed using productive skills checklist. After that, the pre-posttest was administered. Findings proved that there are statistically significant differences between the mean scores of the study group on productive skills pre-posttest in favor of the posttest. .

Keywords: Embodied Learning Based Program, EFL productive skills, Preparatory stage pupils

1. Introduction

Language is used for a variety of purposes, including expressing emotions, sentiments, and wants, conveying ideas and information, and allowing individuals or groups to send and receive messages, thoughts, and opinions. Language is also defined by the Oxford Dictionary (1948) as "the process of human communication, whether spoken or written, consisting of the use of words in a structured and traditional manner" (P.829). This suggests that language exists in two forms: spoken and written, both of which are complementary.

It is primarily speech between oneself (monologue) as well as among others (dialogue), it facilitates the communication process as well as sending and receiving messages. Language is a wholly human and non-instinctive way of communicating ideas, emotions, and desires through a system of intentionally generated symbols. The language is unique and only spoken by those who belong to a specific speech community. This language is learned as a set of arbitrary, meaningful, and customary symbols from birth. Sounds, gestures, and, to a lesser extent, the written system, are examples of such symbols.

Speaking is one of the most important skills for efficient communication in any language, especially when speakers are not speaking their native tongue. 2010 (Boonkit). Kuśnierek (2015, p3) asserts that "speaking is one of the most difficult skills pupils may possess since it requires first and foremost a great deal of practice and also exposure to the target language. In addition, it may be perceived as a complicated process in which fluency is identified as the most desirable ability when talking smoothly with a native speaker in the target language. Accordingly, to communicate successfully in a foreign language, learners need not only practicing but also understanding some linguistic elements which are important for verbal interaction and communication".

Writing empowers the learners to communicate their thoughts, ideas, feelings and expressions in the form of writing. Writing is a very difficult cognitive activity in which the writer must display simultaneous control of multiple factors. Students with strong writing skills may have a better chance of succeeding. All students require writing abilities in order to meet

their educational and employment requirements. Writing skills are essential for communicating thoughts, ideas, and facts in a clear and concise manner. Pupils must master the art of effective writing, which is necessary for academic and professional success. Durga and Raw (Durga & Raw, 2018)

In the process of writing, learners must have mastery over the graphic system, selection of relevant vocabulary and the grammatical structure of the language. According to Richards and Schmidt (2002), writing is the outcome of complicated planning, drafting, evaluating, and revising processes. This indicates that writing takes place over time and is transformed into a final manuscript. To do so, the graphic symbols must be ordered according to particular rules in order to produce words, phrases, paragraphs, and essays.

Many approaches have been used to enhance productive skills such as the process approach, the communicative approach and among them is the embodied learning. Embodiment is not a"passing fad"in psychology (Newman, 2008). Piaget (1952) was an early proponent of the idea that sensory activity contributes in knowledge construction and that bodily acts are not independent from, nor completely dependent on, the intellect. Embodied learning is a holistic approach to knowledge construction that emphasises the body as a learning site, often in conjunction with other domains of information such as spiritual, emotive, symbolic, cultural, and intellectual knowledge. Embodied learning entails getting to know ourselves and the world around us better as a living bodily subject that perceives and does the perceiving in a meaningful way, rather than as an abstract object or an instrument. The most influential philosopher of embodiment in the twentieth century was and still is Maurice Merleau-Ponty, whose thoughts on the body's direct and immediate grasp of the world have inspired a lot of theoreticians as well as practitioners.

Embodied learning (EL) consists of 6 Es steps which are: enactive, engage, explore, elaborate, embedded and extended that help in integrating speaking with writing inside and outside of the classroom in order to overcome their weakness. Following is a graphic representation of the 6 Es of Embodied Learning.

Figure.1: Steps of Embodied Learning (EL)
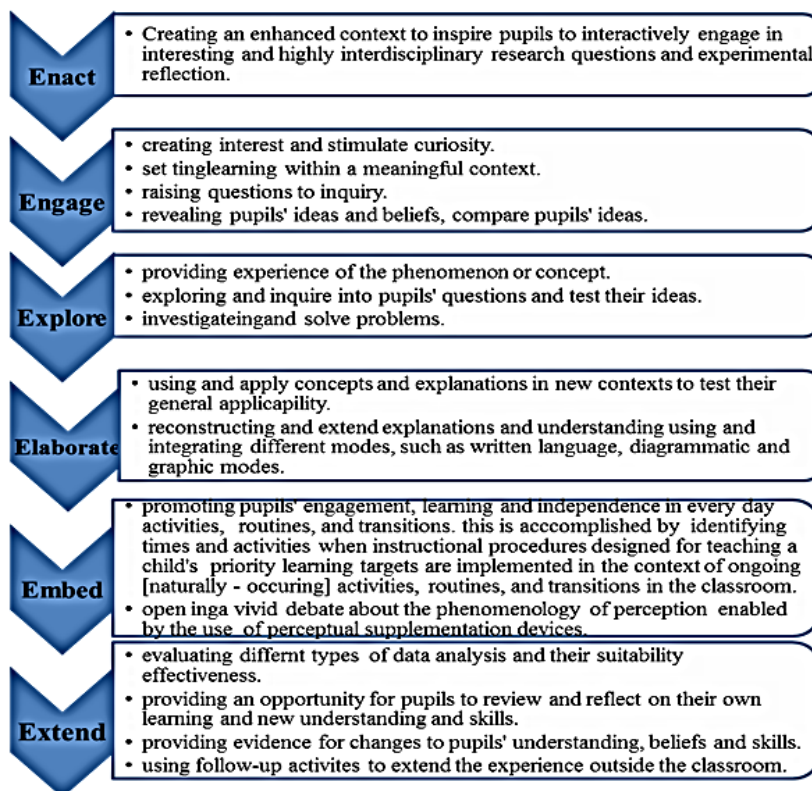
Source: Original

