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CONCEPT-BASED TEACHING AND LEARNING:

A CASE OF SPATIAL CONCEPT IN TEACHING ENGLISH

PREPOSITIONS IN PHAN CHU TRINH HIGH SCHOOL

MASTER'S GRADUATION PROJECT
MAJORED IN ENGLISH LANGUAGE

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CODE: 8220201

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SCIENCE INSTRUCTOR'S NAME(s):

ASSOC.PROF.PHD. LE DINH TUONG

Bình Thuận Province – 2023

CERTIFICATE OF ORIGINALITY

This is to certify that the Master's Graduation Project titled "Concept-based Teaching and Learning: A Case of Spatial Concept in Teaching English Prepositions in Phan Chu Trinh High School" is outcome of my own research work, based on my personal study and research and that I have duly acknowledged all material and sources used in its preparation, whether they be books, articles, reports, lecture notes, and any other kind of document, electronic or personal communication. The similarity level for the entire graduation project is less than 20%. The graduation project is free from any plagiarism and has not been submitted elsewhere for publication.

Binh Thuan, August 18, 2023

Author's signature

ACKNOWLEDGEMENT

ABSTRACT

Prepositions are regarded as a small but challenging lexical unit in English because prepositions are difficult for language users to understand and use correctly due to cultural differences in linguistic cognition. The present graduation project has a purpose of investigating the frequencies and causes of the written errors in using spatial prepositions of place "in, on, at" from cognitive perspective. The theory of cognitive linguistics and second language teaching methods are used to carry out this study. This study attempts to find out the causes of errors and after that give suggestions for lessons applied from cognitive linguistics.

The quantitative approach and the qualitative approach are adopted. One hundred students at Phan Chu Trinh High School took part in two types of tests including multiple choice tests and written test in order to find out the kinds of errors and their causes. The results show that the students at Phan Chu Trinh High School misunderstand the usage between prepositions "in", "on", "at". There are differences because of the distinguishing features in perception of space, the culture, topography and sky orientation.

The findings recommend that future research could also apply the concept of cognitive linguistics to teaching spatial prepositions in other contexts.

Key words: cognitive linguistics, second language teaching methods, perception of space, the culture, topography and sky orientation

LIST OF ABBREVIATIONS

BNC	British National Corpus
CG	Cognitive Group
CL	Cognitive Linguistics
CLT	Communicative Language Teaching
ESL	English as a second language
L1	First Language
L2	Second Language
LM	Landmark
OALD	Oxford Advanced Learner's Dictionary
TBL	Task-based Learning
TBLT	Task-Based Language Teaching
TG	Traditional Group
TR	Trajector

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CHAPTER 1. INTRODUCTION

1.1   Background to the Study

Although there is a small number of English prepositions (there are about 150 prepositions in English out of over 1 million English words), they play a substantial role in language and we can see them frequently in daily conversations. English may therefore be regarded as a language of prepositions.

First of all, English prepositions are examples of polysemy: one can be used to indicate two or more separate meanings in English. This characteristic makes high school students difficult to acquire target language. For example, according to the Cambridge dictionary, the first three definitions of *at* are the following: i) place: used to show an exact position or particular place (We'll meet you at the entrance.); ii) time: used to show an exact or a particular time (There's a meeting at 2.30 this afternoon.); direction: in the direction of (She smiled at me.).

Secondly, English prepositions have different meanings in different situations. For instance, *at school* and *in school*: both *at school* and *in school* are correct and can be used, but a distinction requires your attention. *At school* refers to the physical state of the subject while *in school* refers to the social status of the subject.

Prepositions are frequently displayed in the textbooks, however, students show low learning achievement. This leads to the fact that it is not possible for students to make connection between different meanings of prepositions. Thus, students do not manage to gain their multiple meanings clearly. Take *in* for example, according to Oxford Advanced Learner's Dictionary (OALD) and British National Corpus (BNC), *in* means "within the shape of something" and *in the vase* as adverbial of space expresses spatial relation. The preposition *in* also means "during a period of time" (OALD, 2005) and *in 1997* as adverbial of time expresses temporal relation. Furthermore, *in* used to "show a state" (OALD, 2005) and *in love* as adverbial of state expresses abstract relation. This characteristic makes high school students difficult to

acquire target language. It is possible to have different prepositions for a meaning. Another example, *in the street* and *on the street* are sometimes interchangeable but they have distinct meanings. The use of prepositions in context varies greatly from one language to another, often causing negative syntactic transfer. The same prepositions can carry vastly different meanings in various languages. If learners do translations of semantic equivalence between the mother tongue and second languages, it often results in prepositional errors.

The obvious reason for why it is difficult to master prepositions is that the number of prepositions used in English is limited but they have to serve a variety of relational meanings. It can be said that most central uses of English preposition characteristically express spatial relations. So far, the strategy for teachers is teaching the poly-semantic prepositions by rote. These traditional pedagogical methods for teaching English prepositions to high school students as a foreign language show issues. Most of Vietnamese teachers mainly used the pedagogical suggestions in teacher's books. Additionally, inflexible memorization or learning by heart won't help in the integration of new information with learners' prior knowledge to create a cognitive framework. Teaching prepositions should be focused on meaning, and teachers ought to help learners in forming a cognitive structure of language objects, according to recent studies looking at how humans process and store language components.

It can be seen that Vietnamese teachers in general, and Phan Chu Trinh high school teachers in particular have mostly used the pedagogical suggestions in teacher books for preposition teaching activities. The appearance of cognitive linguistics gives instructions for English spatial preposition teaching and learning based the process of human's language acquisition. Because cognitive linguistics is focused on how people learn and acquire language, it has consequences for how English is taught and learned. Its foundation in cognitive science, in particular, raises some implications that could assist language learners in systematizing linguistic

information during cognitive processing. A variety of educational applications that have been inspired by cognitive linguistics have offered empirical support for a number of issues in the teaching of the English language, including vocabulary, collocations, and phrasal verbs. According to the image schema theory and domain mapping theory in cognitive linguistics, prepositions can be represented by image schemas, and the sub-types of prepositions are associated in meaning and can also be represented by image schemas (Evans & Green, 2006; Bui Phu Hung, 2016a, 2016b).

1.2   Statement of the Problem

Traditional pedagogical methods for teaching and learning English prepositions to high school students as a foreign language reveal problems. It can be seen that Vietnamese teachers have mostly used the pedagogical suggestions in teacher books for preposition learning activities. Also, Lê Văn Canh (2011) said that English language teaching in Vietnam is somehow based on translation. However, this preposition translating method does not always work in the effect way. Meaningful learning as one specific application of cognitive concept. Mastering spatial representational equivalence, meanings can be understood and therefore, the language can be acquired. Therefore, preposition usage, specifically spatial preposition, can be explained clearly from cognitive perspective. The concerns attract an interest in conducting a study applying cognitive linguistics to teaching English prepositions to Vietnamese students.

1.3   Aims of the Study

The overall goal of this study is to gain understanding of how cognitive linguistics integrates into the teaching of English as a second language through an investigation of how fundamental principles from this area should be used in a classroom setting. In order to have a thorough understanding of both how the use of cognitive linguistics helps students learn the semantics of the prepositions and how students think of pedagogy based on cognitive linguistics in English language

teaching (ELT), it might be argued that there is still a gap in the literature that needs to be filled. Thus, this study has two objectives.

The present study is concerned with a cognitive linguistics approach to teaching English prepositions to Phan Chu Trinh high school students. The study focuses on the prepositions: *in, on,* and *at* which are very close in meaning, frequently used in the spatial as well as in other senses, and are equated with a multitude of contextual translations in school textbooks to cater for rote learning (cf. Celce Murcia & Larson-Freeman, 1990). The study focuses on the causes of Phan Chu Trinh high school students during spatial preposition acquisition. Also, it aims to find out methods of the application of concept-based teaching and learning for Phan Chu Trinh students and how they achieve the treatment based on cognitive linguistic concepts.

1.4 Research Questions

Similarly, this graduation project seeks to answer the following main questions:

- What are the reasons for students' difficulties in English spatial achievement in Phan Chu Trinh high school?

- Which solutions are reached to improve spatial preposition learning of Phan Chu Trinh high school students?

1.5 Scope of the Study

This project did not attempt to teach English prepositions, but it took a cognitive concept approach to the teaching of three prepositions in, on, at to students at Phan Chu Trinh high school. These three prepositions were chosen as a result of their high level of frequency and difficulty (Lindstromberg, 2010). One hundred students from different classes in the research site, regardless of their genders, participate in this study. Accordingly, participant characteristics include language

background, language learning experience, level of proficiency, participant mortality, and participant inattention and attitude. The researcher should pay attention to participants' language background when the study aims to compare two groups of students' performances owing to different treatments.

The participants are students from three classes 10A1, 10A4 and 10A5, who are non – English major students. And there are two Vietnamese teachers currently teaching at the research site voluntarily participate in the present study. They have the same characteristics as teachers: about three year teaching at the research site, an experience of approximately three years as English teachers, a master's degree in English language teaching. They also do tasks like class observation, and data collection and analysis.

1.6   Significance of the Study

In terms of the spatial meanings of English prepositions, the current study seeks to add to the body of knowledge on instructional applications of cognitive linguistics. It presents a method for teaching English prepositions that is founded on fundamental ideas from cognitive linguistics. Additionally, curriculum development and textbook creation will be aided in terms of giving students the right lessons and assignments to help them grasp English prepositions in general and the prepositions relevant to this topic in particular. This study has implications for research and practice in English language instruction and throws light on how to effectively teach English prepositions.

1.7   Organization of the Graduation Project

This graduation project includes five main chapters. This chapter One presents background to the study as well as the research aims, questions, scope and significance. Chapter Two reviews second language teaching and learning methods and literature key terms of cognitive concept. Chapter Three draws research methods and design employed in the study, and the author uses questionnaires to collect the

participants' opinions forward the methods of teaching and learning English based on cognitive linguistics. Chapter Four presents results of the study and discussion. In the final one, Chapter Five summarizes the key findings and gives implications for future research and practice in teaching and learning English prepositions, and points out its limitations.

CHAPTER 2. LITERATURE REVIEW

2.1 Second Language Teaching and Learning Methods

There has been an important consideration in teaching of second and foreign language and there are a number of methods and approaches which have been suggested in the teaching of prepositions specifically and in the teaching of English as a foreign and second language generally. The present study attempts to approach suitable ways into teaching English prepositions and the following theoretical insights.

2.1.1 General Aims of Second Language Teaching and Learning

Language teaching can be described as teaching people a foreign language so that they can understand and speak the language. Teachers and students should use the second language rather than the first language in the classroom, and the aim of language teaching is to make students like native speakers (Cook, 2008, p.4-5). Or "Language use, embracing language learning, comprises the actions performed by persons who as individuals and as social agents develop a range of competences, both general and in particular communicative language competences." (Council of Europe, 9). In order to compete with others in society and make a living doing so, people should keep up to date with the changing environment. Communicative Competence is "a dynamic, interpersonal construct that can be examined only by means of the overt performance of two or more individuals engaging in communication" (Brown, 2014: 206). Also, "Communicative language competences are those which empower a person to act using specifically linguistic means." (Council of Europe, 9).

"Language activities involve the exercise of one's communicative language competence in a specific domain in processing (receptively and/or productively) one or more texts in order to carry out a task" (Council of Europe, 10). An activity describes any procedures in which learners work towards a goal such as play a game or engaging in a discussion. Finally, a task is something undergone by students using

preexisting language resources. Preciously, "A task is defined as any purposeful action considered by an individual as necessary in order to achieve a given result in the context of a problem to be solved, an obligation to fulfil or an objective to be achieved" (Council of Europe, 10).

"The language learner/user's communicative language competence is activated in the performance of the various language activities, involving reception, production, interaction or mediation (in particular interpreting or translating). Each of these types of activity is possible in relation to texts in oral or written form, or both." (Council of Europe, 14). And "As processes, reception and production (oral and/or written) are obviously primary, since both are required for interaction" (Council of Europe, 14). There are variety of approaches in second language teaching and learning, however, in this section, the author have considered kind of them: learner-centered instruction, communicative language approach, task-based approach. These are principles that lead to the main method used specifically for the topic: spatial concept-based teaching.

2.1.2 *Learner-centered Instruction*

Teaching second language should be learner-centered because learners "have to go through a process, and often a lengthy process, of learning how to learn, and they can usually only do this with the assistance and guidance of the teacher". Therefore, "learners are systematically educated in the skills and knowledge they will need in order to make informed choices about what they want to learn and how they want to learn" (Nunan 2013, p. 53).

The author points out the characteristics of Learner-Centered Instruction (Brown & Lee, p.46): a focus on learners' needs and goals, understanding individual differences among learners in a classroom, gauging the curriculum to learners' styles and preferences, creating a supportive, non-fearful, non-defensive atmosphere,

offering students choices in the types and content of activities, giving some control to the student (e.g., group work).

In the traditional approach, most class time is spent with the teacher lecturing and the students watching and listening. The students work individually on assignments, and cooperation is discouraged. Learner-centered teaching methods shift the focus of activity from the teacher to the learners. These methods include: firstly, active learning, in which students solve problems, answer questions, formulate questions of their own, discuss, explain, debate, or brainstorm during class. Secondly, cooperative learning, in which students work in teams on problems and projects under conditions that assure both positive interdependence and individual accountability. And lastly, inductive teaching and learning, in which students are first presented with challenges. Inductive methods include inquiry-based learning, case-based instruction, problem-based learning, project-based learning, discovery learning, and just-in-time teaching.

Learners are empowered to actively engage in the learning process through learner-centered instruction. This model puts the student at the center of the learning process, in contrast to more conventional teacher-centered models that concentrate on the teacher. The instructor's obligation extends beyond only disseminating information; it also includes promoting the learners' participation in active learning situations. At the same time, students play a more active role, influencing the course material and activities as well as actively reviewing what they have learned.

The table below provides a comparison between teacher-centered and learner-centered instructional models.

Teacher-centered Instructional Model	Learner-centered Instructional Model
Places the instructor at the center of the learning process	Places the learner at the center of the learning process
Instructor imparts knowledge, not involving learners in the learning process	Instructor serves as a facilitator, involving learners in the learning process
Instructor chooses topics and activities; learners participate passively	Learners influence topics and activities and participate actively
Assessments are one-dimensional and focus on grading	Assessments are multidimensional and provide ongoing feedback
Prioritizes memorization and correctness	Prioritizes higher-level thinking
Academic culture is competitive and individualistic	Academic culture is collaborative and supportive

Table 2.1: A Comparison Between Teacher-centered and Learner-centered Instructional Models

2.1.3 Communicative Language Approach

Community Language Learning arose after a shift in thinking surrounding a more student-centered approach that put the focus on the learner, instead of the teacher (Brown & Lee, 2015). It is a type of the whole-person, counseling-learning model of education with class members bond as a community and inductive learning. Language is for communication, so having conversations is important. Students and teachers work together in a team effort creating a supportive classroom community,

which lowers anxiety for learners (Brown & Lee, 2015). During the process, the teacher works as a counselor, a source of information and the learner is a client. The learners develop from dependence to independence.

Communicative Language Teaching aims broadly to apply the theoretical perspective of the Communicative Approach by making communicative competence the goal of language teaching and by acknowledging the interdependence of language and communication. What this looks like in the classroom may depend on how the tenets are interpreted and applied. The focus is on utilizing real-world situations to allow students to practice using language for context and content rather than learning about grammatical rules and structure.

"One can master the rules of sentence formation in a language and still not be very successful at being able to use the language for meaningful communication (Richards 2006)." The main purpose behind communicative language teaching methods is to prepare students to be confident communicators in different real-life contexts, through repetitive oral practices and student-student cooperation. In CLT, communication is the end and the means of the teaching method.

These are following characteristics of Communicative Language Teaching (Brown, H. D. & Lee, H, pp. 31 – 32). The overall goal of CL is to focus on all of the components (grammatical, discourse, sociolinguistic, and strategic) of communicative competence. The other characteristics are:

- Relationship of form and function. Language techniques are designed to engage learners in the pragmatic, authentic, functional use of language for meaningful purposes.

- Fluency and accuracy. A focus on students' "flow" of comprehension and production and a focus on the formal accuracy of production are seen as complementary principles.

- Focus on real-world contexts. Students in a communicative class ultimately have to use the language, productively and receptively, in unrehearsed contexts outside the classroom.

- Autonomy and strategic involvement. Students are given opportunities to focus on their own learning process through raising their awareness of their own styles (strengths, weaknesses, preferences) of learning and through the development of appropriate strategies for production and comprehension.

- Teacher roles. The role of the teacher is that of facilitator and guide, not an all-knowing font of knowledge. The teacher is an empathetic "coach" who values the best interests of students' linguistic development. Students are encouraged to construct meaning through genuine linguistic interaction with other students and with the teacher.

- Student roles. Students are active participants in their own learning process.

Moreover, the characteristics of the Communicative Classroom is that the classroom is devoted primarily to activities that foster acquisition of L2. Learning activities involving practice and drill are assigned as homework. The instructor does not correct speech errors directly. Students are allowed to respond in the target language, their native language, or a mixture of the two. The focus of all learning and speaking activities is on the interchange of a message that the acquirer understands and wishes to transmit, i.e. meaningful communication. The students receive comprehensible input in a low-anxiety environment and are personally involved in class activities. Comprehensible input has the following major components: a context; gestures and other body language cues; a message to be comprehended; a knowledge of the meaning of key lexical items in the utterance.

There are some techniques and materials of Communicative Language Teaching (Larsen-Freeman, D, 2008, pp. 132 - 135):

- Authentic materials: To overcome the typical problem that students cannot transfer what they learn in the classroom to the outside world and to expose students to natural language in a variety of situations, adherents of CLT advocate the use of language materials authentic to native speakers of the target language.

- Scrambled sentences: The students are given a passage (a text) in which the sentences are in a scrambled order. This may be a passage they have worked with or one they have not seen before. They arc told to unscramble the sentences so that the sentences are restored to their original order.

- Language games: Games are used frequently in CLT. The students find them enjoyable, and if they are properly designed, they give students valuable communicative practice.

- Picture strip story: Problem-solving tasks work well in CLT because they usually include the three features of communication. What's more, they can he structured so that students share information or work to get her to arrive at a solution. This gives students practice in negotiating meaning.

- Role play: Role plays are very important in CLT because they give students an opportunity to practice communicating in different social contexts and in different social roles. Role plays can be set up so that they are very structured or in a less structured way.

