Evaluating Embodied Pedagogical Game Approach in the Learning of Selected Prepositions of Time

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Abstract

Competence in the use of prepositions is versatile because they mark special relationships between persons, objects, and locations. However, using prepositions of time is challenging for many. The research investigated embodied pedagogical game approach in learning selected prepositions of time by Grade 7 English First Additional Language learners at Tshiluvhi Primary School in Limpopo Province, South Africa. The research employed a quantitative approach to analyse data mathematically and statistically. The embodied cognitive approach was utilised because it holds that identification of prepositions of time is a fundamentally based cognitive aspect involving high mental constructs like judgement and thinking. A questionnaire was utilised to obtain data from the participants. Probability random sampling was used to sample 35 participants because it gave them an equal chance of participation in the research. A pilot study was conducted on learners who were not part of the sample to test the instrument's reliability. A Statistical Package of Social Sciences Version 22 was employed for data analysis. Using embodied pedagogical game approach, pre-test results showed participants' poor competence while the post-test revealed an outstanding achievement in learning prepositions of time. The research recommends continuous use of the embodied pedagogical game approach in learning prepositions of time.

INTRODUCTION

Prepositions are an important tool in the English language because they enhance meaning (Holler, 2022) brought about by appropriate word order and word classes including adverbs, adjectives, nouns, prepositions, and verbs. These word classes function differently and follow the syntax of a particular language (Malema, 2022). Prepositions, for example, are predominantly used in bringing relations between words to enhance sentential meanings although Thi, Na, Choi & Woo (2022:1) claim that they "carry less meaning". In this regard, Sulastri, Subroto & Murni (2022) assert that understanding the functions and positions of word classes matters.

In South Africa, English is adopted as a medium of instruction and as a subject at the majority of government schools. In this essence, Milligan (2022) estimates that millions of children attend English for their basic education. However, the use of prepositions of time by the English First Additional Language (EFAL) learners is difficult because they do not have similar grammatical features in their mother-tongue languages. However, Curriculum and Assessment Policy Statement (2011:3) proposes that "learners acquire and apply knowledge and skills in ways that are meaningful to their lives, identify and solve problems as well as making decisions using critical and creative thinking". Also, it promotes the idea of grounding knowledge in local contexts such as the use of prepositions of time.

Prepositions are words that govern the enhancement of meanings and usually precede nouns or pronouns expressing a relation to another word or element in the clause. For example, 'the man *on* the moon', 'he usually arrives *in* time. They begin prepositional phrases containing nouns and other modifiers (Nordquist, 2020). Also, they express positioning for the nouns and pronouns in sentences. On the one hand, prepositions can appear as one word such as in, on, at, by, about and despite. On the other hand, they are seen as a word group, for example, 'based on', in spite of' and according to. However, the use of prepositions can be complex, making it difficult to pick the right one for a sentence's appropriacy (Wriing Center, 2021).

In the English language, various prepositions include prepositions of movement (Nephawe & Lambani, 2022), prepositions of direction, prepositions of locations, prepositions of place, prepositions of spatial relationships, prepositions of time, spatiotemporal prepositions and prepositional phrases that usually begin with a preposition and end with a noun, pronoun (Writing Center, 2021) or word groups functioning as the object of the preposition including 'in time', 'on the table, 'at 10 o'clock, 'by the year 1930s' or 'by the side of the river'. Additionally, prepositions include other types including idiomatic prepositions, for example, 'putting a doubt on something', an adverbial and adjectival prepositional phrase such as 'putting someone else's ideas on records', prepositions describing relationships in space like 'I stayed in Japan for over 15 years'; and prepositions describing relationships in time such as 'in winter', on 'weekly bases' and 'at daybreak'.

Although there are numerous prepositions including in, on, at, by, after, before, since, from, during, until, with, between and among (Marsolian, 2022), in this research, the focus was on the prepositions of time *in, on, at* and *by* because they are valued special

and difficult to teach and to learn (Paz, 2020). Moreover, they are versatile since they can be used in several situations. Prepositions permit the noun or pronoun in the phrases to modify another word in the sentence (Writing Center, 2021). In addition, they signal an object's settled position after it has been moved, for example, 'The former secondary school stayed unused by the town for quite some time'.