1.1. Background of the problem

First, the researcher observed that preparatory pupils have difficulty in productive skills (speaking and writing) through teaching practice and this is manifested by their previous scores and their participation in EFL classes where the Faculty of Education English majors practice teaching EFL .

Second, related studies such as (Idrees, 2017, Farag, 2020, Gharib, 2020, and Gad, 2020) assured that pupils have problems in productive skills (speaking and writing) in the English language. Rarely do they initiate speech. In most cases, they respond to teachers' questions and they have difficulty in writing consistent paragraphs. Such lack of speaking and

writing skills may be due to several factors, the first of which relates to the teacher's method he/she is using. They often neglect writing skill and rarely do they provide the opportunities for pupils to speak or help them interact actively in EFL classes.

Third, the researcher conducted a pilot study on 20 of Dar El-Tarbia official language preparatory school pupils to measure their speaking and writing skills and determine whether or not they encounter difficulties in productive skills. The test consisted of two parts: the first part included two questions which consisted of a picture to describe and a topic to talk about and the second part included a question for writing a paragraph.

The findings support that there is a problem in speaking skill where the percentages were 25.5% (Fluency), and 25.5% (Accuracy). This is shown graphically in the following figure.

Figure.2: Speaking skills scores on the pilot study
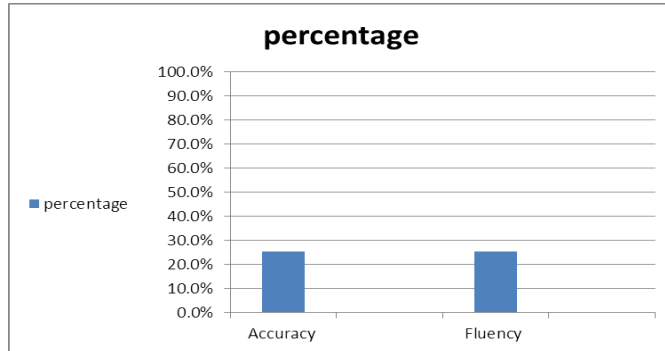
The findings support that there is a problem in writing skill as well where the percentages were 18.0% (mechanics), 17.0% (0rganization), 19.0% (language use), and 15.0% (content). This is shown graphically in the following figure.

Figure.3: Writing skills scores on the pilot study
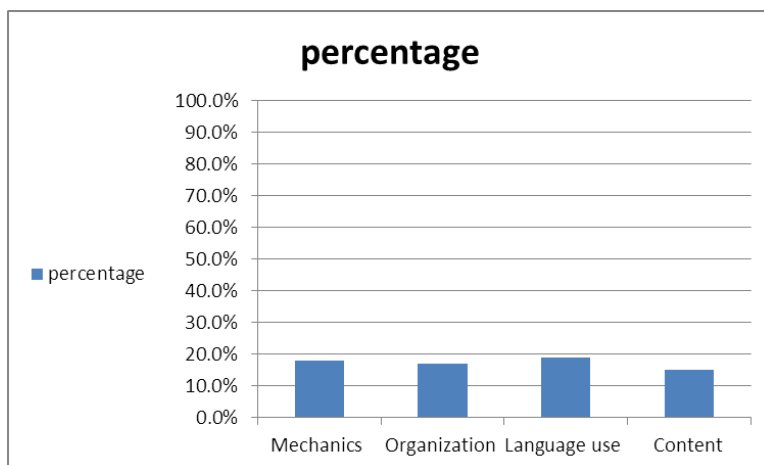
1.2. Aim of the study

The current study aimed at enhancing official language preparatory school pupils' EFL productive skills including speaking: (pronunciation – fluency – grammar – words - comprehension) and writing: (content related skills – organization – vocabulary – grammar - mechanics) through the embodied learning approach.

1.3. Questions of the study

The current study attempts to answer the following questions:

1) How far is the embodied learning based program effective in enhancing official language preparatory school pupils' EFL productive skills?

2) How far is the embodied learning based program effective in enhancing EFL overall speaking skills of official language preparatory school pupils?

3) How far is the embodied learning based program effective in enhancing each of speaking sub-skills of official language preparatory school pupils?

4) How far is the embodied learning based program effective in enhancing overall EFL writing skills of official language preparatory school pupils?

5) How far is the embodied learning based program effective in enhancing each of writing sub-skills of official language preparatory school pupils?