2.1.4 Task-based Approach

"Task-based learning (TBL) involves the specification not of a sequence of language items, but of a sequence of communicative tasks to be carried out in the target language. Central to the notion of a communicative task is the exchange of meanings" (Carter & Nunan, p. 173).
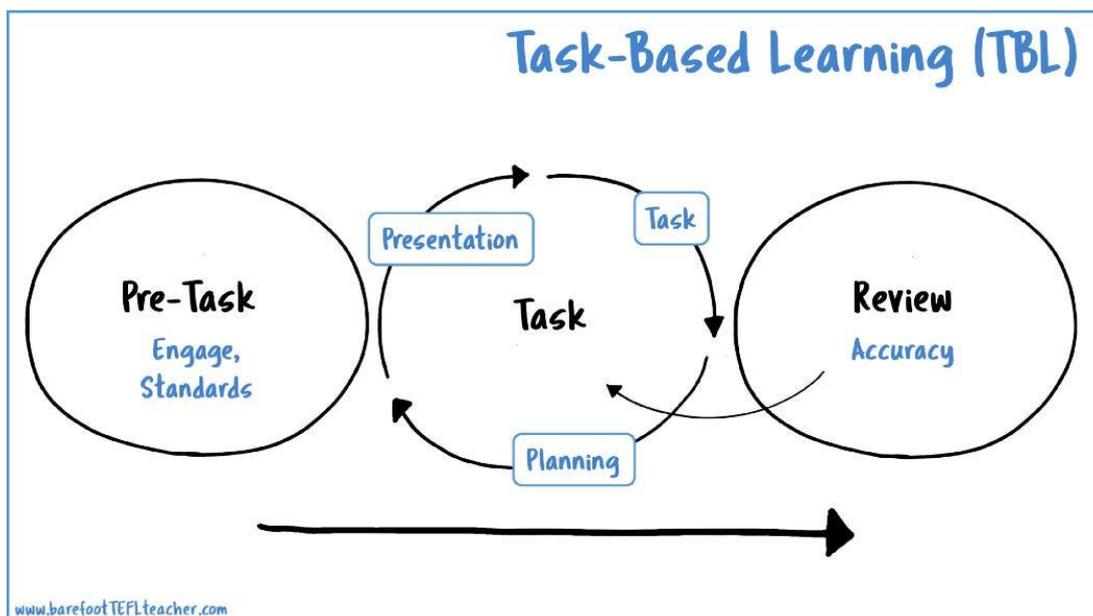
Figure 2.1: A Procedure of the Task-based Instruction
(www.barefootTEFLteacher.com)

A task-based approach aims to provide learners with a natural context for language use. As learners work to complete a task, they have abundant opportunity to interact. Such interaction is thought to facilitate language acquisition as learners have to work to understand each other and to express their own meaning. By so doing, they have to check to see if they have comprehended correctly and, at times, they have to seek clarification. By interacting with others, they get to listen to language which may be beyond their present ability, but which may be assimilated into their knowledge of the target language for use at a later time. As Candlin and Murphy (1987: 1) not e, "The central purpose we arc concerned with is language learning, and tasks present this in the form of a problem-solving negotiation between knowledge that the learner holds and new knowledge."

The characteristics of Task-Based Language Teaching (TBLT) presents following main points. Tasks ultimately point learners beyond the forms of language alone to real-world contexts. Tasks specifically contribute to the communicative

goals of learners. Their elements are carefully designed and not simply haphazardly or idiosyncratically thrown together. Their objectives are well specified so that you can at some later point accurately determine the success of one task over another. And tasks engage learners, at some level, in genuine problem-solving activity. (Brown & Lee, 2015, p. 49).

This table below shows three stages in the task-based approach (Larsen-Freeman, D, 2008, pp. 149 - 150). At each of these three stages, the teacher will be working with the students acting as counselor and consultant, not as the project director. By encouraging students to move out of the classroom an d into the world, project work helps to bridge the gap between language study and language use.

Stage 1	The students would work in their class, planning, in collaboration with the teacher, the content and scope of the project and specific language needs they might have.
Stage 2	This stage typically takes place outside the classroom and involves gathering of any necessary information. They may well use all four skills in a natural, integrated fashion.
Stage 3	Students review their project. They monitor their own work and receive feedback from the teacher on their performance.

Table 2.2: Three Stages of the Task-based Procedure

2.1.5 *Spatial Concept-based Teaching*

Evans (2007) states that image schemas, domains and conceptual metaphor together are responsible for learners' understanding and use of language. Therefore, explicit instruction on the semantic properties accompanied by image schemas is essential in EFL classroom as image schemas are considered to engage learners cognitively in language learning.

In case the spatial configurations of L1 and L2 are incongurent, teachers should help students know the spatial configurations in the target prepositions so that they can understand and use them accurately. The image schema theory also shows its pedagogical implications for instruction on describing the relationships between TR and LM (Section 2.3.2.2). Ellie Alchin, Director of Teaching and Learning at UWCSEA Dover explains, "Knowledge and skills are very important in a concept-based curriculum. Students require a factual or a skills-based grounding in order to form understandings that are going to be accurate and transferable. If they lack this grounding because they haven't learned enough content, or they haven't acquired enough skills, then students will produce understandings which are inaccurate or over-generalized."

There are also implications of domain mapping theory for teaching different peripheral senses of prepositions. First, the spatial meanings should be taught prior to and in relation to the spatial meanings, which is assumed to form a cognitive structure in mind. This, in turn, can help learners remember and keep these two types of meanings in mind in a long run (Brown, 2003; Novak, 2002; Sharan, 2015). In other words, teachers can use image schemas to relate these two types of knowledge (spatial and metaphorical). Also, prepositional verbs, idioms, and phrasal verbs can be instructed with image schemas. Finally, the basic concepts in CL (Section 2.2.2) suggest the delivery of exercise drills and pair/group work after instruction.

Through a number of teaching strategies, students are supported in engaging critically with knowledge and skills to draw out big ideas, or conceptual understandings. Learning engagements teachers utilize include:

- Introduce questions that have relevance beyond that specific knowledge and skill that students are learning.

- Deepen students' understanding of individual concepts, for example through sorting activities.

- Ask students to recognize and describe how concepts look in context, for instance by reading a text or having an outdoor experience.

- Invite students to form and justify their own understandings.

- Facilitate transfer, by requiring students to test their understandings in novel situations.

Student agency goes hand-in-hand with a concept-based approach. Through learning engagements, students ask questions, engage in dialogue, and analyse and synthesise ideas to form understandings. Diversity of thinking is promoted through discussion, giving students a platform to voice their unique ideas.

In the classroom everyday, the expertise as a teacher will determine which teaching approach teachers choose to use, when they use it and what strategies they use to scaffold learning to support students to make connections. They will be making intentional choices to curate and choreograph learning to meet their student needs.

Different teaching approaches can support the development of a concept-based learning experience. However, it is an inductive approach that lends itself to students actively constructing meaning for themselves. In this approach, students first look at examples, then search for patterns through active inquiry, and then search for connections and relationships to build understandings. This is opposite to a deductive approach where students are told what to understand and then find examples to support the understanding, followed by the opportunity to validate.

In a direct instruction approach, the teacher takes the more traditional role, perhaps telling information, lecturing or giving demonstrations. In a structured inquiry and guided inquiry approach learning is through a process of co-construction of content and structure for inquiry is provided by the teacher as a conductor or facilitator of learning. In an open inquiry, students create their own questions, with scaffolds for thinking and learning provided by the teacher as an essential part of

learning. In this approach the teacher acts as more of a mentor. It is important to note as research informed practitioners, that we are advised to leave aside discovery as this approach has been widely criticized as leading to errors and misconceptions.

2.2   Conceptual Framework

"Cognitive linguistics is an enterprise or an approach to the study of language and the mind rather than a single articulated theoretical framework" (Evans, 2007: 22). The fundamental unit of the approach is concept. "Concepts inhere in the conceptual system, and from early in infancy are re-described from perceptual experience through a process termed perceptual meaning analysis" (Evans, 2007: 31). They "represent schematisations, formed by abstracting away points of differences in order to produce representations which generalise over points of similarity." (Evans, 2010: 22)

2.2.1 Spatial Concept

2.2.1.1 Concept in Cognitive Linguistics

Concept (also representation): "the fundamental unit of knowledge central to categorisation and conceptualisation. Concepts inhere in the conceptual system, and from early in infancy are redescribed from perceptual experience through a process termed perceptual meaning analysis" (Evans 2007, p. 31).

Evans (2010) states that concepts represent schematisations that are formed by removing specific differences to create representations applied to a wide range of similarity. This considerably simplifies things, concepts are not static and unchanging even though they are stable schematizations. They do, in fact, continue to be updated and develop as long as people are exposed to new experiences. Because ideas are schematic in nature, they are representations in the sense of re-presentations, as opposed to concepts. They can therefore be engaged during off-line processing because they are saved in memory.

Lexical concept is the semantic element that is paired with a phonological form in a symbolic unit. It is "a unit of semantic structure conventionally associated with a linguistic form central to LCCM Theory. Together, a lexical concept and a form make up a linguistic unit: a conventional form-meaning pairing." (Evans 2007, p. 123)

Meanings (from a cognitive linguistic perspective) are "in the minds of the speakers who produce and understand the expressions" (Langacker 2013, p.27). "An expression's meaning is first and foremost its meaning for a single (representative) speaker. This is not to deny or diminish the social aspect of linguistic meaning." (Langacker 2013, p. 30). Meaning are identified with conceptualization.

Conceptualisation is "the process of meaning construction to which language contributes. It does so by providing access to rich encyclopaedic knowledge and by prompting for complex processes of conceptual integration." (Evans 2007, p. 38). For gaining understanding, conceptualization is the process of specifying what we mean when we use particular terms. It is the reverse process of conception. Take an example, when we see the concept "environment", we make a list of phenomena representing the concept.

2.2.1.2 Spatial Relation

Spatial relation is "a relationship, based on spatio-geometric properties, that holds between a figure and a reference object" (Evans 2007, p. 203). The relationships between items as well as the interaction between us and objects are defined by spatial concepts.

Landau and Jackendoff (1993) argue that spatial relations, as encoded by prepositions, and objects as encoded by count nouns roughly approximate the pre-linguistic representations deriving from the 'where' and 'what' systems respectively. (Cited from Evans, 2010: 26).

Also, "the place system allows the organism to represent relationships between different locations without having to physically experience the spatial relations holding between distinct places" (Evans, 2010). In other words, humans, like many other organisms, can compute distances, and other spatial relations between distinct places such as directions, without having to physically experience the spatial relationships in question. Such a cognitive mapping ability is a consequence of the allocentric place subsystem.

2.2.1.3 Spatial Relations Encoded by English Prepositions

Spatial relations encoded by English prepositions are large. In other words, spatial prepositions are used by both speakers and writers in order to talk about the place they occupy in the surrounding world, the location of objects in the environment and relations between them.

People need to have certain knowledge of how space is structured with regard to the spatial usages of the target prepositions *in, on,* and *at* in the spatial domain. They need to understand, for example, how objects relate to each other in space: that one object can enclose another, which is typically encoded by the preposition *in*; that one object can be located on the surface of another, which is typically encoded by the preposition *on*; and that one object can be located at a particular location in space, which is generally described by the preposition *at*.

2.2.2 English Preposition Domain

Domain is "a conceptual entity posited in Cognitive Grammar. A domain constitutes a coherent knowledge structure possessing, in principle, any level of complexity or organisation" (Evans 2007, p. 61).

2.2.2.1 Preposition Domains

A domain is considered as a cognitive domain. Langacker described that domains are necessarily cognitive and conceptual entities: "mental experiences,

representational spaces, concepts, or conceptual complexes" (Langacker, 1987, p. 147), which have preconditions for the understanding of lexical concepts (cf. Evans & Green, 2007). A basic domain "derives directly from human embodied experience" (Evans, 2007, p. 10), referring to "both sensory experience and subjective experience" (Evans, 2007, p.10), such as space, time and colour (Evans, 2007, p. 11).

The concept of domain, as a cognitive domain, is similar to the term frame which pointed out by Fillmore (1982). Both notions presuppose that lexical concepts only have meaning when linked with a person's organized background knowledge and that linguistic meaning is encyclopedic in nature (cf. Langacker, 1987; Evans & Green, 202).

As cognitive domains, these three domains constitute the coherent knowledge structure of English prepositions with inherent connection. For example, the concepts of in may relate to the spatial domain *in the living room* as well as to the temporal domain *in 1997*. There is evidence that languages have tendency to use the same expressions for spatial, temporal and abstract relations and that there are relations in system between the use of the expressions for primarily spatial notions, for primarily temporal notions and for primarily abstract notions. As the prepositions *in, on, at* to be learned in the present study, the examples of *in, on* and *at* across the three domains are showed in the following Table 2.3.

	Spatial domain	Temporal domain	Abstract domain
in	in the living room	in 1997	in love with
on	on the table	on Friday	on duty
at	at home	at night	at the bottom of my heart

Table 2.3: The English Prepositions "in, on, at" across the Three Domains

2.2.2.2 Spatial Domain

In English, spatial relations are mainly expressed by prepositions (cf. Talmy, 1983). Cognitive linguists also propose that the meanings of prepositions can be explained by the reference entity called landmark and the mentioned object called trajector (Lee, 2001). For example, these are the spatial meanings of the preposition in: the armchair in the living room and the apples in the tree.

In the former example, the armchair is totally contained in the living room. The armchair is the trajector (TR) and the living room is the landmark (LM). In this case, the meaning of the preposition in is prototypical as TR is totally contained in LM. In the latter example, it is necessary to include all the branches of the tree as LM. In this case, a three-dimensional space should be explained and the meaning of the preposition in is also non-prototypical.

In order to acquire English prepositions, the prior knowledge may mostly stem from the spatial domain as the source domain. The domains as cognitive domains are regarded as cognitive schemata and constitute the coherent knowledge structure of English preposition in the long term memory.

2.2.3 Semantics

Semantics involves the deconstruction of words, signals, and sentence structure. It influences our reading comprehension as well as our comprehension of other people's words in everyday conversation. Semantics play a large part in our daily communication, understanding, and language learning without us even realizing it. Since meaning in language is so complex, there are actually different theories used within semantics, such as formal semantics, lexical semantics, and conceptual semantics.

Formal Semantics - Formal semantics uses techniques from math, philosophy, and logic to analyze the broader relationship between language and reality, truth and

possibility. Has your teacher ever asked you to use an "if… then" question? It breaks apart lines of information to detect the underlying meaning or consequence of events.

Lexical Semantics - Lexical semantics deconstruct words and phrases within a line of text to understand the meaning in terms of context. This can include a study of individual nouns, verbs, adjectives, prefixes, root words, suffixes, or longer phrases or idioms.

Conceptual Semantics - Conceptual semantics deals with the most basic concept and form of a word before our thoughts and feelings added context to it. Conceptual semantics opens the door to a conversation on connotation and denotation. Denotation is the standard definition of a word. Meanwhile, connotation deals with the emotion evoked from a word. Connotation will be derived from the manner in which you interpret a word or sentence's meaning. As such, semantics and connotation are deeply entwined. For a deeper dive, read these examples and exercises on connotative words.

2.2.4 The Image Schema of Spatial Preposition

2.2.4.1 Image Schemas

Image schemas "derive from sensory and perceptual experience. Accordingly, they derive from embodied experience" (Evans 2007, p. 106). Embodied experience is "the idea that experience is embodied entails that we have a species-specific view of the world due to the unique nature of our physical bodies" (Evans 2007, p. 67).

"Embodied experience constitutes the notion that human experience of the world is mediated by the kinds of bodies we have, and hence is in large measure determined by the nature of the bodies which mediate how we experience the world" (Tyler & Evans, p. 23). The human experience of space includes knowledge relating to the size, shape, location and distribution of entities in a stable three-dimensional environment.

Schema is considered as a brain network of related concepts that impacts understanding of new information, by preconceiving ideas, representing some aspect of the world or organizing and perceiving new information. Therefore, "image schemas provide the basis for more richly detailed lexical concepts" (Evans, 2007, p. 107).

2.2.4.2 Image Schemas of Space

Image schemas of space include up-down, front-back, left-right, near-far, centre-periphery, contact, straight, verticality" (Evans & Green 2006, p. 190). Our study focuses on spatial representations encoded by English preposition *in, on* and *at*, which belong to schema containment and contact.

a) Representations encoded by English preposition IN

Evans (2010) states that the central 'spatial' lexical concept associated encodes the parameter Containment. Also, the basic spatial meaning of in is the location of interiority, which is defined as inclusion or containment of the TR in the LM. In principle, this interiority may: (1) be either partial or total; (2) be a specific range across objects of any dimension; (3) be either real or virtual. This figure shows three dimensions with the illustration.
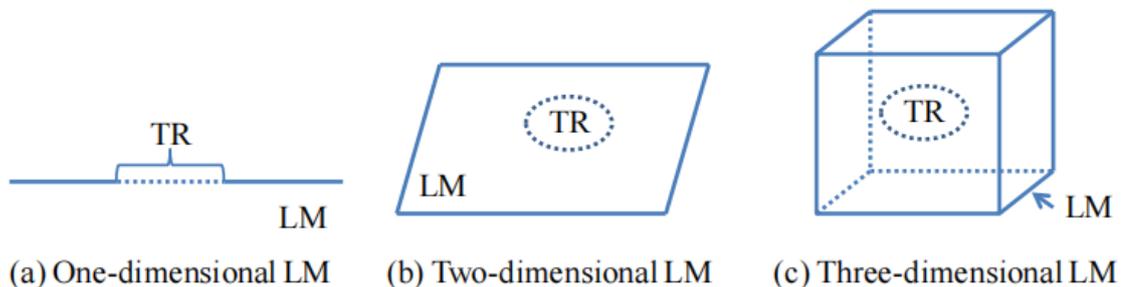
Table 2.4: Containment Image Schema for Preposition IN

Image schema of in in Figure 1 (c) is the most typical one for the preposition *in*. The three dimensional LM is more like a prototypical container than that in (a) and (b) because it has a clear interior, and the TR is fully contained. Take the phrase *the dog in the room* as an example, *the room* shows the concept of containment as the LM and *the dog* can be considered as the TR. The preposition *in* is applied to present the location of interiority.