The preposition *in,* for instance, expresses the situation of something that is, appears to be enclosed (Geluso, 2022) or surrounded by something else, for example, 'You must arrive in time'. Also, it expresses a period during which an event happens such as seasons, months, years, centuries, duration and long periods (EnglishCLUB, 2022), for example, 'Smallpox was there in the 1950s'. The preposition *on* is used quite significantly including to indicate a time frame during which something occurs, position in contact with and supported by the top surface, position nearby, a source of attachment or dependence and when two symmetrical entities are vertically placed, and they contact each other (Boieblan, 2022). They are used with days of the week, parts of the day, when the day is named and dates as in 'on 28th of July 2022' (Writing Center, 2021). However, the focus is on the former.

Preposition *at*, for example, is a word used to indicate presence or occurrence, when "a geometric entity is in touch with another geometric entity" ((Boieblan, 2022:10), the goal of implied action, something with which one is occupied, the situation in an active or passive state; or duration in time. However, the study focused on the latter. It is used with exact time, mealtimes, age; and parts of the day, when no article is used for the part of the day (Writing Center, 2021). On the other hand, preposition *by* is used as a function word (Nordquist, 2020) signalling several purposes such as indicating the doer or causes of something, a particular method, a period not later than a certain time, or a date and during the period until a specific time. However, when the preposition 'by' is used as a preposition of the place before a place, it means 'beside', 'at the side of' or 'next to', for example, I live by the main road (Writing Center, 2021).

Several studies have constantly been carried out in the use of prepositions of time by the non-native speakers of the English language. For example, Akhtar, Sohail and Rizwan (2017) conducted a study on the use of prepositions of time by Pakistani English Second Language graduate learners and found that students experienced difficulties in the use of 'with', 'in' and 'of'. Similarly, Suzanne (2017) conducted a study in the use of preposition of time 'in, 'on' and 'at' by the First SMAN 2 students when speaking English in Padang. The study found the students, in context, were not immune to difficulties experienced in this regard. Al-Qahtani (2019) investigated errors committed in the use of preposition of time by 39 female students enrolled in the Fifth Level in the English Department, at Princess Nourah Bint Abdulrahman University in Riyadh. The study found that students were challenged using preposition of time. Also, Marsolian (2022) conducted a study to find out the frequency and the types of errors committed in the use of preposition of time by the Eleventh-grade IPA students at SMA Perintis 2 Bandar Lampung. The study found that the students committed errors such as omission, addition and misformation.

LITERATURE REVIEW

The research was underpinned by Noam Chomsky's (1965) grammatical competence theory. This theory holds that children are born with unconscious knowledge which

requires frequent refinement to enhance their grammatical competence in the classroom/learning environment.

Embodied Pedagogical Game Approach

In the current research, the researcher reinforced learners' prior knowledge by putting embodied pedagogical game approach into place. In this situation, Boieblan (2022) claims as language behaviour is systematic, embodied learning can be used to assess whether and to what degree bodily engrossments lead to a better understanding of the use of prepositions of time. Stam and Tellier (2022) assert that embodied pedagogical approach is useful in obtaining educational outcomes. Also, to check if instructional designs promoting embodied learning that match the target items like carrying out full-body actions gesturing simulating actions are accommodative in educational settings (Grivokostopoulou, Kovas & Perikos. (2020). In this essence, Mckay (2020) adds that embodied pedagogical game approach can transform a classroom into a wonderful learning milieu.

Previous studies have recently been conducted on the issue of an embodied pedagogical game approach regarding the use of prepositions of time in teaching and learning environments throughout the world. In 2020, for example, Pace, Mckay, Proctor and Michael studied the necessity of using embodied pedagogical game approach and found that it is quite impressive and offers ample evidence of deep knowledge of the material being taught and can increase learners' understanding of the present-day culture of teaching and learning. Beaudouin-Mackay and Wagner (2020) studied the importance of the embodied pedagogical game approach in learning and discover that it is productive as learners learn to adapt to the new world of knowledge. Embodied pedagogical game approach changes how learners see their environment and understand themselves, it creates collaborations and moments of solitude. Furthermore, it is dynamic and static.

In 2022, Aartun, Walseth, Standal and Kirk studied the value of the embodied pedagogical game approach in education and found that it gives pupils the spontaneous opportunity to fully participate in the subject matter as it focuses on the importance of reflection before, during, and after the lesson. In addition, Davis, Park and Vincent (2022:1) "assessed how embodied pedagogical agents impact learning when measured from the testing format and test-taking strategy perspective" and discovered that embodied pedagogical agents significantly increase learning in support of the previous authors' findings.

By researching the syntactical positions of prepositions of time, the researcher wanted to establish Grade 7 EFAL learners' descriptive and inductive understanding of grammatical rules at Tshiluvhi Primary School in Limpopo Province, South Africa. The research objectives were to identify if Grade 7 EFAL learners at Tshiluvhi Primary School experience challenges in the use of prepositions of time, and to seek the possible remedial measures for the identified challenges.