1.4. Hypotheses of the study

The following hypotheses were formulated as follows:

1) There is a statistically significant difference on the level of ($\alpha \leq$ 0.05) between the mean scores of the study group on productive skills pre-posttest in favor of the posttest.

2) There is a statistically significant difference on the level of ($\alpha \leq$ 0.05) between the mean scores of the study group on overall speaking skills pre-posttest in favor of the posttest.

3) There is a statistically significant difference on the level of ($\alpha \leq$ 0.05) between the mean scores of the study group on each of speaking sub-skills pre-posttest in favor of the posttest.

4) There is a statistically significant difference on the level of ($\alpha \leq$ 0.05) between the mean scores of the study group on overall writing skills pre-posttest in favor of the posttest.

5) There is a statistically significant difference on the level of ($\alpha \leq$ 0.05) between the mean scores of the study group on each of writing sub-skills pre-posttest in favor of the posttest.

1.5. Significance of the study

The present study is significant as it might help:

1) Preparatory school pupils: as it helps them in enhancing their EFL productive skills and enable them to speak and write accurately and fluently in EFL.

2) EFL teachers: as it helps them pay more attention to embodied learning approach while teaching to help pupils enhance productive skills.

3) Curriculum designers: as it helps them use embodied learning approach in preparing courses/ programs for enhancing EFL productive skills for preparatory school pupils.

1.6. Delimitations of the study
1) A group of 30 EFL official language preparatory school pupils, Menoufia governorate.
2) - Some speaking skills including (pronunciation – fluency – grammar – words - comprehension).
   - Some writing skills including (content related skills – organization – vocabulary – grammar - mechanics).
3) The second semester of the academic year 2020/2021.

1.7. Definition of terms
1.7.1. Embodied learning (EL)
The researcher defined embodied learning operationally as the use of the senses and mind in the educational practice and the preparatory pupils' interaction both inside, and outside the classroom using 6Es steps to enhance EFL productive skills in an effective way for official language preparatory school pupils.

1.7.2. Productive skills
The term is defined operationally as Dar El-Tarbia Official language pupils' ability to transmit, share ideas and communicate through writing and speaking skills.

2. Review of Literature
2.1. Productive skills
Language skills are really important in learning any language especially productive skills (speaking and writing). These two skills manifest as the production of language by learners. In other words, these skills consist of learner's abilities to efficiently write and speak a language. Pupils should transform what they have acquired into an accurate and fluent written or spoken form (Ivančić & Mandić, 2014). As Brown (2000, p.267) clarified that: "the benchmark of successful language acquisition is almost always the demonstration of an ability to accomplish pragmatic goals through interactive discourse with other speakers of the language".

2.1.1 Speaking sub-skills
(Jondeya, 2011), (Hormailis, 2003), (Warriner, 2003) and (Dash, 2013) have stated the speaking sub-skills as follow:

Articulate sounds in connected speech, Articulate stress patterns within words, Manipulate variation in stress in connected speech, Produce basic intonation patterns, Summarize the main points of a text, Describe a

sequence of events based on visual inputs, Narrate a story based on visual input, Narrate a story based on personal experiences, Make a rehearsed or unrehearsed presentation about a familiar topic (self, family, immediate environment or current issues), Express like, dislikes, interest, dreams, apology, gratitude, regret, surprise, pleasure, displeasure, agreement and disagreement, Respond to direct questions, instructions, suggestions, offers, visual input, etc, Respond to referential and inferential questions, Respond to conditional or hypothetical questions, Ask questions about routine matters, Transcode information in diagrammatic display into speech, Vocabulary, Grammar, Fluency, Pronunciation, and Comprehension.

2.1.2. Teaching speaking skills

Speaking is a fundamental skill but teaching speaking skills to EFL teachers has become a new difficulty in their learning and teaching process. According to Songbatumis (2017), some teachers' difficulties are due to a lack of language teaching competence. Teachers' concerns about English teaching include a lack of training, poor understanding of teaching methods, unfamiliarity with technology, and a lack of professional development. Multiple elements related to teachers' teaching practices or pupils' abilities may have an impact on skills. Some of the challenges in teaching speaking skills may be due to a lack of inventive tactics and approaches those teachers should employ to assist pupils in developing their abilities. Teachers continue to teach English using traditional methods, and classroom interactions are not improved to help EFL learners improve their fluency and conversational skills.

2.1.3. Previous studies focusing on speaking

Saleh (2021) aimed in her study at developing primary official language school pupils′ EFL speaking skills through the use of content and language integrated learning (CLIL). Participants of the study were 60 fifth year Defino primary official language school pupils at Fayoum governorate. They were divided into two groups; experimental and control 30 pupils each. The researcher prepared an EFL speaking skills test, an EFL speaking rubric, a motivation scale and a teacher's guide. Having pre administered the speaking skills test, the motivation scale and taught the experimental group using CLIL, the participants were post administered the same instruments. The results showed that the use of content and language integrated learning proved to be effective in developing primary official

language school pupils′ EFL speaking skills and their motivation to learn. The study concluded with some recommendations and suggestions for the pupils, teachers and curriculum designers. Also, suggestions for further research were provided.