The original meaning and derivative meanings of the preposition of the place "in" (especially spatial meaning) are described specifically in the Oxford Advanced Learner's Dictionary [35, p.816] as follows:

   i.   At a point within an area or a certain space: in, at, in

Example: We're reading books in the living room. The cat is playing in the garden.

   ii. In the framework of something; surrounded by something

Example: My beautiful village is shut in by the mountains.

   iii. Into something; into the

Example: The cake is dipped in milk.

   iv. Is used to describe the physical surroundings

Example: We're going out in the rain. She was sitting alone in the darkness.

b) Representations encoded by English preposition ON

"The spatial relation designated by on involves the relation of contact or proximity to the surface of a LM, and so the functional consequence of being supported or upheld by it. I gloss the prototypical 'spatial' lexical concept conventionally associated with *on* as [contact].", says Evans (2010). The general schema of *on* can be shown in the following way:
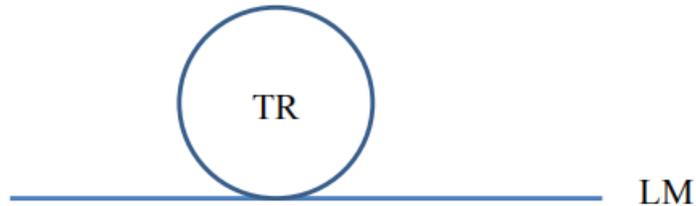
Table 2.5: General Image Schema for Preposition ON

In the case of *on*, the TR and the LM have a relationship of contact. When we pay attention to the topological relationship between the TR and the LM, this contact is always perceived as in relation to the outside part of the LM and to the resting part of the TR.

c) Representations encoded by English preposition AT

"The lexical concept which licenses spatial uses of at affords the most general expression of localisation in space in English, expressing the relation between a TR and a point of space that it is contiguous or proximal with.", states Evans (2010). A functional consequence of being co-located with a particular LM is that the TR has some practical association with the reference object.
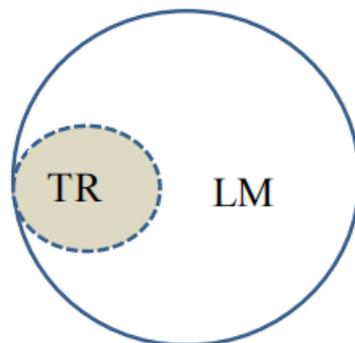
Table 2.6: Containment Image Schema for Preposition AT

The original meaning and derivative meanings of the preposition of the place "at" are described specifically in the Oxford Online Learner's Dictionary [35, p.816] as follows:

i. Used to say where something/somebody is or where somethin happens

Example: at the corner of the street. They arrived late at the airport.

ii. Used to say where somebody works or studies

Example: He's been at the bank longer than anyone else. She's at Yale University.

2.2.5 *Similarities and Differences between Conceptualizations of English Prepositions IN, ON and AT, and Their Equivalents in Vietnamese*

The author collected randomly 84 situations with preposition *in*, 67 situations with preposition *on* and 61 situations with preposition *at* from 3 famous literary works: Gone With The Wind by Margaret Mitchell (1984), styled by Limpidsoft, The Last Leaf, In 100 Selected Stories by O Henry (1995) and To Kill a Mockingbird by Lee Harper (1998) together with 3 equivalent Vietnamese translations: Cuốn Theo Chiều Gió by Dương Tường (1988), Chiếc Lá Cuối Cùng by Ngô Vĩnh Viễn (2002) and Giết Con Chim Nhại by Huỳnh Kim Oanh & Phạm Viêm Hương (2008). These situations are shown in the detailed way in the Appendix.

2.2.5.1 Similarities

English prepositions "in," "on," and "at" have different conceptualizations and uses, and they also have equivalents in Vietnamese. Here are some similarities between the conceptualizations of these prepositions and their equivalents in Vietnamese.

"In" and "trong": In both English and Vietnamese, "in" and "trong" indicate that something or someone is inside a space or container. For example, "I am in the room" can be translated to "Tôi đang ở trong phòng" in Vietnamese. One of the most prominent similarities between the conceptualizations of English preposition "in" and its equivalents in Vietnamese is that they both indicate a sense of location within a particular space or container. In English, "in" is commonly used to describe a physical location within an enclosed area, such as "in the room," while in Vietnamese, "trong" is used in a similar context to indicate being inside something or within a particular area, such as "trong phòng."

The spatial preposition "in" and the Vietnamese equivalent "ở" have several similarities in their usage and meaning.

"In" and "ở" are used to indicate location or position within a space. For example, "I am in the room" can be translated as "Tôi ở trong phòng" in Vietnamese. Both "in" and "ở" can also be used to indicate inclusion within a group or category. For example, "He is in the top 10 percent of his class" can be translated as "Anh ấy ở trong nhóm 10% học sinh giỏi nhất lớp" in Vietnamese. Both prepositions can be used to express a sense of enclosure or containment. For example, "The book is in the box" can be translated as "Sách đang ở trong hộp" in Vietnamese. Or the case which are mentioned in the Appendix: "Mr. Behrman died of pneumonia today in hospital." is translated as " Cụ Bơ-men đã chết vì sưng phổi ở bệnh viện rồi." Also, "In rainy weather the streets turned to red slop; grass grew on the sidewalks, the courthouse sagged in the square." can be translated as "Vào mùa mưa đường phố trở nên lầy lội đỏ quạch; cỏ mọc trên hai lề đường, tòa án ủ rũ ở quảng trường."

The spatial preposition "in" and the absence of a preposition in Vietnamese equivalent can both be used to indicate location or position within a space. For example, "He habitually pulled at a cowlick in the center of his forehead." (Harper Lee, 1998) can be translated as "Nó luôn tay giật chỗ tóc bò liếm ngay ***trong*** giữa trán." in Vietnamese, where "***trong***" is the equivalent of "in". However, the phrase

can also be translated as simply "Nó luôn tay giặt chỗ tóc bò liếm ngay giữa trán." (with no preposition or expression, which conveys the same meaning.) Similarly, "It was a savagely red land, blood-colored after rains, brick dust in droughts, the best cotton land in the world." (Mitchell, 1984) can be translated as "Đó là một vùng đất đỏ hoang sơ, mưa nhiều thì như màu máu, hạn hán thì như bụi gạch - vùng đất trồng bông tốt nhất thế giới." with the preposition "trong", or with no preposition or expression.

In both cases, whether to use a preposition or not depends on the context and the level of detail required in the communication. Using no expression or preposition is more common and natural in everyday spoken Vietnamese, while using prepositions is more common in written language and in formal settings.

"On" and "trên": In both languages, "on" and "trên" indicate that something or someone is physically on top of or attached to a surface. For instance, "The book is on the table" can be translated to "Sách đang nằm trên bàn" in Vietnamese.

English preposition "on" and its equivalents in Vietnamese share several similarities in their conceptualizations, particularly in indicating a sense of physical contact with a surface. In English, "on" is commonly used to describe something that is physically attached or resting on top of a surface, such as "on the table" or "on the floor." Similarly, in Vietnamese, "trên" is used to describe something that is physically located on top of a surface, such as "trên bàn" (on the table) or "trên sàn nhà" (on the floor). Both prepositions are also used to indicate being physically connected to something, such as "on the phone" or "trên xe bus" (on the bus). Overall, these similarities suggest that the concept of physical contact with a surface or object is a fundamental aspect of both English and Vietnamese prepositions.

The spatial preposition "on" and the absence of a preposition in Vietnamese can both be used to indicate location or position on a surface or object. For example, "The book is on the table" can be translated as "Sách trên bàn" in Vietnamese, where

"trên" is the equivalent of "on". Therefore he phrase can also be translated as simply "Sách bàn" with no preposition, which conveys no meaning. However, other example "She knocked on the door and handed the dress to her mother." (Mitchell, 1984) can be translated "Cô gõ cửa và đưa chiếc áo cho mẹ." with no preposition, which expresses the nearly meaning and this sentence becomes more fluent in Vietnamese. In the cases, like the situations preposition in with no expression, depending on the context and level of detail needed in the message, a preposition may or may not be used. In ordinary spoken Vietnamese, the use of no preposition is more frequent and natural, whereas the use of prepositions is more frequent in written language and in formal contexts.

Overall, the similarity between "on" and absence of a preposition in Vietnamese is that they both can be used to indicate location or position on a surface or object, but the choice between the two depends on the context and level of detail required in the communication.

"At" and its Vietnamese equivalent "ở" indicate: Both "at" and "ở" indicate the location of something or someone. However, "at" is more specific and precise than "ở." For example, "I am at the library" can be translated to "Tôi đang ở thư viện" in Vietnamese.

English preposition "at" and its equivalents in Vietnamese share several similarities in their conceptualizations, particularly in indicating a sense of location or position. In English, "at" is commonly used to indicate a specific point or place, such as "at the store" or "at the park." Similarly, in Vietnamese, "ở" and "tại" are used to indicate being physically located at a particular place or position, such as "ở nhà" (at home) or "tại công ty" (at the office). Or, both prepositions can be used to indicate a sense of presence or being in a particular place. For example, "The conference is at the hotel" can be translated as "Hội nghị sẽ được tổ chức tại khách sạn" in Vietnamese. Both "at" and "tại" can be used to indicate a point of reference or direction. For

example, "Turn left at the next intersection" can be translated as "Rẽ trái tại ngã tư tiếp theo" in Vietnamese.

Overall, these similarities suggest that the concept of physical location and being situated in a particular place or position is central to the conceptualizations of both "at" and its Vietnamese equivalents.

2.2.5.2 Differences

English spatial prepositions "in", "on", and "at" and their equivalents in Vietnamese, such as "trong", "trên", "ở", and "tại", have some notable differences in their conceptualizations. One of the main differences is in their usage for indicating physical location. In English, "in" is commonly used to indicate being within an enclosed area or container, such as "in the room," while in Vietnamese, "trong" is also used to indicate being inside something, but it can also mean "within" or "among," as in "trong nhóm" (in the group). "On" in English is used to indicate physical contact with a surface, such as "on the table," while its Vietnamese equivalent "trên" can also mean being above something, as in "trên bầu trời" (in the sky).

Another difference is the usage of these prepositions in relation to time. In English, "at" is often used to indicate a specific point in time, such as "at noon," while in Vietnamese, "tại" is used to indicate a particular place or position, as in "tại sân bay" (at the airport).

Overall, these differences suggest that while there are some similarities in the conceptualizations of these spatial prepositions across languages, there are also important differences in how they are used and the nuances of meaning they convey. These differences highlight the importance of understanding the cultural and linguistic context in which these prepositions are used.

Cultural differences play a significant role in the conceptualizations of English spatial prepositions "in", "on", and "at" and their equivalents in Vietnamese, such as "trong", "trên", "ở", and "tại".

One notable difference is the use of personal space. In English, personal space is considered to be approximately arm's length away, and people often use "in" to describe being within this space, such as "in my personal space". In Vietnamese culture, personal space is much closer, and people may use "ở" or "tại" to describe being within this space, such as "ở gần" (near) or "tại bên cạnh" (next to).

Additionally, the usage of spatial prepositions can vary based on cultural norms around respect and hierarchy. In Vietnamese culture, showing respect for others is highly valued, and people may use "tại" to indicate a higher level of formality and respect when describing their location, such as "tôi đang tại nhà ông" (I am at your house). In contrast, English speakers may use "at" in a more casual way to describe their location, such as "I'm at the movies".

Cultural norms can also impact the usage of spatial prepositions to describe landmarks and important locations. In Vietnam, landmarks and important locations are often described using "ở", such as "ở chợ" (at the market), while in English, "at" may be used in a more specific way to indicate a specific point, such as "at the corner of Main Street and Maple Avenue".

Overall, these cultural differences highlight the ways in which the usage of spatial prepositions can reflect cultural norms and values, and how they can impact communication between speakers of different languages.

2.2.6 Previous Studies

The research in applying cognitive linguistics has been increasing in the last two decades, and their findings have showed that CL-based pedagogical applications contribute significantly to learners' language development, among which relevant

references for this study were experimental attempts to apply CL to teaching idioms, phrasal verbs and collocations. A number of experiments also attempted to explore the effectiveness of CLbased teaching in terms of students' knowledge of the semantics of English prepositions in EFL contexts.

2.3   Summary

It can be seen from the literature review that cognitive linguistics has suggestions that English language teaching had better attract students cognitively and communicatively. Teachers use image schema to explain the semantics of prepositions, which requires cognitive processing in learners' minds. Teachers, therefore, should attract learners' attention, offer exercises and provide productive tasks. A combination of cognitive concepts and above teaching methods may help students remember and achieve the target items most. The chapter Three will describe research methodology.

CHAPTER 3. RESEARCH METHODOLOGY

The rationale for the research approach and design, participant descriptions, the researcher's role, data collection tools, research technique and treatments, data analysis, research reliability and validity, and lastly ethics-related factors in research.

3.1   Research Design

This graduation project consists of qualitative and quantitative approaches. To answer research question 1, the pretest between-group experimental design is adopted. Three prepositions *in, on* and *at* are chosen as a result of their high level of frequency and difficulty. The pretest which are basically qualitative and quantitative are compared to measure the effects of the CL-based treatment. To answer research question 2, the participants' knowledge of the spatial representation is quantitative. The participants' responses to the questions are also used to explore the underlying factors probably having effects on students' learning of the target items. This is the main source to find out the solutions to improve spatial preposition learning of Phan Chu Trinh high school students.

Both the qualitative and quantitative techniques have benefits, on the one hand. Since this approach is naturalistic in nature, McMillan and Schumacher (2001) advise using it to explore the participants' opinions about an event or a scenario. In other words, the participants are free to voice their thoughts without influence from the researcher. The potential advantages of this methodology in generating data rich in the participants' critical, detailed, and descriptive judgments are added by Mackey and Gass (2005) to second language research. Additionally, Brown (2003) suggests employing this strategy to challenge unproven concepts.

The quantitative approach, on the other hand, aims to investigate causal or linked links between variables. This method is frequently used in second language research for this reason (Mackey & Gass, 2005). Additionally, because it applies scores through suggestions of rated alternatives (Mackey & Gass, 2005), quantitative

research is frequently based on an established notion. These two strategies, however, have their own drawbacks. The quantitative technique may produce subjective data, whereas the qualitative approach may allow participants to provide non-uniform data (Mackey & Gass, 2005). Additionally, whereas the latter exposes a large number of potential variables, the former tends to largely depend on the researcher's interpretations of the data acquired.

Regarding the aforementioned research approach argument, it was proposed that combining qualitative and quantitative approaches would increase the research's reliability and validity by triangulating data. As a result, readers might be more likely to accept the research findings because the benefits of one approach may outweigh the drawbacks of another.

3.2   Research Site

This graduation project is conducted in Phan Chu Trinh High School in Phan Thiet, Binh Thuan Province, Vietnam. Binh Thuan is located on the country's South Central Coast, far from Ho Chi Minh City about 200 kilometers in the Northeast.

Phan Chu Trinh High School is a state school that belongs to Binh Thuan People's Committee. It was established was established in the 90s of the 19th century. With more than 30 year-old tradition of establishment and growth, Phan Chu Trinh High School is improving more and more, meeting the education requirements of society. At the moment, the school always actively, creatively and innovatively overcomes a lot of difficulties and challenges such as constructing the facilities and modernizing equipment; doing student affairs work well; foster and enhance the quality of the staffs and teachers; innovating the content, program and training methods according to the program of the Ministry of Education and Training.

At Phan Chu Trinh High School, non-English major students have to learn English as a compulsory subject. They are required to complete three-year English curriculum. Each class has from 40 to 45 students. At the end of each term, students

are always examined on a test including four skills including listening, speaking, reading and writing. Most 10-grade students' level of English proficiency ranges from beginning to pre-intermediate level. When they were at high school, they got used to translation grammar teaching method in which the teachers focused on the rules of grammar structures and students practiced the drills to remember those structures. Therefore, at school, most students have difficulties in most of the skills: listening, speaking, reading and writing.

In almost all high schools in Phan Thiet, Binh Thuan Province, the students are typically expected to be good at learning English vocabulary in general, English prepositions in particular by rote rather than by understanding senses. During the three months of the experimental study (planned work), the researcher designs lesson plan that uses concept-based application techniques, so at the end of the experiment, it can be seen whether or not these techniques can develop the English spatial preposition achievement of the students in Phan Chu Trinh High School.

3.3   Participants

3.3.1 Teacher Descriptions

They are all female teachers ranking from 26 to 50 and have at least two years teaching in English with MA degrees.

Classification	Description
Gender	Female
Experience year	4 - 28
Age range	26 - 50
Current employment	English teachers at Phan Chu Trinh High School
Professional Qualification	Bachelor

Table 3.1: Description of English Teachers in Phan Chu Trinh High School

There are two Vietnamese teachers currently teaching at the research site voluntarily participate in the present study. They have the same characteristics as teachers: about three year teaching at the research site, an experience of approximately four years as English teachers, a master's degree in English language teaching. They also do tasks like class observation, and data collection and analysis.

3.3.2 Student Participants

One hundred students from different classes in the research site, regardless of their genders, participate in this study. Accordingly, participant characteristics include language background, language learning experience, level of proficiency, participant mortality, and participant inattention and attitude. CL-based instruction is thought to be more helpful to students at higher levels than lower levels of proficiency because it emphasizes language accuracy over fluency, provided the inspiration for using first-year college students as the sample. The participants were thought to be at the advanced level of skill, although they made a lot of mistakes while using prepositions. The participants in this graduation project spent years studying English in primary and secondary schools, but their pretest preposition use was only moderate.The main issues with study participants in a longitudinal study for second

language research are outlined by Mackey and Gass (2005). Language background, language learning experience, skill level, participant mortality, participant inattention and attitude are thus some of the participant characteristics. The researcher should pay attention to participants' language background when the study aims to compare two groups of students' performances owing to different treatments.

Classification	Description
The number of students	100
The numbers of students attending Pretest	100
The numbers of students attending Post-test	100
The numbers of students receiving the traditional methods	50
The numbers of students receiving the cognitive approach	50
Age range	16
Language background	Finish English secondary curriculum
Language learning experience	4 - 8 years

Table 3.2: Description of Students in Phan Chu Trinh High School

They are divided equally into two groups: a control group and an experimental group. The two groups are to learn English language as usual, with all the settings the same, but the methods of instruction are different. The control group receives three months of regular instruction by using the traditional method of teaching, while the experimental group receives three months of concept-based instructions.

3.4 Data Collection Instruments

The present study applies a variety of instruments, including pretest, post-test, and PowerPoint presentation files. The testing instruments, questionnaires are mainly used to collect the data needed to answer the research questions, but the PowerPoint files are used to perform the designed class lessons. A summary of the instruments is given in Table 3.3.

Instrument	Format	Data type	Aim
Pretest (Part I)	Written	Qualitative	Investigate the measure of understanding prepositions in English-Vietnamese equivalents
Pretest (Part II)	Written	Quantitative	Investigate the knowledge of prepositions
Post-test (Part I)	Written	Qualitative	Investigate the measure of understanding prepositions in English-Vietnamese equivalents after receiving treatment
Post-test (Part II)	Written	Quantitative	Investigate the knowledge of prepositions after the treatment

Table 3.3: Instruments of Data Collection

Both pretest and post-test were the combination of translation between two languages of English and Vietnamese and test format including forced-choice sentence completion and multiple choice questions. In part I, the author used quantitative research methods to collect students' perceptions about the three

prepositions *in, on, at* in both English and Vietnamese. The purpose was to measure the level of spatial awareness of students through three prepositions. This led to finding the reasons why students made errors in the process of learning prepositions. In part 2, the author used quantitative methods through multiple choice and word filling questions. The purpose was to test students' knowledge in the form of exercises and skills in using prepositions. And this was the basis for comparing the effectiveness of applying cognitive teaching methods in the process of teaching students in the cognitive group. From now on, the author could compare the level of access to spatial prepositions of the cognitive group and the traditional group.

The pretest and post-test were used to assess the impact of the CL-based treatment on the participants' understanding of the chosen spatial meanings of the given English prepositions. It is implied by the second language acquisition (SLA) literature that contains lessons aimed towards promoting language accuracy might also help students' implicit knowledge grow.