After having studied Chinese learners using the embodied pedagogical game approach, Mckay (2020) found that it is rewarding and can transform a classroom environment into a game providing intuitive learning of the prepositions of time. Mckay (2020) claims that in many classroom environments learners are not learning

spontaneously and cannot use their prior knowledge as teachers have the final authority over them. Embodied cognition theory holds that cognitive processes are deeply rooted in the physical body's interactions with the environment in which it is engrossed. Therefore, this approach advocates that power must be given back to learners because they can use their prior experiences, reinvent themselves in the language, generate individual meaning and have a moment of self-exploration.

In line with the objectives of the current research, learners are divided into five groups named according to four different prepositions, for example, Group 1 with capitalised preposition IN written on a yellow A4 chart, 2 with ON on the green, 3 with AT on blue, 4 with BY on purple and 5 with the words NEXT TIME as a control group and bears the responsibility of mounting big white charts with written gap-quizzes on board.

Whenever a quiz is mounted, one member from any group goes to the front and raises the answer to the learners who clap their hands in appreciation of the correct answers given. However, when the wrong answers are given, the control group raises a red chart written 'next time' for all the learners to see and the other learners frown in disapproval of the answer. In this way sense of sight and sense of touch are utilised followed by given body movements. Hence, the name 'embodied pedagogical game approach'. In this regard, the research attempted to answer the following questions 1) What are the challenges faced in the use of prepositions of time by Grade 7 EFAL learners at Tshiluvhi Primary School? 2) How can the challenges, in this regard, be addressed?

METHOD
Research Design

A descriptive quantitative research design was employed because it attempted to collect quantifiable data from the participants using statistical and mathematical techniques in exploring unfamiliar areas (Lediga & Ngoepe, 2020). The percentages of the variables gave the researcher accurate results. Also, it was used as an "engine behind evidence-based outcomes" (Abuhamda, Bsharat & Ismail, 2021:71). Classroom Action Research (CAR) was used because the researcher could obtain detailed information in real situations regarding the use of prepositions of time. Also, it is an evidence-based practice highly applicable to teaching and learning as both teachers and their learners participate in meaningful activities to improve educational outcomes (Monem, & Cramer, 2022). If used appropriately, CAR can stimulate learners' interest in lesson and direct professional learning to the teachers' expectations (Li, Yang, Chu, Zainuddin & Zhang, 2022).

In the Embodied Pedagogical Game in line with CAR, the researcher started by determining the game's purpose including intervention, enrichment and reinforcement. The game was played beforehand to ensure its alignment with the learning goals, measure its strength, control and adjust its settings for respective students. The intuitiveness of the game was determined to ascertain its suitability and obtain students' willingness to play. As the content type offers various content and its level enables differentiated principles to adapt a content to each player, the researcher ensured that the game met expectations of the parents whose Grade 7 children attend school at Tshiluvhi Primary. Further, he dedicated his time to ensure designated game activity that was used as an entry ticket to draw students' attention

to the lesson and exit ticket for allowing them to reflect the expected goals and create learning stations in pairs or groups. The researcher assessed students' progress throughout the play and collected data to discover trouble spots and aptitudes. The 'In-game reports' were utilised for recording student performance, 'Self-reports' for encouraging them to take ownership of their progress and 'Class-wide' discussion for allowing each group to share its difficulties, progress and accomplishments.

An embodied cognitive approach was used because the researcher believes that the identification of prepositions of time is fundamentally based on features of cognition involving high mental constructs (Boieblan, 2022) such as judgement and thinking shaped by the entire body's sensory-motor aspects. Additionally, embodied cognitive approach holds that these prepositions are governed "by geometric and functional properties of 'figure' and 'ground' and how these interact in space" (Boieblan, 2022:1). Therefore, the researcher found it necessary to investigate how Grade 7 learners whose mother tongue is not English utilise these prepositions.

Sample and Sampling Criteria
The criteria for sampling 35 Grade 7 EFAL learners at Tshiluvhi Primary School in Limpopo Province, South Africa over the others was that they were at the beginning of the General Education and Training (GET) band. Convenient sampling technique (Lines, Burdick, Dewez, Aldridge, Neal-Williams, Walker, Akhlaghi, Paul & Taylor, 2022) was used because the participants were readily approachable and fell within the researchers' criteria for investigation such as finding out if an Immediate Phase laid an adequate framework for the new knowledge. Furthermore, the participants have been studying English for the past four years at this primary school. A probability random sampling technique was used to select participants because it gives them an equal chance to participate in the research.