Hashem (2021) investigated the effect of utilizing the Six Thinking Hats strategy on developing the English Language speaking skill and attitudes towards the skill among online EFL General Diploma pupils. The participants were one experimental group, thirty two pupils. Three main instruments were used for data collection-speaking sub skills checklist, speaking test and attitudes scale. The experimental group was taught using the Six Thinking Hats strategy for twelve weeks during the first semester of the academic year 2020/2021. Data collected through the pre and post administration of the instruments was subjected to t-test. The results revealed through the post administration of the speaking test and the attitudes scale, displayed that the post-performance of the experimental group significantly exceeded its own pre-performance. Thus, the results reflected support for the study hypotheses. They proved the positive effect of the Six Thinking Hats strategy on developing the English Language speaking skill and attitudes towards the skill among online EFL General Diploma pupils.

Hadedi, Mohamed (2021) aimed at investigating the use of communication games in promoting EFL learners' speaking skill at Sudan basic schools. The study adopts the descriptive analytical method, a questionnaire been has used as primary tool for data collection. The sample of the study comprises (50) teachers of English language in vary basic schools at Khartoum state. The researchers applied (SPSS) program for analyzing and testing the hypothesis. The results revealed that playing games are an effective technique for engaging beginners in using English language verbally as long as possible. In the light of these results, the study recommends that games should be employed for verbal classroom interaction to improve the pupils speaking skill. In addition games create interesting and enthusiastic learning atmosphere. Also teaches' roles should be changed from instructors who dominate the class into educators whose role is to guide; support and help pupils acquire the foreign language easily.

2.2. The productive skill (Writing)
2.2.1. Writing sub-skills

Writing skill is considered the most difficult skill and it is also further classified into some categories. Ong'ondo (2001) has classified writing into two categories such as functional and creative. Functional writing includes writing of notices, reports, letters, speeches, minutes, memorandum and book reviews. On contrast, creative writing primarily depends on the capabilities of telling or retelling the parts of information in descriptive or narrative way which is used to change the information into new texts viz., argumentative or exposition writing. The following are the classifications of writing sub-skills: Grammar, Vocabulary, Spelling, Punctuation, Layout, Linking, and Style.

2.2.2. Using EFL writing skill in the teaching process

Abouabdelkader, Ahmed (2016) has stated that five categories emerged in the teaching process: topic-based teaching, brainstorming, narrowing topic titles, analysis of written texts, and coherence. The following section will shed light on these procedures in more detail.

1) **Topic-Based teaching**

   Choosing topics that are very interesting for pupils because if it is chosen traditional or worn-out topics, pupils are going to write poor ideas that are not going to be challenging any more. That's why teachers look for topics that are updated, real life, and expressing what's going on.

2) **Brainstorming**

   Teachers suggested writing topic; give a hint about a topic and pupils start the brainstorming with pupils on the board to teach them how to get ideas out of their minds. Pupils' views about brainstorming varied.

3) **Narrowing topic titles**

   Observation of essay writing revealed that teachers focused on narrowing topic titles. Giving pupils the opportunity to think of a topic, narrowing the title, and then deciding how they could develop it whether in a descriptive, narrative, expository, or argumentative discourse. Pupils wrote titles and the teacher corrected them orally.

4) **Analysis of written texts**

The written essays was not only analyzed in terms of essay structure, cohesion, and coherence, but also it was translated the difficult words and expressions.

Features of Spoken and Written English

Sharma, V (2015) has clarified that the speaking and writing skills are also called productive skills but written language doesn't contain words and language what have been spoken and spoken language is not just reading out loudly the written words and language.

In many aspects, the productive skills differ from one another. Except when recorded, spoken language is frequently inconsistent and changeable, but written language may be retained as a record for future reference. Misunderstandings can be sorted up 'on the spot' when chatting, which is not possible in writing. Written language is a deliberate and deliberate procedure that takes time and is monotonous, but spoken language is used to deal with sentiments, emotions, and various situations in order to clear any doubts and make communication constructive and effective. In contrast to spoken language, where sentences are shorter and easier to grasp, written language frequently includes long and complex sentences. Therefore, there are different ways to learn, attain and deal English language learning and teaching.

1) First, spoken language is typically produced spontaneously and constructed together by partners in an interaction. What someone says is often influenced by what another person has said or might be expected to say. The meaning communicated is also negotiated for clarity through strategies such as asking for repetition or paraphrasing. Written language, on the other hand, is planned by a single writer for a distant reader but may undergo several rounds of drafting so that the reader will understand the meaning clearly and the communication purpose is achieved.

2) Secondly, spoken language is mainly produced in face-to-face interactions in which the speaker can refer to the objects, people, places, etc. that are in the context of interaction without explicitly mentioning them. Written language, on the other hand, is used when the writer and the reader are separated by space and time; the writer,

therefore, has to convey thoughts and information in a linguistically explicit manner.

3) Thirdly, compared with written language, natural speech tends to be 'messy': Not all sentences are well formed and there are redundancies, repetitions and hesitations. Content communicated through writing is relatively compact, with information embedded in well-constructed sentences.

