

Improving reading comprehension through lesson study among tenth-grade students at a public school in the city of Loja during 2021 – 2022 school year

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ABSTRACT

The present research had as main objective to improve the reading comprehension through lesson study among tenth-grade students at a public school in the city of Loja during 2021-2022 school year. This skill is considered the most important because learners can obtain lexical knowledge and general information from written texts. Furthermore, this research used a quasi-experimental design with a mixed method approach in order to gather quantitative (scores) and qualitative (perceptions) data through the use of a pretest and posttest, as well as a questionnaire and field notes. The data analyzed demonstrated that students significantly improved ($p \leq 0.05$) their reading comprehension after the application of the lesson study model and helped pre-service teachers develop professionally in their field. It was concluded that the lesson study model impacted students' reading comprehension, mostly in the aspects of skimming and scanning, and that students found the strategies applied as relevant for their learning process. In addition, this model helped pre-service teachers to improve the creation of relevant lesson plans and to successfully conduct a class.

Palabras clave: *professional development; reading comprehension; reading comprehension strategies, english as a foreign language; lesson study.*

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RESUMEN

La presente investigación tuvo como objetivo el mejorar la comprensión lectora a través del modelo “estudio de clase” entre estudiantes de décimo año en una escuela pública de la ciudad de Loja durante el periodo académico 2021-2022. Esta habilidad es considerada la más importante porque a través de ella, los estudiantes pueden obtener conocimiento léxico e información general en textos. Además, la investigación usó un diseño cuasi experimental con un enfoque mixto, para poder obtener datos cuantitativos (calificaciones de estudiantes) y cualitativos (percepciones), a través de un pretest y posttest, un cuestionario y notas de campo. Los datos analizados demostraron que los estudiantes mejoraron de manera significativa ($p \leq 0.05$) su comprensión lectora después de la aplicación del modelo “estudio de clase”, y así también, ayudó a los docentes novatos a desarrollarse profesionalmente en el campo laboral. Se concluyó que el modelo “estudio de clase” impactó la comprensión lectora de los estudiantes, mayormente en los aspectos de “sobrevolar” y “escanear”, los estudiantes consideraron las estrategias aplicadas como relevantes para su proceso de aprendizaje. Además, ayudó a los docentes novatos a mejorar en la creación de planes de clase relevantes y en el manejo correcto de una clase.

Palabras Clave: *desarrollo profesional; comprensión lectora; estrategias para comprensión lectora; inglés como segunda lengua; estudio de clase.*

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INTRODUCTION

According to the Ecuadorian Ministry of Education (MinEduc, 2016) reading comprehension plays an important part in the learning of English as a Foreign Language (EFL). Since the beginning of students' instruction, reading comprehension has been the vehicle for vocabulary recognition and lexical access. Thus, when students arrive at their tenth year of middle school, they are expected to correctly understand the meaning of international words, as well as making use of clues to understand relevant information presented in written text. Also, because reading comprehension encompasses an active process, students are expected to use it alongside their other language skills, to later become proficient users of the language.

Furthermore, several authors (Gersten et al., 2010; Larssen & Drew, 2015) realized that students' cognitive levels needed for reading comprehension were not at the necessary level for their English standards. Furthermore, different studies (Kincal et al., 2019; Özdemir, 2019; Goh & Fang, 2017) identified that most teachers felt unprepared regarding the teaching of reading comprehension.

Similarly, these issues were present during the intervention process of the present research. This happened because the reading activities applied during the educational process were mostly dismissed and focused only on the common aspects of the language (i.e., focus on grammar and vocabulary alone) (Buenaño, 2016; Li et al., 2021). Therefore, the present research aimed to answer the central question, how does lesson study improve reading comprehension among tenth-grade students at a public school in the city of Loja during the 2021-2022 school year?

On this note, lesson study is considered a good strategy for this issue. As a matter of fact, lesson study has been defined as a strategy for in-service teacher training in which the main purpose is to progressively and systematically improve the teaching methods by working cooperatively with other teachers to analyze and scrutinize each other's teaching techniques (Pjanić, 2014).