In their 2005 article, Mackey and Gass outline some significant issues with using a pretest and post-test to evaluate the impact of a treatment on participants' language development. The vocabulary difficulty should be the exam writer's first priority. Participants may become distracted by untested materials of varying degrees of difficulty, which does not reflect the learning outcome. When the pretest and post-test cover distinct subjects, it is also impossible to compare the results because the participants may know more about one subject than the other. Piloting the testing equipment is a potential solution. Alternately, the researcher might create a list of comparable things in pairs and then randomly assign one item from each pair to the pretest and one from the post-test.

The pretest and post-test in the present study are the same formats, with two parts: translation (Part I) and forced-choice sentence completion and multiple choice questions (Part II). One test part consisted of two sections. Each section consisted of

five questions: five items of spatial meanings. The maximum score for each of the tests is 20 points.

3.5   Research Procedure and Treatment

Each group meets once a week, 45 minutes each time. A period includes four main activities: warm-up, introduction, practice and review. The amount of time for each corresponding activity in both treatments is rather equal. Both groups (the group receive the traditional treatment as well as cognitive treatment) do the same controlled practice and review. In this research, the pretest is handed over one week before the treatment. The post-test is delivered after the treatment period.

A few fundamental factors in educational planning are described by Mackey and Gass (2005) and studies on second languages. First, when the pretest is performed well in advance of linguistic proficiency of the individuals may deteriorate following treatment. This holds true for the post-test as well, a research designed to assess the post-test should not be administered using the participants' short-term memory more than a week following the procedure. The interviewer should then offer asks questions during the interview (where appropriate, in the participants' native language) about instant recollections are a therapeutic method that aids participants in remembering the event recommended. Participants in the interview should be informed that they are not expected to offer gratifying but accurate solutions to lessen halo effects. Additionally, Gass and Mackey (2000) propose that the interview questions should follow a set order and be free of slang. If participants misunderstand the questions or do not fully comprehend them, they may provide unreliable answers. In order to lower the chance of recall, an interview should be held no later than two days after the occurrence.

According to Brown (2001), participants may not express their genuine ideas when they feel insecure; as a result, the interviewer should reassure them that their responses will be kept confidential, and face-to-face interviews can be helpful.

3.5.1 Traditional Treatment

One group of students receives a traditional method which is clear and deductive. This group called the traditional group (TG), receives the lessons on the prepositions accompanied by the teacher's verbal prompts and PowerPoint files.

This was done to reinforce the students' prior learning. The prepositions were taught one by one in the second step. The teacher gave the pupils five photographs to match each preposition's meaning with before asking them to do so. Before moving on to the following preposition, the teacher made the correction. Concerns about participants' inattentiveness led to this action.

There were four main steps in each session of the spatial meanings. The participants were given the target items during the warm-up phase and asked to finish five sentences. The context hints provided by the five sentences allowed the participants to select the right answers even though they lacked visual illustrations. The introduction of collocations, phrasal verbs, and idioms as an arbitrary matter marked the start of the teacher's lesson. Following the lesson, the students were asked to create example sentences so that the teacher could assess their understanding. Step 3 involved delivering a written drill consisting of ten questions, which the participants had to answer by completing 10 sentences using the target prepositions (2 sentences/ 1 preposition).

Step 4 involved the participants choosing an interesting topic for discussion while working in groups of three. Examples were provided via prompts. An individual writing assignment on a topic of interest marked the end of the class. Also used as examples were prompts. During the workshop, they were urged to employ the goal prepositions. The student handouts contained all of the exercises for teaching both the spatial concepts.

3.5.2 Cognitive Treatment

Other group of students called the cognitive group (CG) receives a concept-based treatment. The teacher's instructions are meaning-focused, clear and inductive. The preposition meanings are illustrated by image schemas. The teacher uses verbal prompts and Power Point presentation files to help the students in understanding of the target prepositions.

Five important steps formed the teaching of spatial meanings. The teacher introduced the target prepositions to the class before giving the students five minutes to finish five sentences that corresponded to five photographs.

This action was taken in opposition to the idea that language is formed through human interactions with the physical environment. The solutions to these five statements were then presented as image schemas. Image schemas were used in activity 2 to teach the target prepositions' spatial meanings. How the picture schemas could reflect things in actual life was the main topic of the teacher's training. Based on the picture schema idea, this action was taken.

Prepositions were taught one after another, just as in the conventional approach, and participants were also required to create examples of sentences that described the classroom so that the teacher could assess their comprehension before moving on. Activities 3 (10 minutes), 4 (15 minutes), and 5 (15 minutes) were identical to the teachings taught to the traditional group during the corresponding activities. The members of the cognitive group performed the two productive tasks and the controlled practise exactly the same. These actions were supported by the social theory and communication theory foundation provided by CL. After the learning process, the participants were given the opportunity to complete the useful tasks to facilitate their language use.

In conclusion, teacher instruction was the primary distinction between the conventional treatment and the CL-based treatment. In contrast to the old approach,

which taught spatial and metaphorical meanings separately, the CL-based approach connected these two types of meaning through the use of picture schemas.

3.6   Data Analysis

The data collected from the testing instruments is input into Excel system for statistical computation. The analysis focuses on changes of both groups in their knowledge of the preposition meaning. The investigation focused on the differences in both groups' understanding of the prepositional semantics. The difference in scores between the two groups from the pretest to the post-test was compared using both the overall mean score and the mean score for each category of meaning. It could be challenging to quantify how a pedagogical application affects language development in learners. The pretest and post-test also show the researcher's own variables, despite her attempts to modify unrelated variables. In this study, in addition to other steps to assure the test reliability and validity, the two groups' score variations across sections from the pretest to the post-test were also analyzed in order to minimize the potential impacts of the tests. However, it is difficult is measure the impacts of the pedagogical application on students' language development.

3.7   Research Reliability and Validity

Research reliability and validity are two important concerns. It is not easy to present these two areas individually because they both depend on the instruments and procedures applied in research. Research reliability and validity are mostly measured by presenting the instrument procedure and how the present study process.

The testing tools and questionnaires were first updated by the after the pilot trial, the researcher. The changes were performed in accordance with the input from participants and proofreaders. The instruments were altered so that they would fit levels, be linguistically acceptable, and provide enough hints to those taking the test. When the surveys were used, they were described to the in Vietnamese to reduce the chance of misunderstanding. Additionally, the participants were made aware of the

significance and privacy of their responses. The participant responses from the survey were used by the researcher in the to validate and analyse their spoken responses to a questionnaire. The analysis of the various data kinds were taken into account to reduce the researcher's influence and to ensure the accuracy of the information gathered.

Second, a number of variables that might be related to experimental study were looked into. A checklist of participants' attendance was employed to investigate subject attrition. Given that the study only lasted four weeks and that all of the participants were first-year college students, the drop-out rate was not a major concern. Additionally, data triangulation allowed the researcher to acquire several sorts of data from the participants, which increased validity and reduced bias.

CHAPTER 4. FINDINGS AND DISCUSSION

This chapter mostly discusses the results of the main study in two major parts.

In the first major part, the effects of the two kinds of treatment, called traditional treatment and cognitive treatment, on the students' performances on the written forms designed to investigate their perception of the spatial preposition meanings of on, in and at. This is divided into two subsections. The first subsection shows and discusses the students' results of the whole tests and the changes of their scores from the pretest to the post-test. The second subsection demonstrates a breakdown of the variability of each student's scores.

4.1 Spatial Conceptualization through IN, ON and AT and Vietnamese Equivalent Expressions (Statistics from Literature)

4.1.1 Spatial Conceptualization through IN and Vietnamese Equivalent Expressions

Spatial Concept	English expression	Vietnamese expression equivalents		
		Vietnamese expression	Number of samples	Percentage
	in	ở	30	35.7%
		trong	27	32.14%
		-	12	14.29%
		trên	3	3.57%
		khác (others)	12	14.3%
Total	**01**		**84**	**100%**

Table 4.1: English Spatial Concept "IN" and Vietnamese Equivalents

4.1.2 *Spatial Conceptualization through ON and Vietnamese Equivalent Expressions*

Spatial Concept	English expression	Vietnamese expression equivalents		
		Vietnamese expression	Number of samples	Percentage
	on	trên	29	43.28%
		-	14	20.9%
		lên	8	11.94%
		ở	8	11.94%
		khác (others)	8	11.94%
Total	01		67	100%

Table 4.2: English Spatial Concept "ON" and Vietnamese Equivalents

4.1.3 *Spatial Conceptualization through ON and Vietnamese Equivalent Expressions*

Spatial Concept	English expression	Vietnamese expression equivalents		
		Vietnamese expression	Number of samples	Percentage
	at	ở	21	43.43%
		-	12	19.67%
		tại	6	9.84%
		bên	4	6.56%
		khác (others)	18	20.5%
Total	01		61	100%

Table 4.3: English Spatial Concept "AT" and Vietnamese Equivalents

The method of expressing an idea expressed in English has many different expressions in Vietnamese. In other words, Vietnamese people shape space in many different ways. It can be seen that it is necessary to teach language according to the concept, based on how to conceptualize the space of the language-using community.

4.2 The Result of the Pretest and Post-test in Spatial Meanings in Phan Chu Trinh High School

4.2.1 Students' Perception of Spatial Prepositions in Pretest

	Q1	Q2.1	Q2.2	Q3	Q4.1	Q4.2	Q5.1	Q5.2	Q6	Q7	Q8	Q9	Q10
1	in - trên	on - lên	in - trong	at - đến	in - vào	at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
2	in - trên	on - trên	in -	at - lên	in - vào	at - ở	in - trong	on - trên	trên - in	ngoài - in	dưới - in	xuống - into	ở dưới - on
3	in - trên		in - trong		in - vào	at - chỗ	in - trong	on - xuống	trên - in	ngoài - in	dưới - in	xuống - on	
4	in - trên	on - lên	in - trong	at - trên		at -	in -		trên - in	ngoài - out			ở dưới - at
5	in - trên	in -		at - đến	in - vào	at - ở	in -	on - trên	trên - on	ngoài - in	dưới - at	xuống - down	ở dưới - on
6	in - trên	on - bên		at - lên		at -		on - trên	trên - on	ngoài - out	dưới - at	xuống - to	
7			in - trong			at - tại	in - trong		trên - on	ngoài - in		xuống - in	ở dưới - below
8	in - trên		in - trong		in - trong	at - ở	in - trong		trên - on	ngoài - in		xuống - to	
9		on - trên	in - trong	at - lên		at - ở	in -	on - xuống	trên - on	ngoài - outside	dưới - in	xuống - to	ở dưới - on
10	in -		in - trong		in - trong	at - tại		on - xuống	trên - in	ngoài - beside			
11		on - bên	in - trong	at - tại		at - chỗ	in - trong	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
12			in - trong			at - tại		on - trên	trên - on	ngoài - in			ở dưới - at
13	in - trên	on - lên	in - trong	at -		at - ở			trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - under
14			in - trong		in - vào		in - trong	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - under
15	in - trên	on - trên	in -	at - đến	in - trong		in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - down	ở dưới - under
16	in - trên	on - trên	in - trong	at - lên	in - trong	at - ở	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - under
17	in - trên			at - lên	in - trong		in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - under
18	in - trên		in - trong	at - lên	in - trong	at -	in -	on - trên	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - under
19		on - lên	in -	at - lên	in - vào		in - trong	on - trên	trên - on	ngoài - in		xuống - to	ở dưới - under
20	in - trên		in - trong	at - lên					trên - on	ngoài - outside	dưới - under	xuống - to	ở dưới - under
21	in - trên	on - lên	in - trong	at - đến	in - trong	at - chỗ	in -	on - xuống	trên - in	ngoài - in	dưới - under	xuống - to	ở dưới - under
22		on - trên	in - trong			at -		on - xuống	trên - on	ngoài - in		xuống - on	
23	in - trên		in - trong	at - lên	in - trong	at - ở		on - xuống	trên - on	ngoài - out	dưới - under	xuống - to	ở dưới - under
24		on - lên	in - trong				in - trong	on - xuống	trên - on	ngoài - on	dưới - at	xuống - to	
25	in - trên		in - trong		in - vào				trên - in	ngoài - in	dưới - at	xuống - to	
26	in - trên		in -	at - lên	in - vào	at - ở	in -		trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
27	in - trên		in - trong	at - trên				on - xuống	trên - in	ngoài - beside			ở dưới - under
28		on - lên	in - trong			at - tại		on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	
29		on - bên	in -	at - lên	in - vào	at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
30	in - trên	on - trên	in - trong			at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	
31	in -					at - tại			trên - at	ngoài - in	dưới - down		ở dưới - down
32		on - lên		at - đến	in - vào	at - tại	in - trong	on - xuống	trên - on	ngoài - in			ở dưới - below
33		on - lên				at - tại	in -		trên - in	ngoài - at	dưới - at	xuống - into	
34		on - lên	in - trong	at - tại		at - chỗ	in -		trên - in	ngoài - in	dưới - at	xuống - to	ở dưới - on
35	in - trên	on - lên	in - trong		in - vào	at -	in -	on - xuống	trên - on	ngoài - outside	dưới - at	xuống - to	ở dưới - on
36	in - trên	on - lên	in - trong	at - lên		at - ở		on - xuống	trên - on	ngoài - outside			
37	in - trên	on - lên	in - trong	at - đến	in - trong	at -		on - xuống	trên - on	ngoài - in	dưới - down	xuống - on	ở dưới - at
38		on - lên	in - trong	at - lên	in - vào	at - ở	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
39		on - lên				at - ở			trên - at	ngoài - in		xuống - to	
40			in - ở				in -		trên - on	ngoài - at			ở dưới - down
41		on - lên			in - trong	at - tại			trên - in	ngoài - out			ở dưới - down
42			in -			at - chỗ			trên - on	ngoài - out			
43	in - trên		in -	at - lên	in - vào	at - tại	in -		trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
44						at - ở		on - trên	trên - on	ngoài - out			
45			in - trên			at -		on - xuống	trên - on	ngoài - on	dưới - at	xuống - to	
46	in - trên	on - bên	in - trong	at - đến	in - trong		in -	on - trên	trên - on	ngoài - in	dưới - under	xuống - down	ở dưới - under
47	in - trên		in - trong	at - đến	in - trong		in - trong	on - xuống	trên - on	ngoài - outside	dưới - under	xuống - down	ở dưới - on
48			in - trong	at - tới		at - ở		on - trên	trên - in	ngoài - on	dưới - under		ở dưới - in
49		on - lên	in - trong					on - trên	trên - on		dưới - at	xuống - to	ở dưới - in
50	in -	on - lên					in -	on - xuống	trên - in	ngoài - at			ở dưới - in
51	in - trên	on - lên	in - trên	at - đến		at - ở	in -	on - xuống	trên - on	ngoài - on	dưới - under		ở dưới - in
52		on - lên				at - ở		on - trên		ngoài - in			
53						at - ở		on - xuống	trên - on	ngoài - in	dưới - at		ở dưới - on
54			in - trong			at - ở		on - xuống	trên - on	ngoài - in		xuống - in	ở dưới - at
55			in - trong	at - lên		at - tại	in -	on - xuống	trên - on	ngoài - in			ở dưới - down
56			in - trong	at - lên		at - tại	in -		trên - on	ngoài - outside	dưới -	xuống - to	ở dưới - at
57						at - ở	in -		trên - on	ngoài - outside		xuống - to	
58		on - trên	in - trên	at - lên		at - tại	in -	on - xuống	trên - in				
59		on - lên	in - trong			at - ở	in - trong		trên - in	ngoài - in	dưới - at	xuống - to	ở dưới - in
60	in - trên	on - trên	in - trong	at - lên	in - vào	at - ở	in -	on - xuống	trên - in	ngoài - in	dưới - at	xuống - to	ở dưới - down
61	in - trên	on - trên	in - trong	at - lên	in - vào	at - ở	in - trong		trên - in	ngoài - at	dưới - at	xuống - to	ở dưới - at
62						at - tại		on - xuống		ngoài - at			
63		on - lên				at - ở	in - trong	on - xuống	trên - on	ngoài - beside			
64	in - trên		in - trong			at - ở		on - xuống					
65			in - trong	at - đến			in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
66	in - trên	on - lên	in - trong	at - đến	in - vào	at - ở	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
67	in - trên		in - trong	at - đến					trên - in	ngoài - outside			
68				at - đến		at - ở		on - xuống					
69	in - trên		in - trên	at - đến	in - vào	at - ở	in -		trên - on	ngoài - beside	dưới - at		ở dưới - down
70			at - đến	in - trong			on - xuống		ngoài - on	dưới - at	xuống - to	
71	in - trên	on - trên		at - đến	in - trên	at - ở			ngoài - out	dưới - at		
72		on - lên		at - đến		at - ở		on - xuống		ngoài - in	dưới - at	xuống - into	
73					in - vào	at - ở				ngoài - in	dưới - at		
74	in - trên		in - trong	at - lên					trên - on	ngoài - in	dưới - at	xuống - down	ở dưới - on
75			in - trong	at - tại	in - vào			on - trên	trên - on	ngoài - in	dưới - down	xuống - down	
76	in - trên	on - bên	in -	at - lên	in - vào	at - ở	in -	on - trên	trên - on	ngoài - in	dưới - at	xuống - of	
77		on - lên	in -			at - ở	in -		trên - on	ngoài - outside		xuống - to	
78	in - trên	on - lên	in - trong	at - lên	in - vào	at - ở	in -	on - trên	trên - in	ngoài - in	dưới - at	xuống - to	ở dưới - on
79	in - trên	on - lên	in - trong	at - lên	in - vào	at - ở	in -		trên - in				
80	in - trên	on - lên	in - trong	at - lên	in - vào			on - trên		ngoài - in	dưới - at	xuống - to	ở dưới - on
81		on - lên				at - ở		on - xuống		ngoài - in	dưới - under		
82	in - trên	on - lên						on - xuống		ngoài - in			
83	in -									ngoài - in			
84	in - trên	on - bên	in - trong	at - lên	in - vào	at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
85	in - trên		in - trong	at - trên	in - vào	at - tại			trên - on	ngoài - at			ở dưới - at
86	in - trên		in - trong	at - lên		at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - down	
87	in - trên	on - lên	in - ở	at - đến		at - ở			trên - on	ngoài - in	dưới - in	xuống - in	ở dưới - in
88	in - trên		in - trong	at - lên	in - vào	at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
89	in - trên		in - trong	at - lên	in - trong	at - tại	in -	on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
90		on - bên	in - trong		in - trong	at -			trên - in	ngoài - outside		xuống - to	
91	in - trên		in -	at - lên	in - vào			on - xuống	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
92	in - trên	on - bên	in - trong	at - lên				on - xuống	trên - on	ngoài - outside			ở dưới - on
93	in - trên	on - bên	in -	at - đến	in - trong	at - tại		on - trên	trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - on
94			in -			at - chỗ	in -	on - xuống	trên - on	ngoài - in	dưới - at		ở dưới - below
95	in - trên	on - bên	in - trong		in - trong	at - tại			trên - on	ngoài - outside		xuống - to	ở dưới - down
96	in - trên	on - lên	in - trong	at - lên	in - vào	at - tại	in -	on - xuống	trên - in	ngoài - outside	dưới -	xuống - under	ở dưới - at
97	in - trên	on - lên	in - trong	at - lên	in - trên					ngoài - out		xuống - into	ở dưới - at
98	in - trên	on - lên	in - trong	at - lên	in - trên		in -	on - xuống		ngoài - in	dưới - at	xuống - into	ở dưới - at
99	in - trên	on - lên	in - trong	at - đến		at - tại	in -		trên - on	ngoài - in	dưới - at	xuống - to	ở dưới - down
100		on - lên	in - trong	at -	in - vào	at - tại	in -	on - xuống		ngoài - in	dưới - to	xuống - to	ở dưới - down