4) Fourthly, spoken and written language are different in terms of lexical density (Halliday, 1989). This means there is a difference in the ratio of content words such as nouns (e.g. house, happiness, May), verbs (e.g. return, like, play), adjectives (e.g. red, patient, important) and adverbs (e.g. slowly, candidly, later) to function words, such as articles (e.g. a, an, the), prepositions (e.g. over, in, above) and conjunctions (e.g. and, but, when) in relation to the length of the clause or sentence. Written language tends to pack more content words into a sentence or clause compared with spoken language. (Goh, C, 2013)

Studies focusing on writing skills

Cabrera-Solano, Castillo-Cuesta, Ochoa-Cueva, Quinonez-Beltran (2021) aimed at analyzing the impact of digital storytelling on English as a Foreign Language (EFL) pre-service teachers' writing skills. The participants were 101 pupils, who were enrolled in four distance courses of the English Major at a private university in Ecuador. Their ages ranged between 19 and 22 years old. They were divided into one control (49) and one experimental (52) group since this study used a quasi-experimental approach combined with a mixed-method design. The instruments included a pre-questionnaire, a pre-test, a post-questionnaire, and a post-test. The main findings show that there was a significant improvement in pupils' writing skills, particularly in aspects related to grammar and vocabulary. In addition, digital storytelling using Storybird was perceived as a useful strategy to develop the participants' EFL writing skills since they were more engaged in activities that allowed them to demonstrate their knowledge when designing narrative projects.

Saleh (2021) investigate the effect of mind mapping strategy on developing 46 randomly selected EFL preparatory stage pupils' writing skills from Rabaa El Adawia Preparatory School, Kafr Saqr Educational

Directorate, Sharkia Governorate in the second semester of the academic year 2019-2020. The researcher adopted quasi-experimental design. The participants of the study were equally divided into the experimental and control groups. To achieve the purpose of the study, the researcher designed an EFL writing skills questionnaire, an EFL writing pre-posttest, and a rubric. The experimental group was taught by the use of mind mapping strategy while the control group received regular instruction. The results of the statistical analysis indicated that the experimental group writing skills developed as a result of utilizing mind mapping strategy. So, the researcher recommended that mind mapping activities should be integrated within the learning curriculum. It is suggested that further studies should investigate the relationship between mind mapping strategy and other writing skills, i.e. critical and creative writing at various educational stages.

Embodied learning

Embodied education is a broad notion that encompasses both embodied teaching and embodied learning (Lindgren & Johnson-Glenberg, 2013). Embodied learning characteristics provide solutions to issues about how students construct information while viewing everyone's body as an instrument for knowledge construction (Kalantzis & Cope, 2004). In embodied practise, the phrase "body" refers to the student's entire personality, which encompasses the physical body, senses, mind, and brain. The key principles of embodied learning implementation, according to Lindgren and Johnson-Glenberg (2013), are sensorimotor activity, the relevance of gestures to the theme to be replicated, and the emotional involvement of the participant in the entire process. There is a substantial correlation between the two.

Embodied Learning: Mind, Body, Emotions

The intellect, body, emotions, and self are all part of activists' embodied knowing, which contributes to their effective mastery of learning. It's experience as an activist that has given you practical expertise (Maddison & Scalmer 2006). This style of knowing contrasts with rationalist pedagogy, which is disembodied and primarily concerned with mind and thought. "It must always be recognised," Hager (2000) says, "that practise is an embodied phenomena" (p. 285).

Implementation of embodied learning in the classroom

Many physical practises that could be used in a language school are included in Embodied Learning. However, the following are some of the active learning options for EFL that are considered the most interesting and profitable:

1) Games that need movement - motion detecting technology is at the heart of Microsoft's and other tech companies' Kinect-based games (eg. Nintendo Wii). Similarly, Augmented and Virtual Reality devices and games immerse the player/learner in movement and allow them to become a part of the scene rather than just a bystander. In 2021, there will be games on the market that use these technologies and can be used for language teaching and learning.

2) Role-playing and acting - For many language teachers, role-playing is one of their favourite language learning activities. This is a powerful strategy for engaging learners and making language learning more enjoyable and immersive. Assigning student groups to portray a brief scene from a popular movie or a tale in the target language is a basic example.

3) Drawing comics - Drawing and arts are a great method to mix intellect and movement in a fun and natural way. This is a language learning practise that engages a variety of senses and processes, including not only hand movement but also matching visuals to the appropriate words and context.

Related studies for embodied learning

Lan (2018) aimed at investigating how different types of embodied learning influence elementary school pupils' English as a foreign language (EFL) listening performance. Two kinds of embodied learnings: real and physical body versus the 3D avatar, were compared with non-embodied learning. 69 fifth graders from two elementary schools participated in this study, and were randomly assigned into three groups (Kinect, Second Life, and paper). During the 11-week experiment, an identical EFL performance test was administered six times: before (once), during (3 times), and after (twice) the learning activities. The results depict that pupils learned better by watching their own 3D avatars doing motions than by moving their own bodies to produce the motions or doing nothing.