Besides that, Pérez and Soto (2015) state that this process comprises 5 main components: (1) setting goals, or establishing a research theme that guides the cycle and pivots the work; (2) planning the lesson, where teachers spend most of the time learning about teaching materials and analyze their own experiences; (3) teaching, observing, and debriefing, here, teachers teach the lesson, observe the process,

and discuss the evidence they have collected; (4) revising and re-teaching, in this step some changes are made to the lesson plan and it is taught to another group of students; and (5) reflecting and sharing results, where teachers report their final lesson and reflection of the group discussion in the form of a paper.

On the other hand, reading comprehension is defined by Woolley (2011) as the process of creating meaning from text, with the purpose of gaining overall meaning of the text rather than from single words or phrases. Woolley also states that at a deeper level, reading comprehension entails understanding, gaining meaning and interpreting the text. Here, the reader's prior knowledge directly affects the comprehension of a text, and the reader's comprehension of a text is considered to be linked to the ability of developing hypotheses and rules.

According to Spratt et al. (2012) reading comprehension has five main components that are used during, while, and after reading. These are (1) predicting or educated guesses that students make based on what they already know about the topic; (2) skimming, which is the action of reading quickly to gain a general understanding of things; (3) scanning, which is the recognition of forms instead of making sense of the entire meaning of a written work; (4) detailed reading or reading with the purpose of finding and understanding as much information; and (5) guessing the meaning of unfamiliar words in order to correctly comprehend a text.

In addition, several studies focused on the use of lesson study to improve students' knowledge of the English language, specifically reading skill (Coşkun, 2017; Gersten et al., 2010; Goh & Fang, 2017; Kincal et al., 2019; Larssen & Drew, 2015; and Özdemir, 2019). The evidence from the research has consistently shown that lesson study improves students' reading skill through the use of didactic materials such as specific vocabulary instruction, and picture-books, as well as creating a more dynamic educational environment because it sustains active learning, making a connection between conceptual understanding and practical application.

Despite the positive results on the use of lesson study for reading comprehension, most of these investigations have been developed as case studies (Larssen & Drew, 2015; Kincal et al., 2019; Özdemir, 2019; Goh & Fang, 2017), in which results obtained cannot be generalized. Therefore, there was a need for more research in different educational settings. Thus, this topic needed to be addressed

in the Ecuadorian context to have a more accurate insight on the benefits of the aforementioned topic, and how well it worked for the Ecuadorian students. Based on the aforementioned, it was considered the main purpose of this research to improve the reading comprehension through lesson study among tenth-grade students at a public school in the city of Loja during the 2021-2022 school year.