4.2.2 Students' Scores of Spatial Prepositions Knowledge in Pretest

	Core levels	Number of students	Percentage
	0	02	2%
	1	04	4%
	2	10	10%
	3	23	23%
	4	24	24%
	5	20	20%
	6	14	14%
	7	3	3%
	8	0	0%
	9	0	0%
	10	0	0%
Total		**100**	**100%**

Table 4.4: Students' Scores of Spatial Prepositions Knowledge in Pretest

4.2.3 The result of Post-test

4.2.3.1 Students' Scores of Spatial Presentations in Post-tests

	Q1	Q2.1	Q2.2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - on	trên	trên	trên	ngoài
2		in - vào	in - vào				trên - in	trên - in	trên - in	trên - in	
3							trên - in	trên - in		trên - in	
4	on - xuống	in - vào	in - vào	at -				trên - in	trên - on		
5	on - xuống	in - vào	in - vào		on - trên			trên - in	trên - on		
6	on - dưới	in - vào	in - vào		on - trên	at - ở					
7	on - trên	in - vào	in - vào		on - trên	at - ở		trên - on	trên - on		
8	on - dưới	in - vào	in - vào		on - trên	at - ở			trên - on		
9	on - trên	in - vào	in - vào	at -	on - trên	at - tại	trên - in	trên - in	trên - on	trên - above	ngoài - in
10	on - trên	in - vào		at -	on - trên	at - tại	trên - in	trên - in	trên - on		
11	on - trên	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
12		in - vào	in - vào	at -	on - trên		trên - in	trên - in	trên - in	trên - in	ngoài - on
13	on - xuống	in - vào	in - vào	at -	on - trên		trên - in	trên - on	trên - on	trên - in	ngoài - in
14	on - va	in - vào	in - vào	at - vào	on - trên	at - ở		trên - in	trên - on	trên - in	
15									trên - on	trên - in	
16	on -	in - lên	in - lên	at -		at - ở			trên - at		
17		in - trong		at -		at - ở		trên - in	trên - on		
18		in - vào	in - vào	at -	on - trên	at - ở	trên - on	trên - on	trên - on	trên - in	ngoài - in
19	on - xuống	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
20	on - xuống	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
21	on - xuống	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
22	on - xuống	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
23	on - trên	in - vào	in - vào	at - vào	on - vào	at - ở			trên - on		
24	on - trên	in - vào	in - vào		on - vào	at - ở					ngoài - in
25	on - trên	in - vào	in - vào		on - vào	at - ở					ngoài - out
26	on - dưới	in - từ	in - từ	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
27	on - lên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
28	on - trên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
29	on - trên	in - vào	in - vào	at - với	on - trên	at - ở			trên - in		ngoài - in
30	on - xuống	in - vào	in - vào	at -	on - trên	at - ở					
31	on - xuống	in - vào	in - vào	at -	on - dưới	at - ở	trên - in		trên - on		
32	on - trên	in - vào	in - vào	at -	on - trên	at - ở	trên - in		trên - on		
33	on - xuống	in - vào		at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
34	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
35	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
36	on - xuống	in - vào		at -							
37	on - trên	in - vào	in - vào		on - trên	at - ngay		trên - in	trên - on		
38	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
39	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - on
40	on - xuống	in - vào	in - vào	at - vào	on - trên	at - tại	trên - in	trên - in	trên - on	trên - in	ngoài - in
41	on - trên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
42	on - trên	in - vào	in - vào		on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
43	on - xuống	in - vào		at -	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
44	on - trên	in - vào	in - vào		on - trên	at - ngay		trên - in	trên - on		
45	on - trên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
46	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - on	trên - in	trên - on	trên - in	ngoài - in
47	on - trên	in - vào	in - vào								
48		in - vào	in - vào	at - vào	on - trên		trên - in	trên - in	trên - in	trên - in	ngoài - in
49	on - xuống	in - vào	in - trong	at -	on - trên	at - trước	trên - in	trên - on	trên - on	trên - in	
50	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in			
51	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
52	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - on	trên - in	trên - in	ngoài - in
53	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - on	trên - in	trên - in	ngoài - in
54	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - on	trên - in	trên - in	ngoài - in
55	on - xuống	in - vào	in - vào	at -	on - trên		trên - in	trên - in	trên - on		
56	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - on	trên - in	trên - in	ngoài - in
57	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
58	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
59	on - xuống	in - vào	in - vào	at - vào	on - trên		trên - in	trên - in	trên - on	trên - in	ngoài - in
60	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
61	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - on	trên - on	trên - in	trên - in	ngoài - in
62	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
63	on - dưới	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
64	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
65	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - on	ngoài - in
66	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - on	ngoài - in
67	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
68	on - xuống	in - vào	in - trong	at - vào	on - trên	at - ở					
69	on - trên	in - vào	in - trong	at - vào	on - trên	at - trước	trên - in	trên - in	trên - in	trên - in	ngoài - on
70	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
71	on - xuống	in - vào	in - vào	at -	on - trên		trên - in	trên - in	trên - in		
72	on - xuống	in - vào	in - vào	at -	on - trên	at - ở	trên - in	trên - in	trên - in		
73	on - xuống	in - vào	in - vào	at -	on - trên				trên - on		
74	on - xuống	in - vào	in - vào	at -	on - trên	at - trước	trên - in	trên - on	trên - on	trên - in	
75	on - trên	in - vô	in - vô	at - vào	on - trên	at - ở					
76	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
77	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - on
78	on - xuống	in - vào	in - vào	at - vào	on - trên	at - tại	trên - in	trên - in	trên - on	trên - in	ngoài - in
79	on - trên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
80	on - trên	in - vào	in - vào		on - trên						
81	on - xuống	in - vào		at -							
82	on - trên	in - vào	in - vào		on - trên	at - ngay		trên - in	trên - on		
83	on - trên	in - vào	in - vào								
84		in - vào	in - vào	at - vào	on - trên		trên - in	trên - in	trên - in	trên - in	ngoài - in
85	on - xuống	in - vào	in - trong	at -	on - trên	at - trước	trên - in	trên - on	trên - on	trên - in	
86	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in			
87	on - trên	in - vào	in - vào	at - vào	on - trên	at - tại	trên - on	trên - on	trên - on	trên - in	ngoài - in
88	on - xuống	in - vào	in - vào	at - vào	on - trên	at -	trên - in	trên - in	trên - in		
89	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - in	trên - in	ngoài - in
90	on - trên	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in	trên - on	trên - in	ngoài - in
91	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - on	trên - in	trên - on	trên - in	ngoài - in
92	on - trên	in - vô	in - vô	at -							
93	on - xuống	in - vào	in - vào		on - trên	at - ngay		trên - in	trên - on		
94	on - xuống	in - vào		at -							
95	on - trên	in - vào	in - vào		on - trên	at - ngay		trên - in	trên - on		
96	on - trên	in - vào	in - vào								
97		in - vào	in - vào	at - vào	on - trên		trên - in	trên - in	trên - in	trên - in	ngoài - in
98	on - xuống	in - vào	in - trong	at -	on - trên	at - trước	trên - in	trên - on	trên - on	trên - in	
99	on - xuống	in - vào	in - vào	at - vào	on - trên	at - ở	trên - in	trên - in			
100	on - trên	in - vào	in - vào	at - vào	on - trên	at - tại	trên - on	trên - on	trên - on	trên - in	ngoài - in

4.2.3.2 Test Scores after Receiving Two Treatment

Core	0	1	2	3	4	5	6	7	8	9	10
Cognitive Approach	0	0	0	1	1	11	13	15	9	0	0
Trational Approach	0	1	1	4	13	11	15	4	1	0	0

Table 4.5: Test Scores after Receiving Two Treatment

4.2.3.3 The Comparison between Students' Pretest Scores and Post-test Scores

It is important to examine the results of the pretest and post-test for the two groups. Overall, the cognitive group (CG) greatly outperformed the traditional group (TG) in the post-test, despite the fact that both groups had scored almost similarly on the pretest. For example, in the pretest, the TG and CG both received average core of 3.80 and 4.08. However, from the pretest to the post-test, the cognitive group's total average score increased by 2.54, whereas the traditional group's total average score increased by just 0.08 points. More specifically, the average score for the cognitive group and the traditional group, respectively, were 6.34 and 4.96. This indicates that participants of the cognitive group improved overall more than their counterparts.
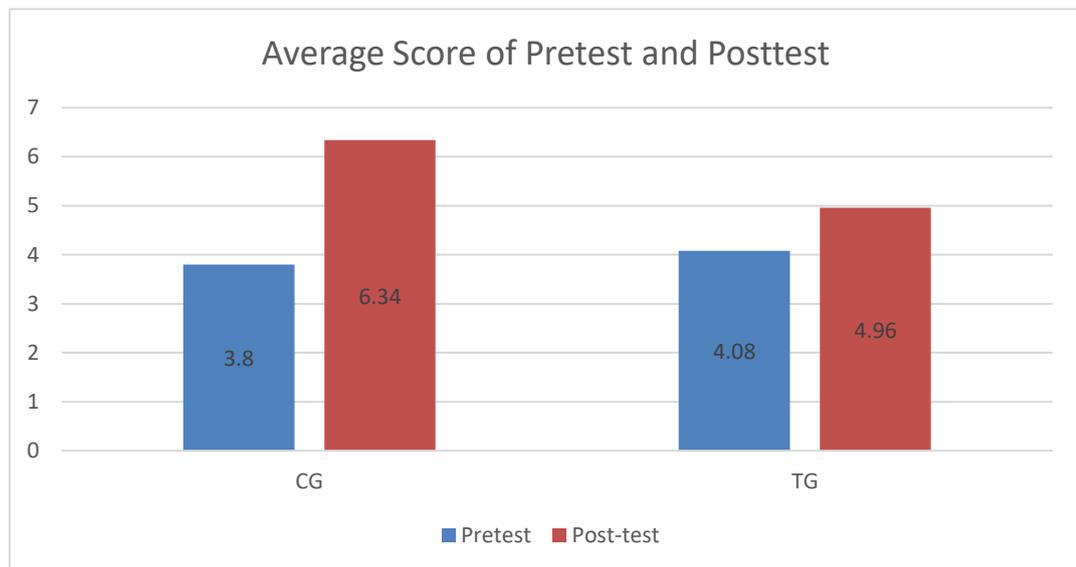
Figure 4.1: The average score of Traditional Group and Cognitive Group

4.2.3.4 The Comparison between Pretest and Post-test Scores from Cognitive Group

Within 2 months, the researcher did the survey to collect the input data of Phan Chu Trinh high school, and then conducted applying a new method from cognitive approach to instruct students how to learn spatial prepositions, especially *in, on* and *at*. It can be seen clearly from the below table, 50 students from CG gained the scores which are higher than previous ones. They didn't commit common errors like sky orientation, how positioning is expressed in two languages; or there are differences in spatial cognition. However, they were not correct in total due to some reasons. These are their carelessness, misunderstanding the context, or inattention. But the good signal is that the distance between the pretest and post-test line is quite far, it is not nearly the distance from TG students (see at Figure 3.3).
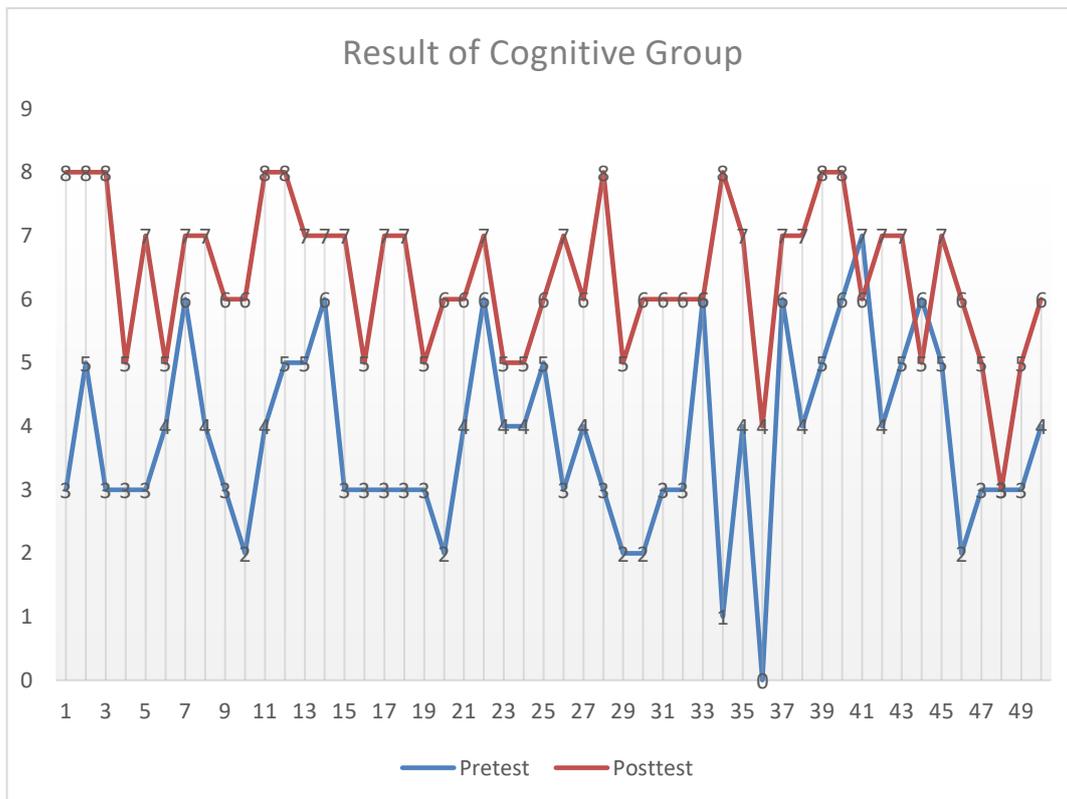
Figure 4.2: Scores of Pretest and Post-test from Cognitive Group

In TG, the beginning of average score was higher CG, however, during 2 months when they received the same teaching method of spatial prepositions while their counterparts received the new approach (cognitive approach), their results showed worse status. This can be presented obviously through distance between the pretest and post-test line; it was closer than the distance in cognitive group.
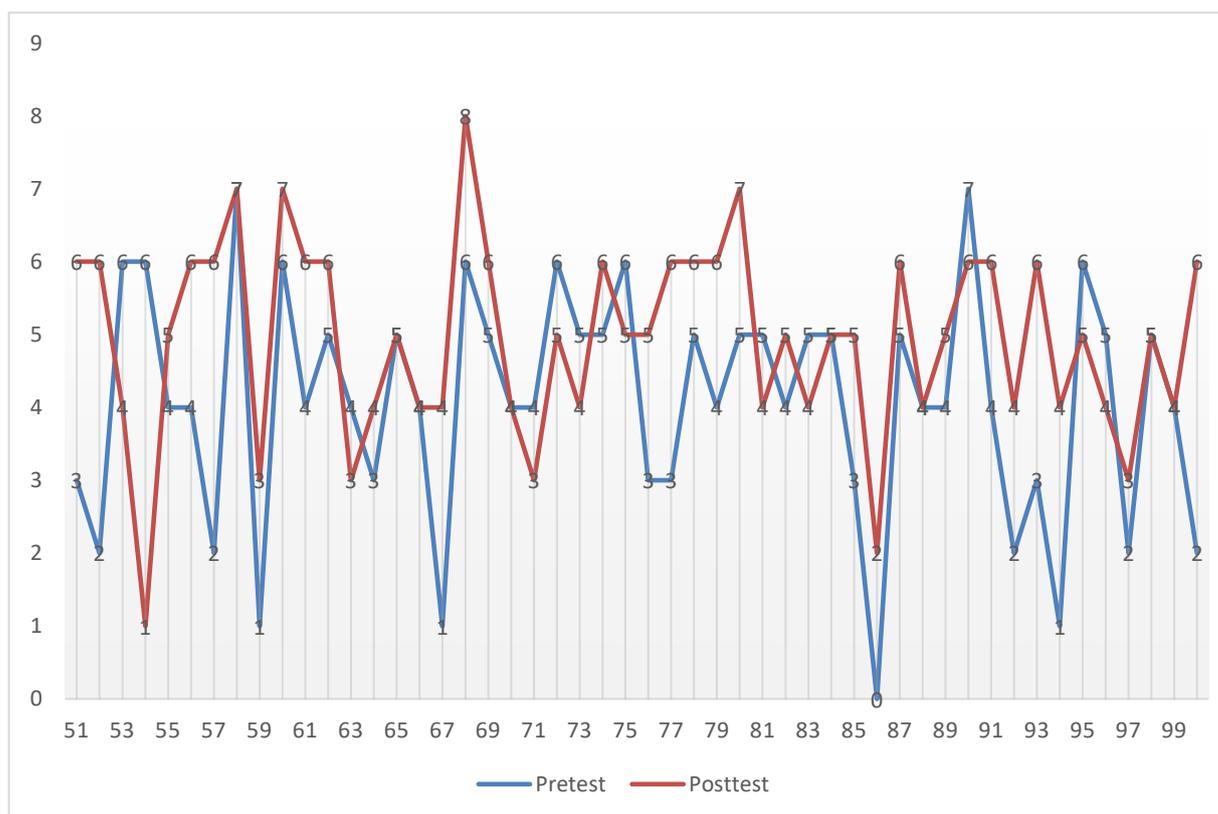
Figure 4.3: Scores of Pretest and Post-test from Traditional Group

4.3   Discussion

The core difference in the two treatments was in the instruction which reflected the basic concepts in cognitive linguistics applied in this report and traditional treatment descriptions. In other words, cognitive group's and traditional group's score improvements were mainly adjusted to applying the pedagogical cognitive linguistics and traditional pedagogical method.

Firstly, it is clear from the analysis of the scores of the cognitive group mentioned above that there was a statistical difference between their scores on the pretest and post-test, and that they outperformed the traditional group in the post-test. It should be noted that the treatment given to the students was very brief for such a complicated topic as the semantics of English prepositions. It should be mentioned that the scores of the traditional group did not change statistically significantly over time. Second, as opposed to the traditional group, the cognitive group had significant growth in terms of their understanding and recall of the semantics of the prepositions over time, as seen by the increases in their scores. The mean scores for the spatial specifically increased in the cognitive group by 6.34 while only rising by 4.96 in the traditional group. That means, the cognitive group improved more significantly in their knowledge than the traditional group. It's interesting to note that the students in the cognitive group performed better on the posttest after receiving the CL-based treatment.