Data Collection
Data were collected form a test that was planned beforehand and written in class within a 20-minute slot by Tshiluvhi Primary School learners in Limpopo Province, South Africa. The test was written under the supervision of the researcher to ensure validity and reliability of the test. Five Close-ended and restricted questions and their multiple-choice answers were placed within the table that deals with the use of preposition 'in' and 'on'. Moreover, the questionnaire comprising two questions and their multiple-choice answers supplemented a written test based on the participants' level of education. The researcher's presence and observation enabled the participants to respond carefully, honestly and voluntarily (Foreshew, & Al-Jawad, 2022) to the given tasks. A pilot study was conducted on 15 learners who were not part of the actual research as the researcher believed that they might be sharing similar characteristics with the actual participants. The pilot study revealed learners were incompetent in the use of the preposition of time.

Data Analysis
Guo and Jiang (2022:1) claimed that "data analysis is an effective means to achieve scientific management and statistical participation in decision-making". Using abundant

data to carry out analysis, penetrates the internal being of a study through its superficial phenomenon. Therefore, the researcher utilised a Statistical Package for Social Sciences (SPSS) version 22 for data analysis because learners can think individually, mapping out an analytic path to the understanding of social order (Babbie, Wagner III & Zaino, 2022). It was employed according to Miles, Huberman and Saldana's (1994) steps for data interpretation such as reduction, presentation, depiction and verification of the findings. The manipulation of data was three-fold (1) sorted, selected, classified and irrelevant data was eliminated against the study focus, (2) the relevant data was interpreted and presented based on the aim of the study and (3) a conclusion was drawn according to the depiction of the research findings, the verification of data, and the specification and validation of the study findings.

FINDINGS AND DISCUSSION
The use of prepositions
This section evaluated embodied pedagogical game approach in the learning of selected prepositions of time by the Grade 7 EFAL learners at Tshiluvhi Primary School. Data were obtained using Corder's (1967) steps for collecting samples of learner language, identifying the challenges, a description and evaluation of challenges and their possible remedial measures. A quantitative approach was utilised in dealing with the question of the research. Subsequent discussions dealt with data that were analysed numerically and statistically. In the current research, the presentation of data analysis was accompanied by the illustrated table and graphs with comprehensive information.

The findings concerning measured objectives and questions were presented and discussed based on Chomsky's (1965) suggestions regarding grammatical competence. The given questionnaire supplied answers obtained from the use of prepositions of time. These answers were determined by the researcher according to objectives and the investigative questions regarding learners' competence in the use of prepositions of time. In addition, the participants' tasks were based on the background and the literature review of the research.

As the embodied pedagogical game approach was essential, the following table dealt with the results and discussion regarding the use of the prepositions of time 'in' and 'on' as obtained from the written test as indicated in the data collection section.

In Table 1, question1 shows that the majority (91%) of the participants were competent in the use of the prepositions of time: 'in' because they selected the appropriate preposition. They knew that preposition 'in' expresses the situation of something that is within a specific period. Further, they were aware that the preposition 'in' is a function word used with the months of the year. The finding is in line with Pace, Mckay, Proctor and Michael's (2020) that embodied pedagogical game approach is quite impressive and offers a deep knowledge of the material that is being taught and can increase learners' understanding of the present-day culture of teaching and learning. They knew that preposition of time like 'in' appears to be enclosed or surrounded by a particular period of the year as suggested by Geluso in 2022. In this situation, Chomsky' (1965) participants' grammatical competence theory (Chomsky, 1965) was re-tested and found to have improved remarkably.

Table 1. The Use of prepositions 'in' and 'on'

Themes	Correct response	Incorrect response
1. They arrived (in/on) March 2021.	91%	9%
2. (In/On) 28 May 2022, it will rain heavily.	90%	10%
3. You must arrive (in/on) time before the lessons start.	88%	12%
4. He was (in/on) time and never get time to prepare.	89%	11%

However, the minority (9%) of the participants were incompetent in the use of the prepositions of time. They did not know that preposition 'in' is used with the moths of a year. The finding is incongruent with Mckay (2020) who suggests that embodied pedagogical game approach can transform a classroom into a wonderful and rewarding learning environment. In this essence, the participants confused the preposition 'on' for 'in'. They might have been confused by the rule regarding the use of the prepositions of time that holds that the preposition 'on' is used with days of the week.