3. Method and procedures
3.1. Participants
The participants of this study were 30 EFL official language preparatory school pupils.
3.2. Instruments and materials
A productive skills checklist, A pre-post EFL productive skills test, A productive skills rubric, An embodied learning based program.
3.3. Description of the EFL productive skills pre-posttest.
The pre-posttest of productive skills included two parts; writing and speaking. The writing skills component includes four questions. The first question measures the content related skills which includes a picture to be described, whereas the second one measures the organization including completing the sentences, the third one measures the vocabulary and grammar which includes many different words to make a paragraph, and the fourth one measures the mechanics of writing which includes missing words to be completed.

The speaking skills component included four sections which were pronunciation which contains a Jigsaw picture to be matched by the pupils and begin to make a story about it, fluency which includes three sentences for parts of a story to complete and talk about it in a fluent way, grammar and words that contains the imagination of the pupils to create a topic which has new vocabulary and be aware of the good structure, and comprehension which includes a question about comparison to discuss the similarities and differences.
3.4. The validity of productive skills pre-posttest.
The validity of the test was measured by three ways: Face validity, content validity and comparison of extreme groups. Face validity simply means the validity at face value. This aspect of validity refers to whether or not the test looks reasonable. As a check on face validity, test items are judged by specialists to obtain suggestions for modification, and the jurors approved the pre-posttest without any deletion or addition.
3.5. Reliability of the productive skills pre-posttest
Reliability is concerned with the precession of measuring instruments. A measure is concerned reliable if it would give the same results over and over again. In other words, the test is reliable if it gives

consistent results when it is applied on the same respondents a second or a third time.

The reliability of productive skills pre-posttest (two components) was computed using the test-retest method where the test was administered to 30 pupils. Two weeks later the test was re-administered to the same pupils. The researcher found that the productive skills pre-posttest is reliable. In addition, the inter-rater reliability was computed concerning the writing and speaking components.

3.6.   Inter-rater reliability

Inter-rater reliability is used to assess the degrees to which different raters/observers give consistent estimates of the same phenomenon. To avoid the subjectivity factor in grading the speaking test, inter-rater was calculated. All transcripts of the writing and speaking tests were given to another rater, with its scoring scales to mark the writing and speaking tests on her own. The researcher used Cooper to calculate the stability of the test and the results have shown as follow for 30 pupils:

Table (1) Rubric stability
(N=30)

Productive skills	No	Sub-skills	Similarities	Differences	Stability coefficient
Writing	1	Content related skills	28	2	93.3%
	2	Organization	26	4	86.7%
	3	Vocabulary	25	5	83.3%
	4	Grammar	27	3	90%
	5	Mechanics	28	2	93.3%
Speaking	1	Pronunciation	28	2	93.3%
	2	Fluency	27	3	90%
	3	Grammar	28	2	93.3%
	4	Words	26	4	86.7%
	5	Comprehension	27	3	90%

4. Discussion and Interpretation

Hypothesis One

There is a statistically significant difference at the level of ($\alpha \leq 0.05$) between the mean scores of the study group on overall and each of speaking skills (pronunciation – fluency – grammar – words – comprehension) pre-posttest in favor of the posttest.

In order to investigate this hypothesis, t-test was used to identify the significance difference between the mean scores of the participants on both the pre and posttest. Table ( ) shows the t-values for the participants on the pre and posttest.

Table (2): The t-value for overall pre and post EFL speaking Skills tests

Skills	Test	No.	Mean	Std. Deviation	t-value	DF	α Sig	η2
Pronunciation	Pre	30	3.90	1.32	22.139	29	0.01	0.944
	Post	30	7.60	1.07				
Fluency	Pre	30	5.40	2.24	22.657	29	0.01	0.947
	Post	30	16.77	1.28				
Grammar	Pre	30	2.00	0.64	15.703	29	0.01	0.895
	Post	30	4.47	0.51				
Words	Pre	30	1.80	0.61	16.208	29	0.01	0.901
	Post	30	4.43	0.57				
Comprehension	Pre	30	2.87	0.82	30.566	29	0.01	0.970
	Post	30	7.03	0.67				
Speaking Skills	Pre	30	15.97	4.03	33.296	29	0.01	0.975
	Post	30	40.30	2.51				

Table (2) shows that the mean scores of the overall pretest was 15.97 and the SD was 4.03, while the mean scores of the overall posttest was 40.30 and the SD was 2.51. As table (2) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 33.296).

In addition, table (2) shows that the mean scores of the pronunciation skills pretest was 3.90 and the SD was 1.32, while the mean scores of the overall posttest was 7.60 and the SD was 1.07. As table (2) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 22.139).

Furthermore, table (2) shows that the mean scores of the fluency skills pretest was 5.40 and the SD was 2.24, while the mean scores of the overall posttest was 16.77 and the SD was 1.28. As table (2) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 22.657).

In addition, table (2) shows that the mean scores of the grammar skills pretest was 2.00 and the SD was 0.64, while the mean scores of the overall posttest was 4.47 and the SD was 0.51. As table (2) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 15.703).

Furthermore, table (2) shows that the mean scores of the words skills pretest was 1.80 and the SD was0.61 , while the mean scores of the overall posttest was 4.43 and the SD was 0.57. As table (2) shows, there existed a

statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 16.208).

In addition, table (2) shows that the mean scores of the comprehension skills pretest was 2.87 and the SD was 0.82, while the mean scores of the overall posttest was 7.03 and the SD was 0.67. As table (2) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 30.566).