METHODOLOGY

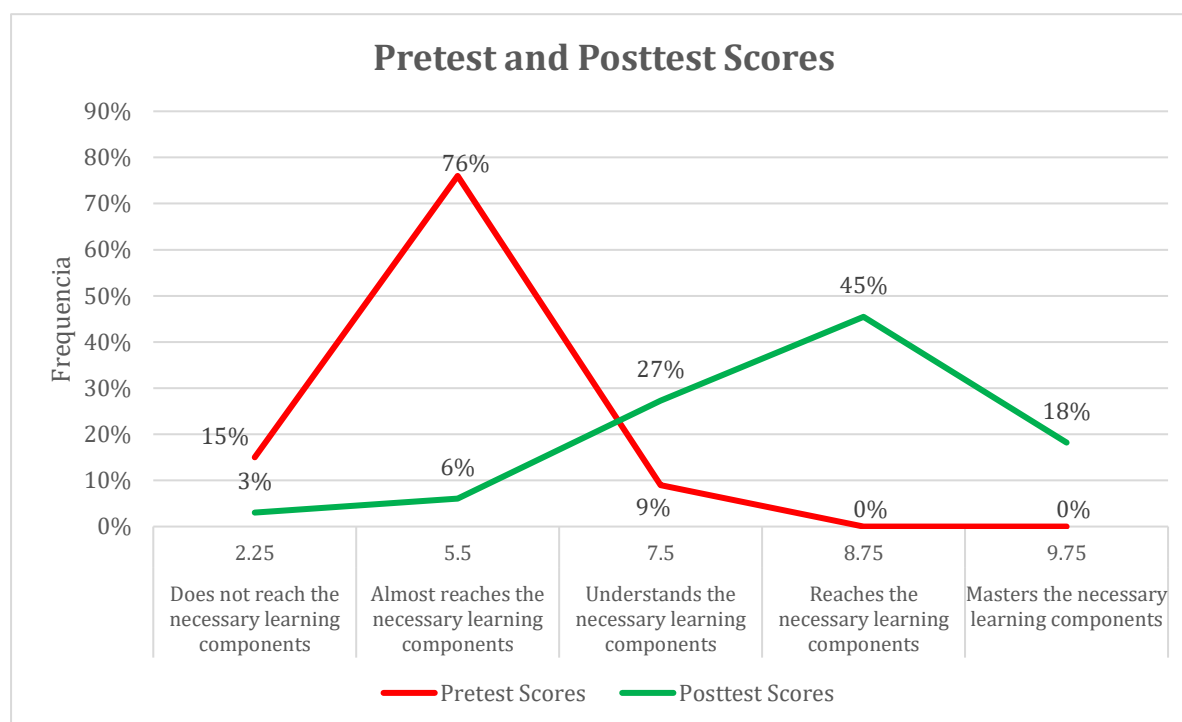
This research used a mixed method with a quasi-experimental design. This meant that there was a manipulation of an independent variable but there was no control group and no random selection. Moreover, the use of quantitative and qualitative tools such as a pre and posttest, a questionnaire, and field notes were implemented in order to gain insight into students' reading comprehension levels and their perceptions regarding the use of lesson study. Furthermore, this data was collected and analyzed through the use of descriptive statistics and the Wilcoxon test in order to analyze the significance of the study. In addition, a thematic analysis was used to identify patterns in the data collected with the help of the field notes. Besides that, due to the fact that this study focused on educational research, the population was selected with the help of cluster sampling, that is, intact groups are randomly selected instead of individuals (Creswell, 2012). First, the population identified was all the tenth-grade students from the city of Loja who took English as part of their curriculum. Then, the cluster sample for this population was a school located in the "Educational District Zone 7" in an urban zone in the city of Loja. From there, the research participants were thirty-three tenth-grade students (17 women and 16 men), with an A2.1 level of English, between the ages of 14-15, that attended the afternoon session, and had a working-class socioeconomic status.

RESULTS

Pretest and Posttest Results

Figure 1

Pretest and Posttest Comparison



The results obtained during the application of the pretest scores to measure students reading comprehension levels are clearly set out in Figure 1. The data from this figure showed that 91% of the students did not reach at least an average level of reading comprehension according to the MinEduc (2016), while only 9% of students were in line

with almost reaching the necessary learning components. Hence, 100% of students struggled comprehending texts.

In other words, these results meant that students had difficulties in guessing the meaning of unknown words using the pictures and the general context of the reading. They presented issues in extracting the gist and key information items from simple texts even with the aid of visual support. They were not able to clearly understand the ideas and messages of simple texts by making use of context clues.

They struggled with identifying intentions and detailed facts in order to better understand the text. Thus, these results clearly demonstrated that students faced struggles in their reading comprehension skill.

On the contrary, the results obtained in the application of the posttest shows that there was a significant improvement in students' reading comprehension levels after the application of lesson study in their learning process. This was visible since almost all students (91%) placed themselves between almost mastering (between 7.5 and 8) and mastering the necessary learning components (between 9 to 10) for reading comprehension. While, only 9% of students still had issues reaching the minimum level of reading comprehension for their English level due to the fact that students did not attend classes and were not able to participate during the learning process.

This meant that most students were capable of correctly interpreting the meaning of complex unknown words based on their previous encounter with familiar words in texts. They were also able to correctly make use of clues such as titles, illustrations to identify and understand the relevant information in written texts. In addition, they were capable of finding specific predictable information from longer text forms, thus, allowing them to identify the gist faster and without issues.