Question 2 shows that the participants (90%) were competent in the use of the preposition of time such as 'on' learnt using embodied pedagogical game approach because they chose the correct preposition. These participants were aware that the preposition 'on' is used with days of the week. The findings support Boieblan (2022) who suggests that embodied pedagogical game approach allows the participants to use high mental constructs such as judgement and thinking leading to the choice of an appropriate answer, this suggests that the embodied pedagogical game approach improved learners' grammatical competence (Chomsky, 1965).

However, the participants (10%) display poor competence in using the preposition of time 'in'. They were not aware that the preposition 'on' is used with days of the week *vis-a-vis* month of the year. The finding is incongruent with Stam and Tellier's (2022) suggestion that the embodied pedagogical game approach is useful in obtaining educational outcomes. The participants might have been confused by the rule about the use of the preposition 'in'. This rule states that the preposition 'in' is used with the month of the year. The participants might have thought that since days of the week are names just like the names of the months of the year, the preposition 'in' and 'on' can be used indiscriminately.

Question 3 reveals that the participants (88%) were competent in the use of the preposition of time 'in'. The participants knew that one needs to arrive when time is still available to avoid bustling and hustling up and down for fear of being late for the lessons. They were aware that if one is 'on' time, there might be no time left for organising oneself. The finding is congruent with Beaudouin-Mackay and Wagner's (2020) suggestion that embodied pedagogical game approach is productive because learners learn to adapt themselves to the new world of knowledge. After all, this approach is dynamic and static and can improve learners' grammatical competence as suggested by Chomsky (1965) that

learners are born with unconscious knowledge that calls for stunning refinement by the researchers.

Nevertheless, it is concerning that 12% of the participants were incompetent in the use of prepositions of time because they chose the wrong answer 'on'. They did not know that preposition 'on' entails something that is specifically taking place when there is no more time available. They might have been confused by the rule concerning the use of the preposition 'on'. The rule states that the preposition 'on' must be used with time although it requires some understating of the occasions at which it is to be used. The finding is in contrast with Mckay's (2020) claim that the embodied pedagogical game approach transforms learners' prior knowledge into comprehensive and understandable learning achievement.

Question 4 indicates that the participants (89%) grammatical competence (Chomsky, 1965) in the use of the prepositions of time was outstanding because they chose an appropriate answer 'in'. The participants were aware that if one arrives specifically on time, it means that there cannot be any moment for rehearsal or thorough preparations. Furthermore, the preposition 'in' indicates a situation or time favoured by a person who prefers to arrive at a particular *rendezvous* earlier than it is expected. The finding supports Beaudouin-Mackay and Wagner's (2020) suggestion that embodied pedagogical game approach allows learners to make correct choices to the answers given as their independent thinking is stimulated.

However, 11% of the participants were incompetent in the use of the preposition of time 'on' because they did not make the correct choice of an answer. This suggests that to them, whether one arrives 'in' time or 'on' time, there is no difference. This result indicates that these participants were in contrast with Pace, Mckay, Proctor and Michael (2020) who suggest that embodied pedagogical game approach offers a deep knowledge of the material being taught and increases learners' comprehension of the use of prepositions of time. The participants might have been muddled by Geluso's (2022) rule regarding the use of the preposition 'in'. The rule states that the preposition 'in' expresses the situation of something that is, appears to be enclosed or surrounded by something else.

The subsequent figures represent data obtained from two questions that supplemented five closed-ended and restricted questions placed within a table. Grade 7 learners at Tshiluvhi Primary School in Limpopo Province, South Africa wrote those questions within the given 20-minute slot for the test. The participants were given chance to make their judgement according to their understanding of the use of prepositions of time, namely, 'at' and 'by'. The written tasks suited the participants' level of education and reliability of the embodied pedagogical game approach.