Thus, the second hypothesis was accepted. This is represented graphically in figure (4)

Figure (4): The Mean Scores of the Participants in the Overall and each speaking skills Pre and Post Tests
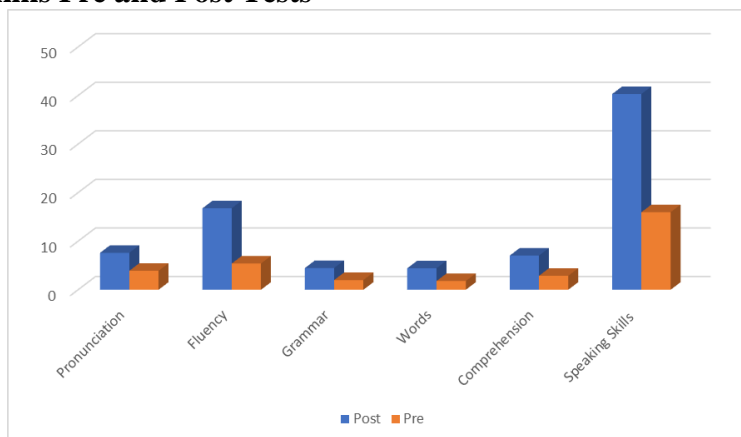
To determine whether the Embodied Learning is educationally and practically effective in enhancing the EFL preparatory pupils' overall EFL speaking skills, the effect size was calculated using η^2.

$\eta^2 = t_2 / t_2 + df$

The effect size was (0.975). This reflects that the Embodied Learning is effective in enhancing the EFL preparatory pupils' overall EFL speaking skills.

Findings related to the second hypothesis

Hypothesis Two

There is a statistically significant difference at the level of ($\alpha \leq 0.05$) between the participants' mean scores of the pre- and post-tests on the overall and each of EFL Writing Skills (content related skills – organization – vocabulary – grammar – mechanics) in favor of the posttest.

In order to investigate this hypothesis, t-test was used to identify the statistically significance difference between the mean scores of the participants on both the pre and posttest. Table (3) shows the t-values for the participants on the pre and posttest.

Table (3): The t-value for overall pre and post EFL Writing Skills tests

Skills	Test	No.	Mean	Std. Deviation	t-value	DF	α Sig.	η2
Content related skills	Pre	30	3.53	1.55	17.133	29	0.01	0.910
	Post	30	7.33	1.18				
Organization	Pre	30	6.50	2.40	23.072	29	0.01	0.948
	Post	30	16.00	1.51				
Vocabulary	Pre	30	1.17	0.59	21.617	29	0.01	0.942
	Post	30	4.43	0.57				
Grammar	Pre	30	1.33	0.66	25.673	29	0.01	0.958
	Post	30	4.67	0.48				
Mechanics	Pre	30	2.77	1.01	39.370	29	0.01	0.982
	Post	30	10.00	0.00				
Overall Writing Skills	Pre	30	15.30	3.55	43.696	29	0.01	0.985
	Post	30	42.43	2.53				

Table (3) shows that the mean scores of the overall pretest was 15.30 and the SD was 4.93, while the mean scores of the overall posttest was 42.43 and the SD was 2.53. As table (3) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 43.696).

In addition, table (3) shows that the mean scores of the content-related skills pretest was 3.53 and the SD was 1.55, while the mean scores of the overall posttest was 7.33 and the SD was 1.18. As table (3) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 17.133).

Furthermore, table (3) shows that the mean scores of the organization skills pretest was 6.50 and the SD was 2.40, while the mean scores of the overall posttest was 16.00 and the SD was 1.51. As table (3) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 23.072).

In addition, table (3) shows that the mean scores of the vocabulary skills pretest was 1.17 and the SD was 0.59, while the mean scores of the overall posttest was 4.43 and the SD was 0.57. As table (3) shows, there

existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 21.617).

Furthermore, table (3) shows that the mean scores of the grammar skills pretest was 1.33 and the SD was 0.66 , while the mean scores of the overall posttest was 4.67 and the SD was 0.48. As table (3) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 25.673).

In addition, table (3) shows that the mean scores of the mechanics skills pretest was 2.77 and the SD was 1.01, while the mean scores of the overall posttest was 10.00 and the SD was 0.00. As table (3) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 39.370).

Thus, the first hypothesis was accepted. This is represented graphically in figure (5)

Figure (5): The Mean Scores of the Participants in the Overall and each writing skill Pre and Post Tests
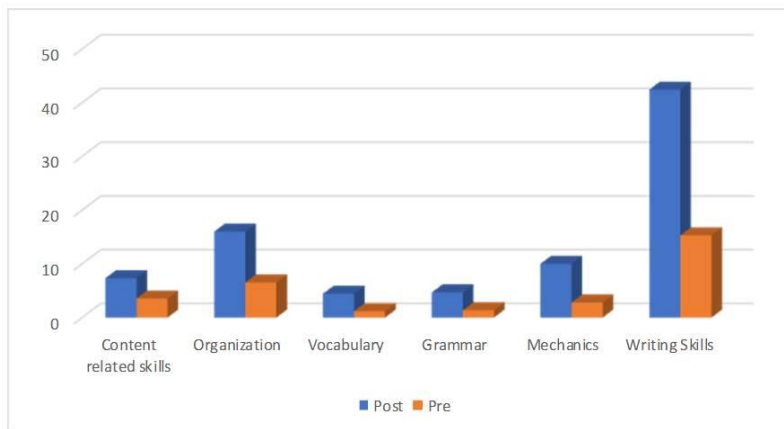
To determine whether the Embodied Learning is educationally and practically effective in enhancing the EFL preparatory pupils' overall EFL writing skills, the effect size was calculated using η^2.