4.3.1 The Causes for Written Errors of Spatial Representation in English Preposition

4.3.1.1 The Causes for Written Errors of Spatial Representation in English Preposition "IN"

First language interference can also be a significant cause of written errors of spatial representation in English prepositions for Vietnamese speakers. In Vietnamese, prepositions are often used differently from how they are used in English. Vietnamese words which are equivalent to English prepositions also tend to be more flexible and context-dependent, which can lead to confusion for Vietnamese learners of English.

For example, the Vietnamese word "trong" is commonly used to indicate location or position, which can lead to errors in using "in" or "on" in English. Two tables below are showing perception of students about the preposition "in" in

Vietnamese equivalents and the phrase "trên cây" which is aimed for investigating what preposition students want to use to express.

	Phrases	Vietnamese Equivalents	Percentage
in	in the sky	trên	52%
		no expression	4%
		no answer	44%

100%

Table 4.6: Students' Perception about the Phrase "in the sky"

In the table…, over a half of students (52% students) used the words *"trên" trời* to express the phrase " in the sky".
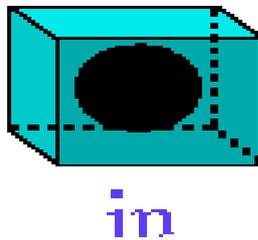
Figure 4.4: Proto-scence of Preposition IN

First of all, we consider this proto-scence below it is the physical-spatio geometric conceptualization of "in". It is a CONTAINMENT image schema. It shows that one entity interferes or partly interferes into the internal part of another entity.

The spatial configuration points the figure within some bounded landmark of container. Some bounded landmark is easy to see and understand. For example, in the sentence "The apple is in the box.", the speaker can easily see the box as a

5

container. However, in other cases, the bounded landmark is just imaginary or conceptualized in the speaker's mind. Similar conceptual process happens when we imagine that the sky is a dense space and is limited by an imaginary contour, which shapes the boundary of the globe. Hence, the position of the sky is inside that enclosed space. Compare the following "same" locative expressions in English and Vietnamese:

- They were fancy on coming across colorful balloons **in** the sky. (*From the question 1 in the pre-test*)

- Họ thích thú khi bắt gặp những quả bóng đầy màu sắc **trên** bầu trời.

The location situation is described in these sentences in various ways. It is assumed that native English speakers "see" the sky as a space bounded by limits or a volume (in terms of length, width, and height or depth) when describing the position of the colorful balloons with "in" in English. It implies that speakers have to see a geometric shape, map it to the reference item, and then select an appropriate locative position. However, there is another expression in Vietnamese. To specify the position of colorful balloons, they have to recognize the spatial relation among the colorful balloons and the sky and the observer to choose a locative preposition.

According to Ly Toan Thang (1993, 2005), we have two versions of interpretation. i) The colorful balloons are viewed as spatial objects in the terms of their interactions with human beings, their position relative to the sky as viewed by them: it is over them. ii) The sky is viewed as a spatial part of a whole - our world, the sky and the ground are conceived as the top - bottom (or up - down) parts of the world. This spatial relation really exists in the mind of Vietnamese people, and it is evident in the use of the word "trên".

Another example, the water of the river is conceptualized as a dense space and enclosed by the river bank. Thus, the speaker observes the river as a container and the children are getting into it to swim. Though the speaker cannot see the bounded mark directly, he can imagine the contour line in his spatial scene mapping. With the same view of geometrical conceptualization, English speakers perceive the part made up by the branches and the leaves as a 3-D dense space and there is an imaginary contour around that dense space as bounded landmark (Herskovits, 1988).

In the sentence "My daughter is in the bed with toys.", the conceptualization of "in" only happens in case of expressing the spatial relation of the human beings or animate objects that sleep (figure) and the bed (ground). That's why English people say "A book is put on your bed.", not "in your bed". As for people or animate objects, "in bed" means "inside" the imaginary bounded area of the bedding environment and cover oneself with covers or blankets. And in the sentence "My husband is waiting for me in the car.", the speaker conceptualizes this spatial scene with the involvement of a containment function. It means that the consequences of this spatial relation include limiting or constraining the activities of the contained entity. For example, being contained in the car prevents the man from walking or standing. Whereas on the bus or on the plane, he can walk or stand freely. That's why English speakers say "in a car" or "in a taxi".

Another one comes from the human's perceptual experience in the way people use those means of transportation. People must stand up and get onto the platform of the bus or the plane, whereas they must back down to get into the car or the taxi.

Another interpretation can be made from real perceptual experience. A speaker may not see the monkey when it stands on a branch of the tree because the upper part of the tree is too dense with leaves and branches, so he has the feeling that the bird is contained in that part of the tree. Thus, the position of a bird is perceived as an object inside that dense space: "The monkey is in the tree."

imaginary
bounded landmark

internal space
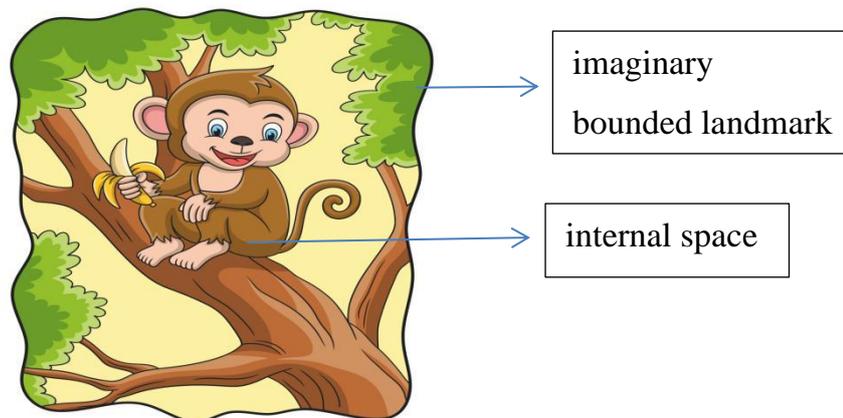
Figure 4.5: Illustration Figure for the Phrase "trên cây"

	Phrases	**English Equivalents**	**Percentage**
trên	trên cây	on	59%
		in	25%
		at	2%
		no answer	14%

100%

Table 4.7: Students' Perception about the Phrase "trên cây"

It can be seen that 59% students chose the preposition "on" to express the phrase "trên cây". Only 25% students (1/4) are correct, 75% students are incorrect. This statistics can be understood that different ways of conceptualization processes or construal operations lead to errors of spatial representation in English prepositions of students.

And the figure below shows the percentage of students' correct answers about the preposition "IN". Most of them frequently commit errors of spatial prepositions,

main causes are from first language interference, perception or cognition of space or lack of explicit instruction.
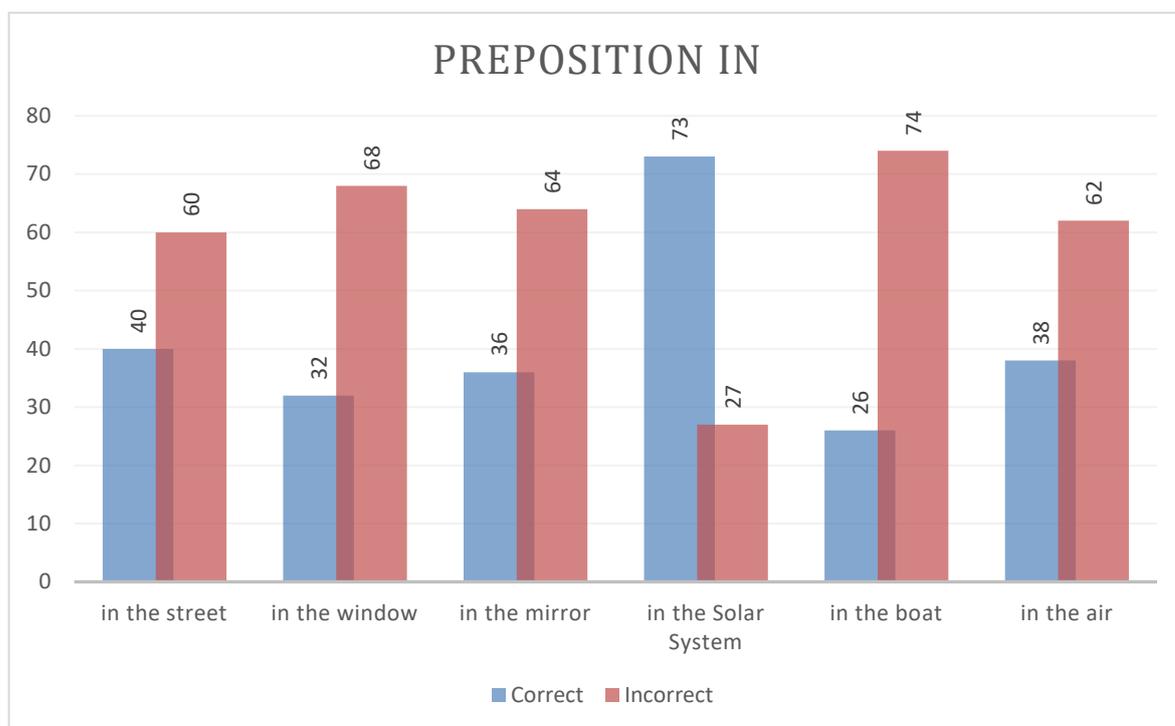
Figure 4.6: Percentage of Students' Answers about the Preposition IN

4.3.1.2 The Causes for Written Errors of Spatial Representation in English Preposition "ON"

Cognitive and perceptual factors can also be causes of written errors of spatial representation in English prepositions for Phan Chu Trinh high school students in particular, for Vietnamese learners in general. These following factors are included.

The differences in process of conceptual integration: Vietnamese and English differ in how they process spatial relationships. Vietnamese language users tend to use landmark-based reference frames, while English language users rely more on egocentric, observer-based reference frames. This difference in cognitive processing can lead to errors in understanding and using prepositions in English.

Vietnamese language users often use landmark-based reference frames to describe spatial relationships between objects or locations. This means that they use reference points, such as buildings, trees, or other landmarks, to indicate the position or direction of an object or location rather than using cardinal directions (north, south, east, west). For example, instead of saying "the store is two blocks east of here," a Vietnamese speaker might say "the store is next to the park, opposite the post office." Landmark-based reference frames are common in many languages, but they are especially prominent in Vietnamese. This preference for landmark-based reference frames is thought to be influenced by Vietnam's geography and urbanization, as well as cultural values emphasizing relationships and social connections. Vietnam is a densely populated country with many urban areas, so there are many landmarks that can be used for navigation. In Vietnam, factors such as urbanization and a lack of standardized street addresses may make it more practical to use landmarks for location descriptions.

Additionally, Vietnamese culture places a strong emphasis on relationships and social hierarchy, which may contribute to the importance of using landmarks as reference points. In Vietnamese culture, there is a strong emphasis on family and social relationships. Family members are expected to be loyal and respectful to one another, and there is a deep respect for elders and those in positions of authority. This respect for social hierarchy extends beyond the family to other relationships and interactions. When giving directions or describing locations, Vietnamese speakers may use landmarks as reference points to indicate social relationships or hierarchy. For example, a person might say "the store next to the bank where my friend works" or "the restaurant across from the government office." By using landmarks that are associated with social relationships or positions of authority, the speaker is able to convey important cultural values and social connections through language. In addition, using landmarks that are easily recognizable to both parties can help build rapport and trust, further reinforcing the importance of relationships in Vietnamese culture.

According to Evans (2010), two primary categories of spatial cognitive reference frames are humans and other species. These are egocentric representations and allocentric representations. The distinguishing characteristic of egocentric "maps" is that they show spatial objects in relation to the organism or a part of it, such as the organism's hand, body, or head. As regions of space are organized with respect to the organism, spatial maps of this kind are termed egocentric representations. Besides the second type of spatial representation is allocentric (or other-focused) in nature. These representations integrate information derived from the egocentric spatial representations. To make more comprehensible, egocentric representation encodes the object's position relative to one's body (object-to-self relation), such as "the toy is on my left"; while allocentric representation encodes a location with respect to external environment (object-to-object relation), such as "the toy is beside the desk".

Vietnamese and English speakers may also have different perceptual experiences of space, which can lead to errors in using prepositions to describe spatial relationships in English. Vietnamese speakers may have different spatial perception than English speakers. For instance, Vietnamese language has a rich system of spatial terms that English may not have, such as words that describe the direction of motion. This difference in spatial perception can also lead to errors when Vietnamese learners of English try to use English prepositions to describe spatial relations.

	Phrases	**English Equivalents**	**Percentage**
ở dưới	ở dưới lầu 2	on	17%
		down	16%
		under	12%
		at	10%

		in	6%
		below	3%
		no answer	36%
			100%

Table 4.8: Students' Perception about the Phrase "ở dưới lầu 2"

Phan Chu Trinh high school students may also make errors when trying to translate prepositions directly from Vietnamese to English, which can result in incorrect or awkward usage. From this table, the author see that only 17% students translate "Cô hiệu trưởng đang ở dưới lầu 2" (meaning "The principal is on the second floor") to "The principal is on the second floor", the rest is 83% who use "down, under, at, in, below - or no answer" for phrase "ở dưới lầu 2". It is not a correct way to express the same idea in English. Among them, 16 students use "down", 12 students use "under", 10 students use "at", 6 students use "in", 3 students use "below" and 36 students don't give any answers. The statement "Cô hiệu trưởng đang ở dưới lầu 2" in Vietnamese translates to "The principal is on the second floor." in English. In English, the sentence uses a cardinal direction (up or down) to describe the location of the principal, rather than a landmark-based reference frame as in Vietnamese. To specify that where the principal is, the number of the floor is used as a modifier for the noun "floor", which follows the preposition "on". So, the sentence in English would be: "The principal is on the second floor." Vietnamese speakers may use the phrases "ở dưới lầu 2" (literally "under the second floor") or "ở trên lầu 2" (literally "on top of the second floor") to describe the location of an object or person, whereas English speakers may use the phrase "on the second floor" to describe a similar location. Like this case, the students used "down/under/below/… the second floor" to express the phrase "ở dưới lầu 2".

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Vietnamese people also focus on the real physical contact to talk about spatial relation between the figure and the ground.

	Phrases	Vietnamese Equivalents	Percentage
on	on the floor	xuống	49%
		trên	17%
		no answer	34%
			100%

	Phrases	English Equivalents	Percentage
xuống	xuống đất	to	47%
		down	7%
		into	4%
		in	3%
		on	2%
		of	1%
		no answer	36%
			100%

Table 4.9: Students' Perception about the Phrase Preposition ON

Vietnamese people employ a different coordinate system in space. To locate the position of the figure this, Vietnamese speakers have different ways of conceptualization: Vietnamese speakers can use a neutral viewer ("người quan sát vô hình"(Lý Toàn Thắng, 2009), a conceptual human-being, as a coordinate system and compare the spatial relation between that viewer and the ground to decide the position

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of the figure. Everything that is higher than the position of the neutral viewer is called "trên" whereas everything that is lower than the position of the neutral viewer is called "dưới". "Sàn nhà" (the floor) is at the equal level to the lower part of the neutral viewer, which is his feet. Every figure relates to that ground will be viewed as "dưới sàn." That's why the students commit errors of using words to express their ideas.

4.3.1.3 The Causes for Written Errors of Spatial Representation in English Preposition "AT"

The lack of explicit instruction is one of the factors that can contribute to errors in spatial representation when using English prepositions.

Studies have shown that learners of English as a second language (ESL) often struggle with prepositions when describing spatial relationships. This may be due to the fact that prepositions in English are often used in idiomatic and context-specific ways, which can make them difficult to learn and apply correctly. In addition, prepositions in English do not always have direct equivalents in other languages, which can add to the difficulty for ESL learners. Furthermore, the use of prepositions for spatial representation can vary depending on the context and the speaker's perspective, which can add to the complexity of their usage. Without explicit instruction on the rules and usage of English prepositions for spatial representation, learners may rely on their own intuition or experience with the language, which can lead to errors in usage.

	Phrases	Vietnamese Equivalents	Percentage
at	at the top of the mountain	lên	30%
		đến	20%
		tại	3%
		trên	2%
		no expression	2%
		no answer	43%
			100%

Table 4.10: Students' Perception about the Phrase "at the top of the mountain"

In Table above, most of the students expressed the phrase "at the top of the mountain" through Vietnamese words like "lên, đến, trên". This translation can be resulted from culture difference. In Vietnam, the terrain in the east is often lower than in the west. The west is characterized by mountains, hills, and highlands with forests while the east is characterized by plains, rivers and seas. Therefore, the Vietnamese people often say "lên núi" or "đến đỉnh núi" or "trên núi". Then, most of the students used "lên, đến, trên" for the phrase "at the top of the mountain" . Moreover, Vietnamese consider the position of the speaker while English just care about the location of an object without paying attention to the position of the speakers.
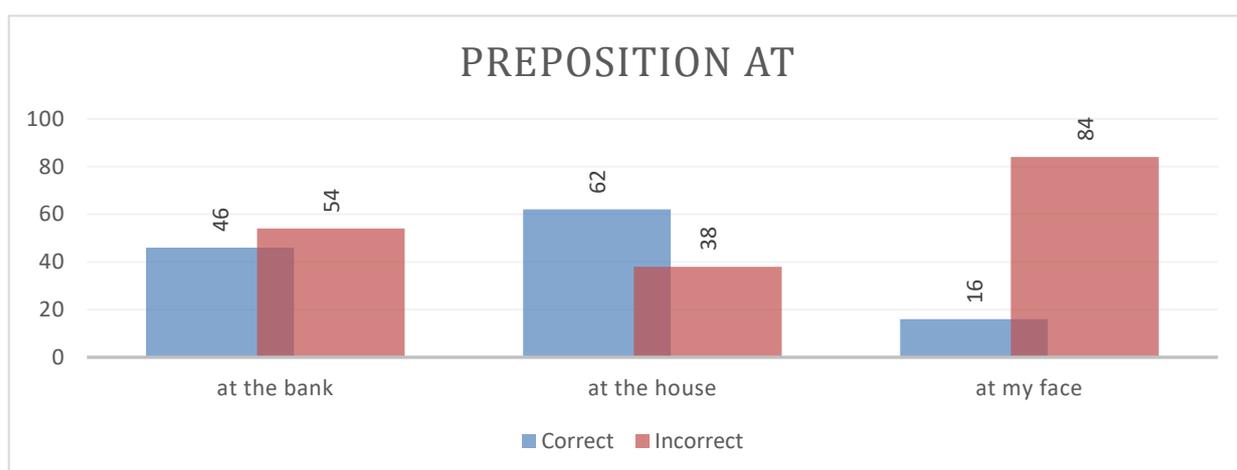
Figure 4.7: Percentage of Students' Answers about the Preposition AT

For the type of meaning "Tom is waiting for his sister at the bank.", the English considers it as the mounted positioning; however, the Vietnamese express in a definite structure or possession. Only 16% students gave correct answers for the sentence "The dog jumped at my face and really scared me." The students do not understand clearly that the image schema of at as a CONTAINMENT differs from that of in. In the container relation of at, "one smaller point is contained by a relatively larger point in our mind" (Yang, 2008, p. 44). Contrary to the image schema of in that the TR is enclosed in the LM which is regarded as two- or three-dimensional entities (cf. Zelinsky-Wibbelt, 1993), the spatial relations of at are "regarded merely as a point of orientation in our eyes" (Yang, 2008, p. 44), e.g. the relatively smaller places as home, school and theatres. In item 17, the preposition of "in" is used in "in line" because in English, the preposition of "in" is the partial inclusion of a geometrical contrucst in a voulume, an area, or a line. However, in Vietnam, the students tended to use the preposition of "at" because they based on the position of speaker. Besides, the ideal meaning of "at":– for a point to coincide with another (coincidence of a point with a point in space.). The following suggested use types:

- Spatial entity at location (Julie at the post office; party at office)

- Spatial entity at sea (containers at sea)

- Person at institution (Prof. Jones at Berkeley; son at University)

- Physical object at a distance from point, line, or plane (airplane at 10,000 feet)

In general, the students at Phan Chu Trinh high school students just confused between "at" an "in" because of the difference in spatial cognition.
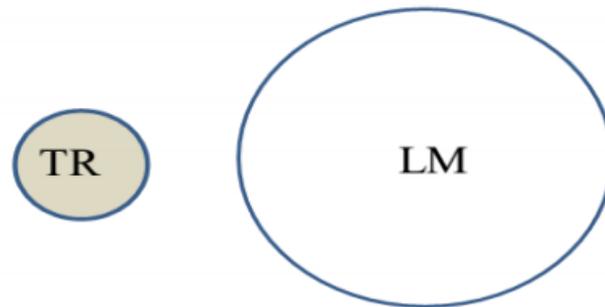
Figure 4.8: Adjacency Schema for AT (Yang, 2008)

4.3.1.4 Summary

Prepositions are a constant source of confusion and difficulty for learners, although English is known for its frequent use of prepositions. Learners frequently struggle when employing the incorrect preposition in particular. Prepositions that mean "in, at, or on" location are the most prevalent in English. The report has looked into the challenges of textual spatial representation problems that occur when the three prepositions "in, at, and on" are translated from place to place in English and are compared to their Vietnamese equivalents. The author used the well-known semantic approach to describe the problems with prepositions, created a test to assess the perception and knowledge of spatial prepositions in Phan Chu Trinh high school students, and then clarified the reasons for these problems using a cognitive linguistics perspective. Understanding prepositions in English and Vietnamese more thoroughly and thoroughly can be aided by cognitive linguistics. In particular, the approach of cognitive linguistics can help to systematically explain the meaning change of spatial prepositions in English and Vietnamese.