Figure 1 shows that the majority (96%) of the participants were unequivocally competent in the use of prepositions because they managed to select the appropriate preposition 'at' in line with the adverbial word 'o'clock' than the preposition 'by'. They were aware that the preposition 'at', amidst all other functions, can be used to specify a particular period. Additionally, they knew that preposition 'at' can bring a recognisable relation between the verbs and the nouns in sentences and this suggests that their grammatical competence (Chomsky, 1965) has improved tremendously.
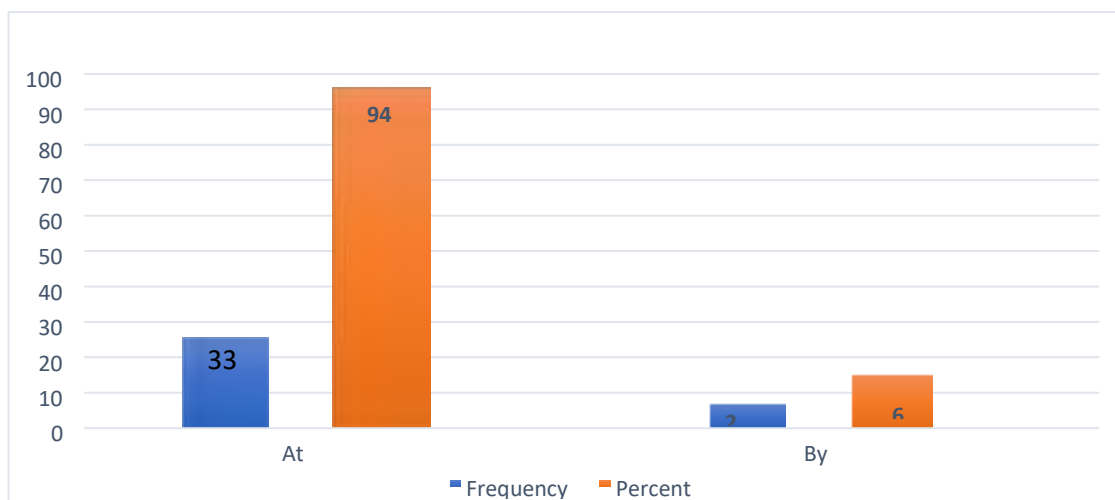
Figure 1. 'They usually come

The outcomes were in line with Stam and Tellier's (2022) assertion that embodied pedagogical game approach is useful in obtaining educational outcomes. However, the minority (4%) of the participants were unable to select an appropriate preposition of time 'by' as regards the use of the adverbial word 'o'clock'. To them, 'at six o'clock' and 'by six o'clock address similar periods of events whereas the situation is quite different in this regard. This result is not in line with Beaudouin-Mackay and Wagner (2020) who suggest that learners can make informed choices based on their experience concerning the embodied pedagogical game approach.
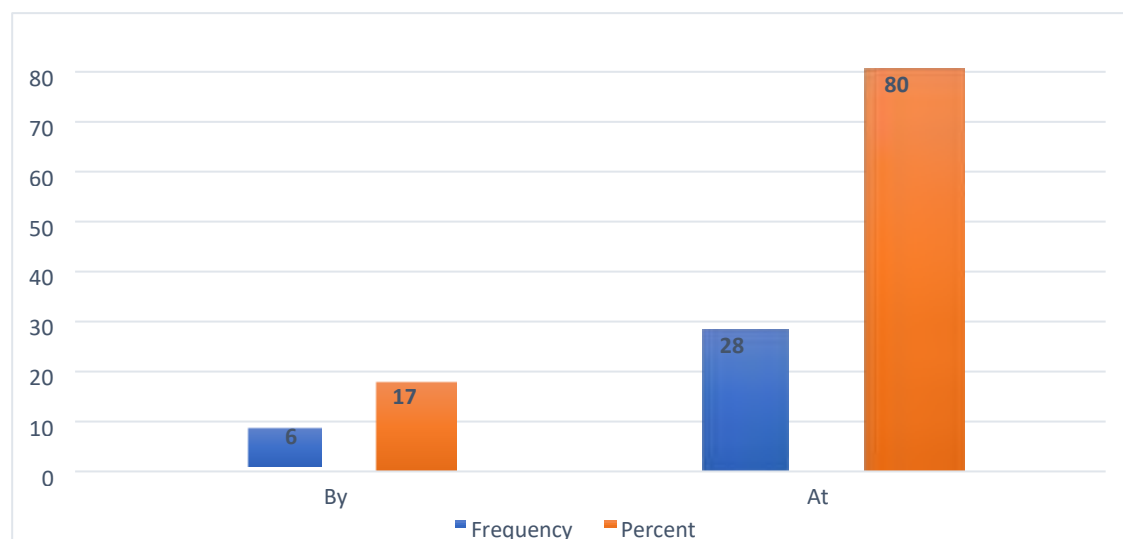

Figure 2. '(By/At) half past five it will have stopped raining.'

Figure 2 shows that 80% of the participants were competent in the use of the preposition of time, namely, 'by' in line with the adverbial phrase of time by 'half past five'. They knew that preposition 'at' corresponds with a specific period like 'o'clock' than

a suggested time, namely, 'by half past five' that a certain event might have stopped occurring. This finding is congruent with Pace, Mckay, Proctor and Michael (2020) who suggest that embodied pedagogical game approach is quite impressive in terms of the knowledge of that which is being taught. Also, it can increase learners' grammatical competence (Chomsky, 1965) in the present-day culture of teaching and learning regarding the use of prepositions of time 'at' and 'by'.