$$\eta^2 = t_2 / t_2 + df$$

The effect size was (0.985). This reflects that the Embodied Learning is effective in enhancing the EFL preparatory pupils' overall EFL writing skills.

Findings related to the third hypothesis

Hypothesis Three

There is a statistically significant difference at the level of ($\alpha \leq 0.05$) between the mean scores of the study group on productive skills pre-posttest in favor of the posttest.

In order to investigate this hypothesis, t-test was used to identify the statistically significance difference between the mean scores of the participants on both the pre and posttest. Table (4) shows the t-values for the participants on the pre and posttest.

Table (4): The t-value for overall pre and post EFL productive Skills tests

Skills	Test	No.	Mean	Std. Deviation	t-value	DF	α Sig	η2
All Over The Test	Pre	30	31.27	5.91	48.755	29	0.01	0.988
	Post	30	82.73	4.30				

Table (4) shows that the mean scores of the overall pretest was 31.27 and the SD was 5.91, while the mean scores of the overall posttest was 82.73 and the SD was 4.30. As table (4) shows, there existed a statistically significant difference in the mean scores of the overall pretest and posttest of the participants in favor of the posttest (t = 48.755).

Thus, the third hypothesis was accepted. This is represented graphically in figure (6)

Figure (6): The Mean Scores of the Participants in the Overall and each productive skills Pre and Post Tests
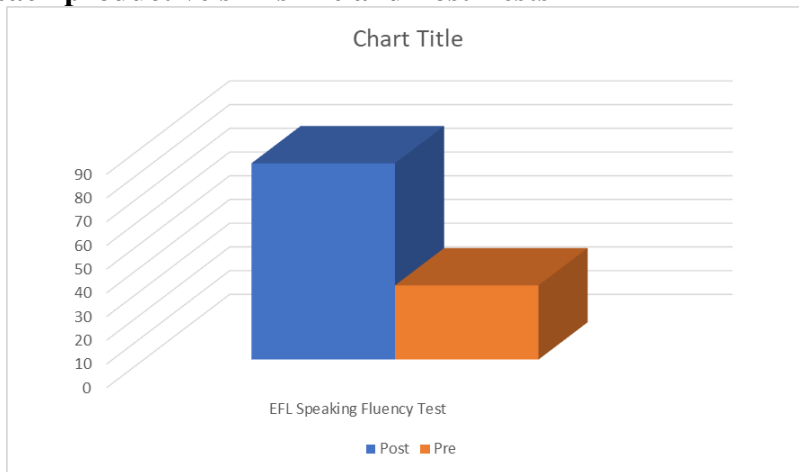
To determine whether the Embodied Learning is educationally and practically effective in enhancing the EFL preparatory pupils' overall EFL productive skills, the effect size was calculated using η^2.

$$\eta^2 = t_2/\ t_2 + df$$

The effect size was (0.988). This reflects that the Embodied Learning is effective in enhancing the EFL preparatory pupils' overall EFL productive skills.

Results of the current study have shown that using 6 Es steps including activities for each step are effective in enhancing productive skills. The enact step included activities such as (Simon says activity – Jump to the front – Movie review activity – Accent/stand up activity – Two texts activity), the engage step including activities such as (Focus on Forms – Making words from letters in a Long word – The miming game – Body writing activity – King of the jungle), explore step including activites such as (That's true/ That's a lie activity – twenty questions activity – group dialogue activity – group statues activity – the king is dead activity), elaborate step including activities such as (Mimes activity – lots of talk activity – adding to the story activity – five islands activity – juggling ball activity), embed step including activities such as (Balloons off your body activity – tweet it activity – circle action game – who am I activity – match the cards activity), and extend step including activites such as (tour guide activity – twister variation activity – balloons and vocabulary sets – writing on backs activity – what kind of animal activity).

5. conclusion

To conclude, Embodied Learning based program proved to be effective in enhancing official language preparatory pupils' EFL productive skills through using different activities such as twister variation activity, simon says activity, throwing balloons activity and tweet it activity. This result was indicated by the significant enhancement among pupils on the productive skills. This result may be attributed to different factors: pupils' positive attitude towards Embodied Learning, pupils' needs for this course and the researcher's supported role.

6. Recommendations

Based on the results of the current study, the following recommendations are offered

1. The suggested Embodied Learning based program is recommended to be implemented in developing the language skills to the primary grade pupils.
2. The suggested Embodied Learning program is recommended to be implemented in developing the language skills to the secondary school students.
3. The suggested Embodied Learning program is recommended to be implemented in developing the language skills to the pre-service teachers.

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