Students should get precise instruction, practise using the prepositions in context, and receive feedback on their faults in order to reduce written errors associated with the use of spatial prepositions. Teachers should urge students to proofread and edit their work for accuracy as well as give clear instruction on frequent errors and methods for avoiding them.

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4.3.2 Methods of Teaching English Spatial Concepts Expressed by IN, ON and AT for Phan Chu Trinh High School Students

According to Evans (2007), the understanding and use of language by learners is a result of the interaction between image schemas, domains, and conceptual metaphor. The use of pictures in language instruction may not be a novel concept. The Direct Method, which was created in the 1900s, recommends using actual items and pictures while teaching foreign and second languages. However, this approach does not see cognitive involvement as being a key component of language learning. The "development of lexical and conceptual representations" is a crucial component of foreign language learning for adults since it results from their cognitive engagement.

As picture schemas are thought to engage students cognitively in language learning, specific instruction on the semantic qualities accompanied by them is crucial in EFL classrooms. It can be believed that language learners use picture schemas naturally.

Image schemas may serve as an illustration of the spatial links when it comes to the teaching and learning of prepositions. However, one issue may be that persons with diverse native language backgrounds may interpret spatial arrangements differently, which could make it challenging for EFL learners to master English prepositions.

There is evidence that the perception of spatial relationships by Vietnamese and English native speakers is inconsistent. Vietnamese native speakers may assume themselves to be the LM in their descriptions of space, in contrast to how English native speakers encode their notions of spatial connections through the use of prepositions. Their various prepositional choices are thought to be caused by the variation in how they refer to the LM.

Teachers should assist students in learning the spatial configurations of the target prepositions so that they may comprehend and correctly apply them if the spatial configurations of L1 and L2 are incongruent. Additionally, the picture schema theory demonstrates its pedagogical significance for lessons on describing the connections between TR and LM. In several research, using image schemas to teach prepositional spatial meanings has been effective.

To sum up, there are certain steps to make the foundation of English spatial prepositions. The first one is building the base of general knowledge of spatial prepositions. The second is teaching them with cognitive meanings. The third is teaching spatial prepositions with cognitive meanings and image schemas. And the last one is reviewing spatial prepositions and having students mapping them into different contexts.

CHAPTER 5. CONCLUSION

This chapter draws a conclusion on the present study by summarizing the main points in the findings presented in the above chapter, with a concentration on answers to the research questions. It starts with a general conclusion followed each discussion of students' scores of two group treatment as well as investigation of other variables with potential interventions in the experimental results. Furthermore, this chapter also presents key findings from students' responses, qualitative and quantitative. Besides, it point outs implications for teachers, learners, textbook developers and researchers. Finally, there are limitations and recommendations for future similar studies.

5.1   Conclusion

Prepositions are always a problem that always causes difficulties and trouble for learners, but using many prepositions is a prominent feature in English. In particular, learners often have difficulty using the wrong preposition. Among English prepositions, the most common ones are prepositions meaning "in, at, on" place. The project has investigated the difficulties of written errors of spatial representation, going from place-to-place meaning, of the 3 prepositions "in, at, on" in English, compare with equivalent in Vietnamese. To describe the difficulties of prepositions, the author designed a test to measure Phan Chu Trinh high school students' perception of spatial prepositions and their knowledge of them, chose the familiar semantic approach, and then explained the causes of difficulties in using spatial from the approach of cognitive linguistics. Cognitive linguistics can help to have a more thorough and thorough understanding of prepositions in English and Vietnamese. In particular, the approach of cognitive linguistics can help to systematically explain the meaning change of spatial prepositions in English and Vietnamese.

The project has compared each specific word or group of words, in order to see the similarities and differences. According to the project, the difference in the use

of prepositions between English and Vietnamese is due to the way of thinking, because the system of place perception mechanisms expressed in two languages is different. Through the expressions expressed with the preposition "in, at, on" compared with the equivalent in Vietnamese, the thesis assumes that English speaking is direct and concise, different from the expression in Vietnamese which is often in a roundabout way, long speaking, far-fetched ... Also according to the project, the different perception of conceptual system, culture and physical experience has made language learners face many difficulties. Especially often make negative transfer errors in terms of semantics and grammar when translating from source language to target language. Based on the approach of cognitive linguistics.

Moreover, there can be several causes of written errors related to the use of spatial prepositions, such as "in", "on", and "at". Some of the most common causes are:

i) Lack of understanding: Students may not have a clear understanding of the meaning and use of spatial prepositions. This can be due to incomplete or inaccurate instruction, insufficient practice, or inadequate exposure to the language.

ii) Interference from the first language: Students may make errors in using spatial prepositions because they transfer rules and patterns from their first language. For example, the use of "in" to indicate a location may not be as common in some languages as it is in English.

iii) Misapplication of rules: Students may incorrectly apply the rules for using spatial prepositions, either by using them inappropriately or by omitting them when necessary.

iv) Lack of attention: Students may make errors due to carelessness, lack of proofreading, or not paying close attention to the task.

v) Confusion with similar prepositions: Students may confuse spatial prepositions that have similar meanings or usage, such as "in" and "into" or "on" and "onto".

To minimize written errors related to the use of spatial prepositions, it is important for students to receive clear and accurate instruction, practice using the prepositions in context, and receive feedback on their errors. Teachers can also provide explicit instruction on common errors and strategies for avoiding them, as well as encourage students to proofread and revise their work for accuracy.

The differences between the English and Vietnamese prepositions must first be presented and explained in order to tackle the problem. These differences are now typically ignored in the lessons given to the students.

The preposition "in" was overlooked, which is what caused the issue. Despite the fact that preposition "at" is more challenging for learners to acquire, Phan Chu Trinh students in this report tend to employ the preposition "at" less frequently than they should. When we compared the three fundamental locatives, the idea of the preposition "at" is more abstract than the other two. The incorrect mapping between the spatial prepositions in Vietnamese and English, on the other hand, prevents students from correctly using this preposition. More prepositional usage examples should be provided, and once more, the explicit formal instruction should be modified to account for this abstract aspect. Prepositions are small lexical units, but they are infamously challenging for students to learn. Prepositional errors of substitution are frequently encountered by the students. A collocation technique ought to be used in place of the conventional one for this element. It is true that the traditional approach, which emphasizes explicit grammar education, is used in the majority of Vietnamese institutions. When this strategy is used, students are forced to focus solely on learning prepositions in context for each specific word. In other words, it is impossible to predict a preposition's meaning without a context. As a result, students taught in this way have little confidence in their ability of using prepositions properly (Lam, 2009).

Furthermore, cultural and social knowledge should be an integral part of teaching and learning English. According to Tran Quang Hai (2010), there are a number of reasons that lead to the learner's prepositional mistakes. First of all, their polysemous nature makes it difficult for language learners to properly comprehend them. Additionally, the difficulties that students frequently face are attributed to differences in how people perceive space, how they live, the topography, and how the sky is oriented. It is a proven truth that people who translate incorrectly often have a strong effect from their home tongue's reference system. They are unsure of whether or not they are using their prepositions correctly as a result. Teachers and educators will increase students' understanding of the extra-linguistic differences between the two languages by incorporating the topic of culture and society into the present curriculum. It not only gives the students in-depth knowledge of the foreign language, but it also ignites their enthusiasm for studying.

Last but not least, image schema should be used when teaching prepositions. The discussion section thoroughly explains this methodology.

The reporter has come to conclusion that she combined these techniques to teach spatial prepositions like: learner-centered instruction, communicative language approach, task-based approach, spatial concept-based teaching and teaching grammar from examples. Teaching grammar from examples is an inductive approach, which means that the learner discovers the rules by going through a number of examples. This is a very natural approach that is performed when the mother tongue is acquired (Thornbury, Teach grammar, 49). The advantage of this approach is that students actively participate in the rule discovery process and can more easily integrate the new rule into the existing mental framework. It also teaches children how to be independent and self-sufficient, which is beneficial for their future academic endeavors. The drawback of this way of learning is that it takes more time than it saves, and the rules that the students come up with could be inaccurate or too specific

to be used. This method is also very demanding for the teacher who needs to plan the lesson very carefully. It can frustrate some types of learners as well.

5.2   Implications

Textbook writers had better update the current approaches in English language teaching, particularly the positive effects of applying cognitive linguistic concepts to teaching English prepositions. Here are some recommendations: applying cognitive linguistics to the teaching of language components, especially prepositions, in settings where English is used as a foreign language should be the subject of international and national norms. Additionally, linguistic approaches to teaching language components are viable, particularly when pedagogical applications of cognitive linguistics are incorporated into curricula and syllable. Teaching prepositions can be substituted with instruction based on cognitive linguistic theories and classroom exercises. Lessons on prepositions can be improved completely or in part by changing the technique.

Teaching prepositions in the concept of cognitive linguistics as a foreign language has proved to be efficient in contexts where English is used as a foreign language. Teachers need to grasp theoretical framework of cognitive linguistics, together with its integration into concrete lessons. What is more, teachers use pedagogical methods applying cognitive linguistics concept to facilitate the students' memory of English spatial prepositions. Successful implementation of this alternative to preposition instruction requires that teachers understand the theoretical underpinnings of cognitive linguistics and how to incorporate them into practical lessons.

Using image schemas will be a priority when developing tangible lessons as it can aid students in understanding the semantics of prepositions. Additionally, image schemas might help students remember the meaning of prepositions.

Prepositions should also be taught using image schemas as conceptual metaphors, however this necessitates that teachers utilise domain mapping theory to assist students in moving prepositions from the spatial domain to the abstract domain. Teachers should assign speaking and writing tasks so that students have opportunities to use language after learning prepositions, as many pedagogical modifications of cognitive linguistics in recent studies as well as this study suggest the employment of teacher instruction to provide linguistic input.

Due to some unfavourable comments from the treatment's participants, teachers should incorporate games, music, and humour into their lessons based on cognitive linguistic principles in order to engage students on both a cognitive and an emotive level.

Learners should apply meaningful learning by using image schemas to make general sense of some meaning of a preposition. In particular, students pay attention to the teacher's instruction where English prepositions are used in the specific context.

Relationships between old and new knowledge, in particular, were important. To strengthen their linguistic understanding and language use, learners should make the connection between the metaphorical and spatial meanings of prepositions. Both aural and visual kinds of information are essential for learning a foreign language. The learning process and results can be improved by combining the two sources. In situations where English is employed as a foreign language, paying attention to the teacher's instructions is crucial yet insufficient. Students studying English as a second language ought to be introduced to language use as well. The teacher's in-class speaking and writing assignments may be helpful.

5.3   Limitations

Research limitations are certainly existing. The study includes itself only three prepositions "on, in and at". The first limitation is that the purpose of the study is to

measure the impacts on the students' knowledge rather than language competence. This is reflected by the testing instrument construction. The another limitation may derive from the fact that students might have remembered the prepositions used in the pretest and related them to the post-test. The final limitation may be the duty of the research as well as the teacher. The teachers might have sometimes ignored the one-type focus to one treatment, which in turn changed during the teaching process.

5.4   Suggestions for the Future Studies

Future studies that have interest in cognitive linguistics concept application to teaching prepositions may find other ways to decrease the disadvantages of the present study emerging from the students' comments. What is more, it is important to do research applying cognitive linguistics to teaching other English prepositions in other contexts apart from these three prepositions "in, on, at".

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APPENDIX A1: PRETEST

The test's aim is to investigate your knowledge of prepositions. They will be kept confidential and will not affect your academic results. Thank you for your cooperation.

A. Student's name: ……………………………………

B. Test

Part I/ Students' perception of spatial prepositions

a) Translate these following sentences into Vietnamese

Q1. While John and Mary were walking along the river bank, they were fancy on coming across colorful balloons in the sky.

…..………………………………………………………………………………

Q2. The boys get home, put clothes on the shelf and eat everything in sight.

…..………………………………………………………………………………

Q3. My father got up early, prepared mountain tools and finally arrived at the top of the mountain as his wish.

…..………………………………………………………………………………

Q4. The cat jumped through the window, his owner chased him and she eventually hold him in her arms at the gate.

…..………………………………………………………………………………

Q5. There was excitement in the air, which made children fascinated and lied on the floor.

…..……………………………………………………………………………………

b) Translate these following sentences into English

Q6. Có một chú khỉ đang ăn chuối trên cây.

…..……………………………………………………………………………………

Q7. Mẹ tôi đang xem TV ngoài phòng khách.

…..…………………………………………………………………………………..

Q8. Các nhà thám hiểm đang nghỉ mệt dưới chân núi.

…..……………………………………………………………………………………

Q9. Quả bóng rơi xuống đất.

…..…………………………………………………………………………………..

Q10. Cô hiệu trưởng đang ở dưới lầu 2.

…..……………………………………………………………………………………

Part II/ Students' knowledge about spatial prepositions

a) Complete the following sentences with the prepositions through pictures.
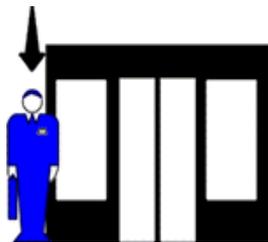
Question 1
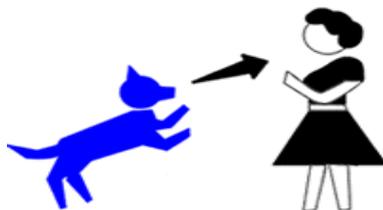
Question 2   Question 3

Question 4   Question 5

Q1. Tom is waiting for his sister …….. the bank.

Q2. The dog jumped …….. my face and really scared me.

Q3. The children are playing …….. the street.

Q4. A face appeared …….. the window.

Q5. We arrived …….. the house.

b) Circle the correct answer that best completes each sentence.

Q6. She looks at herself … the mirror.

A. in   B. on   C. at

Q7. Jupiter is … the Solar System.

A. in   B. on   C. at

Q8. There are no prices … this menu.

A. in   B. on   C. at

Q9. They are … the boat.

A. in   B. on   C. at

Q10. Their birds' performance is so fascinating … the air.

A. in   B. on   C. at

APPENDIX A2: POST-TEST

The test's aim is to investigate your knowledge of prepositions. They will be kept confidential and will not affect your academic results. Thank you for your cooperation.

A. Student's name: ……………………………………

B. Test

Part I/ Students' perception of spatial prepositions

a) Translate these following sentences into Vietnamese

Q1. He throw the cigarette on the ground. His attitude and behaviour shocked me.

……………………………………………………………………………………………

Q2. My mother added the sugar in the yellow jar and the salt in the blue jar.

……………………………………………………………………………………………

Q3. Two crocodiles threw themselves at each other.

……………………………………………………………………………………………

Q4. My youngest brother is lying on the floor after playing with his dog.

…………………………………………………………………………………………….

Q5. The man who will work with you in the next time is standing at the gate.

……………………………………………………………………………………………

b) Translate these following sentences into English

Q6. Những đám mây xám xịt đang trôi trên bầu trời.

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…………………………………………………………………………………………………..

Q7. Các giáo viên đang họp trên văn phòng.

……………………………………………………………………………………………

Q8. Con trai tôi đang đọc sách trên giường.

……………………………………………………………………………………………

Q9. Rất nhiều khinh khí cầu đang lơ lửng trên không trung.

……………………………………………………………………………………………

Q10. Ngoài cánh đồng, các bác nông dân đang miệt mài gặt lúa.

……………………………………………………………………………………………

Part II/ Students' knowledge about spatial prepositions

a) Complete the following sentences with the prepositions "in, on, at" through pictures.

| Question 1 | Question 2 | Question 3 |

١

Question 4

Question 5

Q1. The woman is …….. the bus stop.

Q2. Two boys are sailing …….. the boat.

Q3. I see an air balloon …….. the air.

Q4. The frost made patterns …….. the window.

Q5. He declared bankruptcy last week, and now he's out …….. the street.

b) Circle the correct answer that best completes each sentence.

Q6. You are standing … my foot.

B. in   B. on   C. at

Q7. The two vans collided … the crossroads.

B. in   B. on   C. at

Q8. The lady put her wallet … her purse.

B. in   B. on   C. at

Q9. Mr. John arrived … the office on time.