Nonetheless, it is a concern that 17% of the participants were incompetent in the use of the preposition 'by' regarding embodied pedagogical game approach. These participants might have been confused by the rule regarding the use of the preposition 'at' with specific reference to the adverbial phrase, namely, 'by half past five'. This rule states that the preposition 'at' is used with a period not later than a certain time or date. In this situation, the result is consistent with Nordquist's (2020) suggestion that preposition of time 'by' deals with a period of events that occurs up until a specific time or date.

CONCLUSION

It has been indicated in the current research, attempting to bring the solution to research objectives, namely, to identify if Grade 7 EFAL learners at Tshiluvhi Primary School experience challenges in the use of prepositions of time; and to seek the possible remedial measures for the identified challenges, that learners' grammatical competence in the use of prepositions of time has been grossly improved although they demonstrated poor competence initially. The rationale behind learners' outstanding improvement in the use of prepositions of time such as 'in', 'on', 'at' and 'by' was the utilisation of the embodied pedagogical game approach. The current paper tried to answer the research questions already mentioned in the paragraph that immediately precedes 'methodology' item.

The challenges faced by learners in the use of the preposition of time were addressed by employing the embodied pedagogical game approach. It has been proven that teaching and learning can be enhanced if learners are competent in the use of prepositions of time because, in most countries, English is used as a medium of instruction. Based on this insight, learners must not be denied an opportunity to learn prepositions of time, for example, spontaneously using the embodied pedagogical game approach. Schoolteachers must give learners a chance to apply their judgement and thinking when faced with the new subject matter because they can make informed choices in the given questionnaire. The embodied pedagogical game approach must be infused into the EFAL curriculum because it improves teaching and learning of prepositions of time preternaturally. Future researchers are encouraged to conduct further research on the current topic.

REFERENCES

Aartun, I., Walseth, K., Standal, Ø.F. & Kirk, D. (2022). Pedagogies of embodiment in physical education–a literature review. *Sport, Education and Society*, *27*(1):1-13.

Abuhamda, E., Bsharat, T. R. A. & Ismail, I. A. (2021). Understanding quantitative and qualitative research methods: A theoretical perspective of young researchers. *International Journal of Research, 8(2)*:71-87.

Akhtar, S., Sohail, W. & Rizwan, M (2017). An analysis of preposition (idiomatic phrases, prepositional phrases and zero prepositions) detection errors in the writing of Graduate ESL Learners of Pakistan. *Journal of literature, languages and linguistics,* 32, p. 24-42.

AL-Qahtani (2019). Analysis of preposition errors among EFL students at Princess Nourah University. *Multi-Knowledge electronic comprehensive journal for Education and Science publications (MECSJ)*, 27:1-27.

Babbie, E., Wagner III, W.E. & Zaino, J. (2022). *Adventures in social research: Data analysis using IBM SPSS statistics*. Sage Publications.

Beaudouin-Mackay, A. & Wagner, S. (2020). *A new way of play: the forms and functions of participatory design and critical pedagogies* (Doctoral dissertation, Massachusetts Institute of Technology).

Boieblan, M. (2022). Enhancing English spatial prepositions acquisition among Spanish learners of English as L2 through an embodied approach. *International Review of Applied Linguistics in Language Teaching*.

Chomsky, N. (1965). *Aspects of the theory of synta*x. Cambridge: The M. I. T. Press.

Corder, S. P. (1967). The significance of learner's errors. *IRAL-International Review of Applied Linguistics in Language Teaching*, *5*(1-4):161-170.

Curriculum and Assessment Policy Statement (2011). Generic First Additional Language Grades 7-9. Pretoria: Department of Basic Education, p3.

Davis, R.O., Park, T. & Vincent, J. (2022). A meta-analytic review on embodied pedagogical agent design and testing formats. *Journal of Educational Computing Research*, p.07356331221100556.

EnglishCLUB (2022). EnglishClub: Learn English: Grammar: Prepositions: Prepositions of Time - at, in, on. Online available at: https://www.englishclub.com/grammar/prepositions-at-in-on-time.htm[Accessed 17 August 2022].

Foreshew, A. & Al-Jawad, M. (2022). An intersectional participatory action research approach to explore and address class elitism in medical education. *Medical Education*. https://doi.org/10.1111/medu.14857

Geluso, J. (2022). Grammatical and functional characteristics of preposition-based phrase frames in English argumentative essays by L1 English and Spanish speakers. *Journal of English for Academic Purposes*, *55*, p.101072.

Grivokostopoulou, F., Kovas, K. & Perikos. I. (2020). The effectiveness of embodied pedagogical agents and their impact on learners learning in virtual worlds. *Applied Sciences, 10*(5): p.1739.

Guo, W. & Jiang, Z. (2022). Data analysis deep learning research on spatiotemporal preposition construction Network. *Wireless Communications and Mobile Computing*, *2022*. https://doi.org/10.1155/2022/9416747

Holler, J. (2022). Visual bodily signals as core devices for coordinating minds in interaction. *Philosophical Transactions of the Royal Society B*, *377*(1859): p.20210094.

Lediga, M. Sylvia & L. Junia Ngoepe (2020). "Exploring the effective use of mobile devices by previously disadvantaged English language student educators the constructivist way." *Per Linguam: a Journal of Language Learning= Per Linguam: Tydskrif vir Taalaanleer* 36 (2): 104-125.

Li, X., Yang, Y., Chu, S.K.W., Zainuddin, Z. & Zhang, Y. (2022). Applying blended synchronous teaching and learning for flexible learning in higher education: an action research study at a university in Hong Kong. *Asia Pacific Journal of Education*, *42*(2):211-227.

Lines, T., Burdick, C., Dewez, X., Aldridge, E., Neal-Williams, T., Walker, K., Akhlaghi, H., Paul, B. & Taylor, D.M. (2022). Nature and extent of selection bias resulting from convenience sampling in the emergency department. *Emergency Medicine Journal*, *39*(4):325-330.

Malema, G. & Ishmael, O. (2022). Parts of Speech Tagging: A Setswana Relative. In *Journal of Physics: Conference Series, 2188* (1): p.012002). IOP Publishing.

Marsolian, V.E. (2022). *An analysis of learners' errors in using preposition of time in writing recount text at the eleven Grade of SMA Perintis 2 Bandar Lampung in the academic year of 2020/2021* [Doctoral dissertation, UIN Raden Intan Lampung].

McKay, N. (2020). Embodied pedagogical game approach: the teaching method that will transform your classroom. Online available at: https://www.helloteacher.asia/blog/the-teaching-method-that-will-transform-your-classroom[Accessed 16 August 2022].

Milligan, L.O. (2022) Towards a social and epistemic justice approach for exploring the injustices of English as a medium of instruction in basic education (11th e.d.), *Educational Review*, 74(5): 927-941, DOI: 10.1080/00131911.2020.1819204

Miles, M. B., Huberman, A.M. & Saldana, J. (1994). Qualitative data analysis (3rd ed.). London: SAGE.

Monem, R. & Cramer, E.D. (2022). Utilizing action research to integrate curriculum, instruction, and assessment in middle school classrooms. *Middle School Journal*, *53*(3):5-14.

Nephawe, F.T. & Lambani, M.N. (2022). Use of question-and-answer method in teaching English prepositions to Primary School learners. *International Journal of Language and Literary Studies*, *4*(3): 109-125.

Nordquist, R. (2020). "Definition and examples of function words in English." Online available at:thoughtco.com/function-word-grammar-1690876

Pace, D., Mckay, G.K., Proctor, N.W. & Michael, A.M. (2020). Modernism versus traditionalism: Art in Paris, 1888–1889., *The American historical review*, 25(1):153–154, https://doi.org/10.1093/ahr/rhz573

Paz, R.M. (2020). A corpus-based analysis of prepositions of time and location in Filipino learners' written essays. *International Journal on Language, Research and Education Studies*, *4*(1):1-17.

Stam, G. & Tellier, M. (2022). Gesture helps second and foreign language learning and teaching. In Aliyah Morgenstern & Susan Goldin-Meadow (eds.), *Gesture in language: Development across the lifespan*, p. 335–363.

Sulastri, S., Subroto, G. & Murni, D. (2022). Learners' ability in using English part of speech: An analysis study. Student Online Journal (SOJ) UMRAH-Keguruan dan Ilmu Pendidikan, 3(1):385-390.

Suzanne, N. (2017). An analysis of preposition errors: The case of *in, on,* and *at. Lingua Didaktika ,11 (1):*15-21.

Thi, T.L., Na, Y., Choi, I. & Woo, J. (2022). Revealing differential importance of word categories in spoken sentence comprehension using phoneme-related representation. *Journal of integrative neuroscience*, *21*(1): p.29.

WritingCenter. (2021). Prepositions. Online available at https://studio.smu.ca/ac-resources/prepositions[Accessed on 20 August 2022].