B. in   B. on   C. at

Q10. This is the best team … the world.

in   B. on   C. at

APPENDIX B1: LESSON PLAN 1

Foundation of General Knowledge of Spatial Prepositions

I/ OBJECTIVES

By the end of this lesson, students will be able to:

1. Knowledge
- Differentiate between the prepositions "in", "on", and "at"   - Use these prepositions correctly in sentences to describe location   - Recognize and use common idiomatic expressions using these prepositions
2. Core Competence
- Develop communication skills   - Be collaborative in pair work and teamwork

II/ MATERIALS

- Whiteboard or chalkboard

- Markers or chalk

- Handout with examples of sentences using "in", "on", and "at"

- Pictures of different locations (e.g. a park, a house, a city, etc.)

- Computer and projector (optional)

III/ PROCEDURE

Stage	Aim stage	Procedure	Interaction	Time
WARM-UP	- To activate Ss' knowledge on the topic. - To lead into the topic	**-** T greets Ss and introduces the lesson by asking them about their favorite places to go. - T encourages Ss to use spatial prepositions to describe their locations, such	T - S	10

		as "I like to go to the park" or "I live in a big house".	T	mins
		- T writes the prepositions "in", "on", and "at" on the board, and asks Ss if they know what these words mean.	T - S	
		- T writes their definitions next to each preposition.		
			T	
PRESEN-TATION	- To help Ss use key language	- T displays pictures of different locations, and asks Ss to describe where things are located in the picture using the appropriate preposition. For example, "The cat is on the roof", "The children are in the park", "The car is at the gas station".	T - S	10 mins
		- T uses the handout to review more examples of sentences using "in", "on", and "at".	T	
		- T has Ss repeat each sentence, and asks them to identify which preposition is being used.	T - S	
		- T writes expressions using these prepositions and explains the meanings of these expressions and has Ss repeat them.	T - S	
PRAC-TICE	- To have Ss practice with key prepositions - To check Ss' comprehension	- T has Ss work in pairs to describe different locations using the appropriate preposition. For example, "There is a flower on the table" or "The TV is in the	T - S	15 mins

I

		living room".		
		- T walks around the room and listens to each pair to ensure they are using the prepositions correctly.	T	
		- T plays a game of "Simon Says" using spatial prepositions. T gives commands such as "Simon says stand in front of the door" or "Simon says sit on the chair". T encourages Ss to use correct prepositions when giving their own commands.	T - S	
		- T assigns a short writing task in which Ss describe their favorite location using "in", "on", or "at".		
		- T collects the assignments and provides feedback on their use of the prepositions.	T - S	
PRODUC -TION	- To have Ss reinforce knowledge	- T reviews the meanings and usage of "in", "on", and "at" with the class.	T	10 mins
		- T asks Ss to give example sentences using each preposition.	T - S	
		- T thanks Ss for their participation and summarizes the key points of the lesson.	T	
		- T assigns Ss a short speaking for homework in which Ss use key prepositions learned.	S	

APPENDIX B2: LESSON PLAN 2

Teaching Spatial Prepositions with Cognitive Meanings

I/ OBJECTIVES

By the end of this lesson, students will be able to:

1. Knowledge
- Identify and correctly use the spatial prepositions "in", "on", and "at" in sentences
- Describe physical locations using the appropriate spatial preposition
- Practice using the spatial prepositions in both spoken and written contexts
2. Core Competence
- Develop communication skills and written skills
- Be collaborative in pair work and teamwork

II/ MATERIALS

- Whiteboard and markers

- Handouts with examples of sentences using "in", "on", and "at"

- Pictures of different locations to describe

- Worksheets with practice exercises

III/ PROCEDURE

Stage	Aim stage	Procedure	Interaction	Time
WARM-UP	- To activate Ss' knowledge on the topic - To lead into the topic	- T begins by introducing the topic of spatial prepositions "in", "on", and "at". - T writes the words on the whiteboard and ask Ss whether they remember the	T	

		previous lesson or not.	T - S	10 mins
		- T gives examples of how each preposition is used to describe physical locations. For example, "in" is used to describe being inside a container or enclosed space, "on" is used to describe contact with a surface, and "at" is used to describe a specific point or location.	T - S T	
PRESEN-TATION	- To help Ss use key language	- T shows Ss a map of a city including a lot of buildings or infrastructure like the park, the bank, the school, the hospital or a city street,….	T - S	10 mins
		- T has Ss role-play "Have you got lost?" and then asks Ss to describe where they are by using the appropriate spatial preposition for other Ss.	T - S	
		- T writes example sentences on the board using the spatial prepositions, and has Ss identify which preposition is being used and **why**. For example, "I am in the park" means that you are inside the park, while "I am on the bench" means that you are in contact with the bench.	T - S	
		- T provides handouts with more example sentences, and has students work in pairs to identify the preposition used in each sentence and describe **why that preposition is appropriate**.	T - S	

PRAC-TICE	- To have Ss practice with key prepositions - To check Ss' comprehension	- T provides worksheets with practice exercises, such as filling in the blank with the appropriate spatial preposition, or matching pictures with sentences that use the correct preposition.	T - S	15 mins
		- T has Ss practice speaking in pairs, describing their own physical locations using the appropriate spatial preposition. For example, "I am on the corner of the street." or "I am at the library".	T - S	
		- T asks Ss to write a short paragraph describing their location in the map using at least two of the spatial prepositions.		
			T - S	
PRODUC-TION	- To have Ss reinforce knowledge	- T reviews the use of the spatial prepositions "in", "on", and "at", and asks students if they have any questions or need further clarification.	T - S	10 mins
		- T encourages Ss to practice using the spatial prepositions in their everyday communication, and reminds them that correct usage can help them be more clear and precise in their language.	T - S	

APPENDIX B3: LESSON PLAN 3

Teaching Spatial Prepositions with Cognitive Meanings and Image Schemas

I/ OBJECTIVES

By the end of this lesson, students will be able to:

1. Knowledge
- Identify and correctly use the spatial prepositions "in", "on", and "at" in context - Describe physical locations using the appropriate spatial preposition and relate them to image schemas - Practice using the spatial prepositions in both spoken and written contexts
2. Core Competence
- Develop communication skills and written skills - Be collaborative in pair work and teamwork

II/ MATERIALS

- Whiteboard and markers

- Handouts with examples of sentences using "in", "on", and "at"

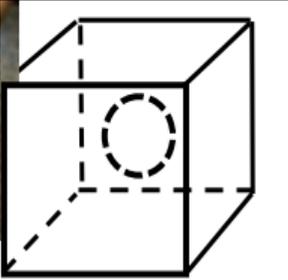- Pictures of different locations to describe, with image schema diagrams

III/ PROCEDURE

Stage	Aim stage	Procedure	Interaction	Time
WARM-UP	- To activate Ss' knowledge on the topic - To lead into	- T begins by introducing the topic of spatial prepositions "in", "on", and "at". - T writes the words on the whiteboard and ask Ss	T	

	the topic	whether they remember the previous lesson or not.	T - S	10 mins
		- T explains that image schemas are mental frameworks that help us understand and organize our experiences in space. Show examples of different image schemas, such as containment, support, and proximity, and how they relate to spatial prepositions.	T - S	
			T	
PRESEN-TATION	- To help Ss use key language	- T shows Ss pictures of different locations along with an image schema diagram.	T - S	10 mins
		- T asks Ss to describe where the things are using the appropriate spatial preposition and relate it to the image schema.		
		- T writes example sentences on the board using the spatial prepositions, and has Ss identify which preposition is being used and relate it to the image schema. For example, "The apple is in the box" means that it is inside the containment image schema, while "The apple is on the table" means that it is in contact with the support image schema.	T - S	
			T - S	
			T - S	
		- T provides handouts with more example sentences and image schema diagrams, and has students work in pairs to identify the preposition used in each sentence and relate it	T - S	

		to the image schema.		
PRAC-TICE	- To have Ss practice with key prepositions - To check Ss' comprehension	- T provides worksheets with practice exercises, such as filling in the blank with the appropriate spatial preposition and image schema, or matching pictures with sentences that use the correct preposition and image schema.	T - S	15 mins
		- T has Ss practice speaking in groups, discussing where the classroom equipment are using the appropriate spatial preposition and then explain in proximity to the reference desk image schema.	T - S	
		- T asks Ss to write a short paragraph describing their location in the map using at least two of the spatial prepositions.		
			T - S	
PRODUC-TION	- To have Ss reinforce knowledge	- T reviews the use of the spatial prepositions "in", "on", and "at", and how they relate to image schemas, then asks Ss if they have any questions or need further clarification.	T - S	10 mins

		- T encourages Ss to practice using the spatial prepositions in their everyday communication, and reminds them that correct usage can help them be more clear and precise in their language.	T - S	

APPENDIX B4: LESSON PLAN 4

Reviewing Spatial Prepositions and Having Students Mapping them into Different Contexts

I/ OBJECTIVES

By the end of this lesson, students will be able to:

1. Knowledge
- Understand and use spatial prepositions "in, on, at" with image schemas and map spatial prepositions into different contexts.
2. Core Competence
- Develop communication skills and written skills - Be collaborative in pair work and teamwork

II/ MATERIALS

- Whiteboard, TV and markers

- Handouts with examples of sentences using "in", "on", and "at"

- Pictures of different locations to describe, with image schema diagrams

III/ PROCEDURE

Stage	Aim stage	Procedure	Interaction	Time
WARM-UP	- To activate Ss' knowledge on the topic - To lead into the topic	- T begins by displaying visual examples of different image schemas again on the TV and ask Ss what a image schema is and how it underlies our understanding of spatial relationships.	T - S	10 mins

PRESEN-TATION	- To help Ss use key language	- T presents Ss visual examples of different spatial relationships and asks them to use the appropriate preposition ("in," "on," or "at") to describe the relationship.	T - S	10 mins
		- T provides multiple examples and encourages students to participate in class discussion.	T - S	
		- T asks Ss to map the spatial prepositions into different contexts and rewrites the sentence to reflect the new context. For example:	T - S	
		+ Map the above cases to the position of objects in the rooms/classrooms.		
		+ Map the position relationship between people/things in a room in the house to the position of people/things in relation to the yard or garden.		
		+ Map the position of the object relative to the water surface, river bank, lake shore, sea.		
		- T explains and instructs Ss from cognitive linguistic including contexts, culture, conceptualization,…		
PRAC-TICE	- To have Ss practice with key prepositions - To check Ss'	- T distributes worksheets with sentences that use the spatial prepositions "in, on, at." - T asks Ss to read each	T - S	15 mins

	comprehension	sentence and identify the spatial relationship being described. - T asks Ss to map the preposition into a different context and rewrite the sentence to reflect the new context.	T - S T - S	
PRODUC-TION	- To have Ss reinforce knowledge	- T reviews the key concepts covered in the lesson. - T asks Ss to provide examples of how they might use spatial prepositions "in, on, at" with image schemas in their daily lives. - T delivers the writing task for Ss about describing the location of things.	T - S T - S	10 mins

APPENDIX C

Samples of Teaching Spatial Prepositions with Image Schemas and Their Applications

Image Schemas	Content	Example
	Events happened in the object which is as a container.	The girl is in the room.
	Events happened on the surface of the object which is like a support.	The boy is sitting on the roof of the house.
	Events happened very close to object, but not contact.	
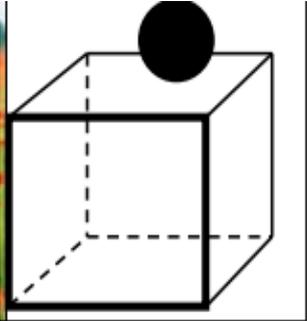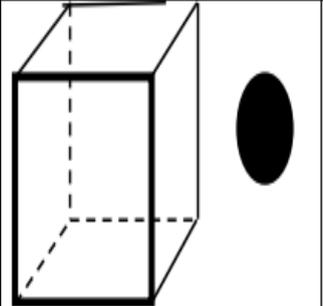
		The children are at the school gate.

Referring to preposition *in*, the image schema of it is CONTAINMENT. Events happened within the object. And we use the image that the circle express the event, so-called the trajector (the TR) and the box-like space is the landmark (the LM). Like the example *"The girl is in the room."*, the room is a container and the girl is inside.

Referring to preposition *on*, the image schema is the basis of support that the event (the TR) happened on the surface of the object (the LM) and denotes the CONTACT. For example, in the sentence "*The boy is sitting on the roof of the house.*", the plane supports the man and they contact to each other.

Referring to preposition *at*, the image schema is that the event (the TR) happened very close to an object and compared with the background, the object where the event happened can be regarded as a point concept (the LM). Such as, in the sentence "*The children are at the school gate.*" The children now are not contact with the school gate, just very close to it.

APPENDIX D1

	She looks at herself in the mirror. - What is the mirror look like? --> In this situation, the mirror is a container. And the image of the girl is within the area and surrounded by the mirror.
	The Jupiter is in the Solar System. - What is the container? --> In this case, the Solar System is like a container. And Jupiter is inside.
	The birds' performance is so fascinating in the air. - What is the container? --> The air. - Which object/objects should be described in this sentence? --> The birds.
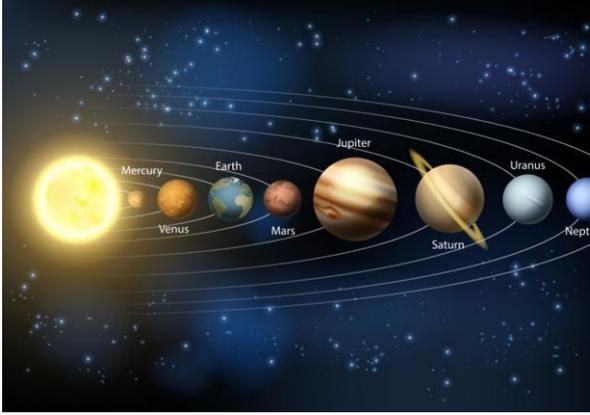
Teaching Preposition IN Through Imagination with Image Schemas

APPENDIX D2

Teaching Preposition ON through Imagination with Image Schemas

	The children are on the boat. The boat supports the children and they contact. The children are the object (the TR) and the boat (the LM) is the supporter. They contact to each other.
	The rabbit is on the elephant's truck. The rabbit (the TR) is supported by the truck of the elephant (the LM) and they contact to each other.
	Some notes are on the brown board. The brown board is the LM. The event (the TR) is some notes. Where is the notice? On the notice board. The notice board supports the notes and they are in contact.
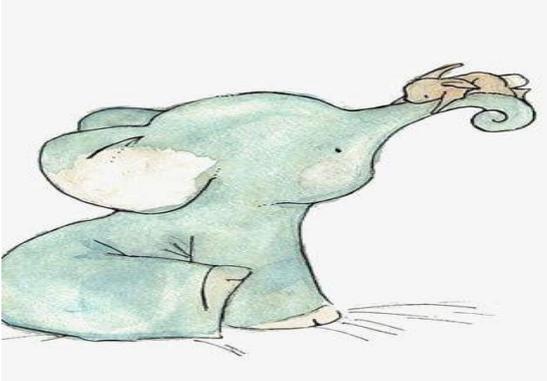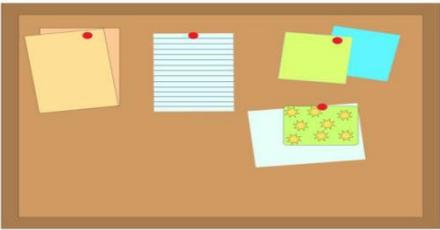
APPENDIX D3

Teaching Preposition AT through Imagination with Image Schemas

	Receive the room key at the reception table, please. The reception table is the object (the TR) and you are close to the reception but not contact with the reception table. However, comparing with the hotel, reception table can be regarded as a point.
	The man is fishing at the river bank. The man is the event (the TR) and the river bank is the object (the LM). Compared with the whole river bank, the man just stand at a point of it.
	The dog jumped at his face. The door is the object (the TR) and his face is close to the dog (the LM), not touch. Comparing with the whole of body, his face can be regarded as a point.

APPENDIX E

Samples of Teaching Spatial Prepositions with Traditional Method

Instruction: Prepositions of Place

To refer to a place, use the prepositions "in" (the point itself), "at" (the general vicinity), "on" (the surface).

Examples:

They will meet **in** the lunchroom.

She was waiting **at** the corner.

He left his phone **on** the bed.

Place the pen **in** the drawer.

Exercise 1: Fill in the blank with in, on, and at

She has lived ……………. London for 4 years.

I just want to stay ……… home all day.

There is a bookstore …………. the left of the grocery store.

Hanoi is ………… the North of Vietnam.

I have been standing …………. the queue for 2 hours.

I will wait for you …………… the main gate.

We can meet each other ……………….. the airport.

She spends 8 hours per day ………. at school.

My mother has waited …………. the cinema for 30 minutes.

I saw you ……….. the bus yesterday.

My cat is lying …………….. the floor.

The final match will take place ………………… the school's sport hall.

…………. the end of the presentation, she gave us a message about protecting children against family violence.

She put down her mobile phone ………….. the desk.

We cried too much …………… the graduation ceremony.

Exercise 2: Choose the correct words

Her new office is (on/at) Nguyen Dinh Chieu street.

My father always spends half of the day (at/in) his office.

Our new campus is (at/in) Tien Giang province.

We decided to put our family picture (on/above) the bed.

You should not stand (on/in front of) the mirror at midnight.

We want to put this picture (in/on) the living room.

Exercise 3: Communicative task

Work in groups of three. Describe people or things in the classroom. Use the

prepositions you have just learned today.

For example: I am sitting in the classroom.

Exercise 4: Writing task

Work individually. Write 3-5 sentences to describe the locations of things in your bedroom.

APPENDIX F

Vietnamese Equivalent of Preposition IN Representation

	Total	Vietnamese Equivalents	Frequence	Percentage
in	84	ở	30	35.70%
		trong	27	32.14%
		-	12	14.29%
		trên	3	3.57%
		của	2	2.38%
		bằng	1	1.94%
		giữa	1	1.94%
		xuống	1	1.94%
		thành	1	1.94%
		ngoài	1	1.94%
		có	1	1.94%
		mặc	1	1.94%
		tại	1	1.94%
		về	1	1.94%
		qua	1	1.94%
				100%

Vietnamese Equivalents of Preposition ON Representation

	Total	Vietnamese Equivalents	Frequence	Percentage
		trên	29	43.28%
		-	14	20.90%
		lên	8	11.94%
		ở	8	11.94%
on	67	bên	3	4.48%
		vào	2	2.99%
		dưới	1	1.49%
		xuống	1	1.49%
		qua	1	1.49%
				100%

Vietnamese Equivalents of Preposition AT Representation

	Total	Vietnamese Equivalents	Frequence	Percentage
at	61	ở	21	43.43%
		-	12	19.67%
		tại	6	9.84%
		bên	4	6.56%
		cách	2	3.28%
		dưới	2	3.28%
		vào	2	3.28%
		đến	2	3.28%
		trước	2	3.28%
		suốt	1	1.64%
		xung quanh	1	1.64%
		về	1	1.64%
		tới	1	1.64%
		của	1	1.64%
		trong	1	1.64%
		cho	1	1.64%
		ngay	1	1.64%
				100%

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