Table 1

Wilcoxon Ranks

	Ranks	Total Number	Sum of Ranks
Pretest Scores Posttest Scores	Positive Rank (+)	0	0
	Negative Rank (-)	31	496
	Ties		2
	Total Population (N)		33
	Critic Value (W)		170
	p ≤ 0.05		

Table 1 below, illustrates the results obtained in the pretest and posttest before and after the intervention process, respectively. It is apparent from this table that the tenth-grade students significantly improved their reading comprehension skill after the intervention process, compared to their pretest counterpart. On average there has been an increase in reading comprehension levels, with 31 out of the 33 participants

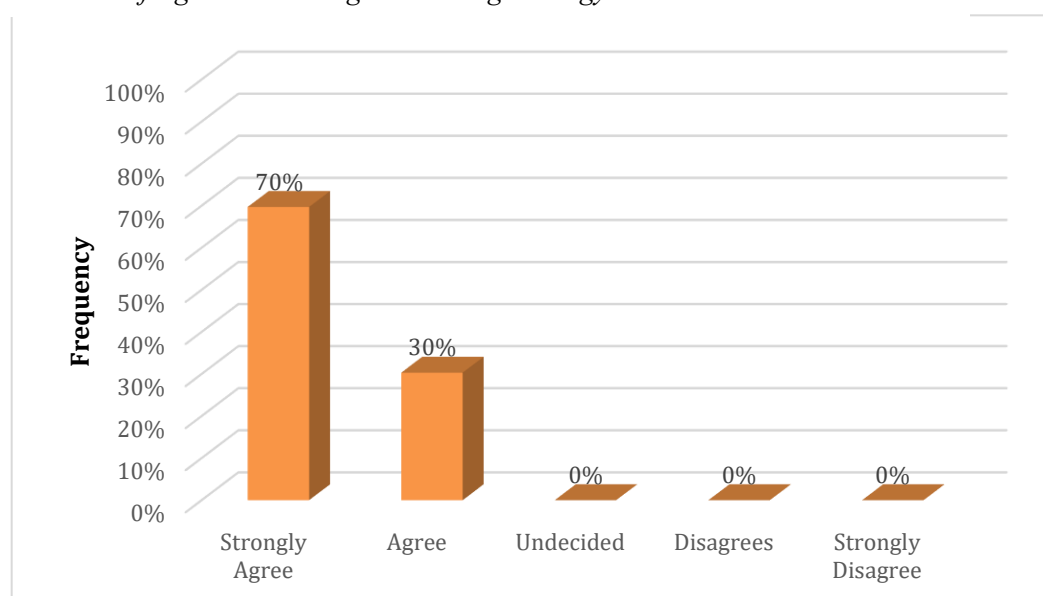
obtaining a higher grade after using reading comprehension strategies through lesson study in the intervention process. While only 2 out 33 participants did not have a change in their progress.

Thus, the results from the Wilcoxon test showed that there is a significant statistical difference ($p \leq 0.05$) between the processes. In other words, there is high probability (95%) that the treatment was, in fact, effective. The efficacy of this treatment is going to be further analyzed through the use of the questionnaire's answers which explored students' perception regarding the use of lesson study model to improve the reading comprehension of the participants.

Questionnaire Results

Figure 2

Students' Level of Agreement Using Previewing Strategy to Predict



As shown in Figure 2, the results from the questionnaire indicated that most students (70%) “strongly agree” that previewing helped their reading comprehension skill, specifically the predicting component, while the rest of the students (30%) “agreed” with the aforementioned statement. This meant that all students considered the activity of looking over the reading contents to connect their previous knowledge to the new ideas in the text useful, or to attach the new contents to previous experiences they might have had in order to make educated guesses about the content of the reading.

This was also visible during the observation of the classes through the use of field notes, where students participated more during this activity, by analyzing pictures, and based on the vocabulary learned, identify where they can use that type of lexis. Their engagement during this activity was

extremely high, as they were able to use not only their previous knowledge, but also connect what they were learning to their mother tongue.

Figure 3

Students' Level of Agreement on Using Mapping to Scan Information

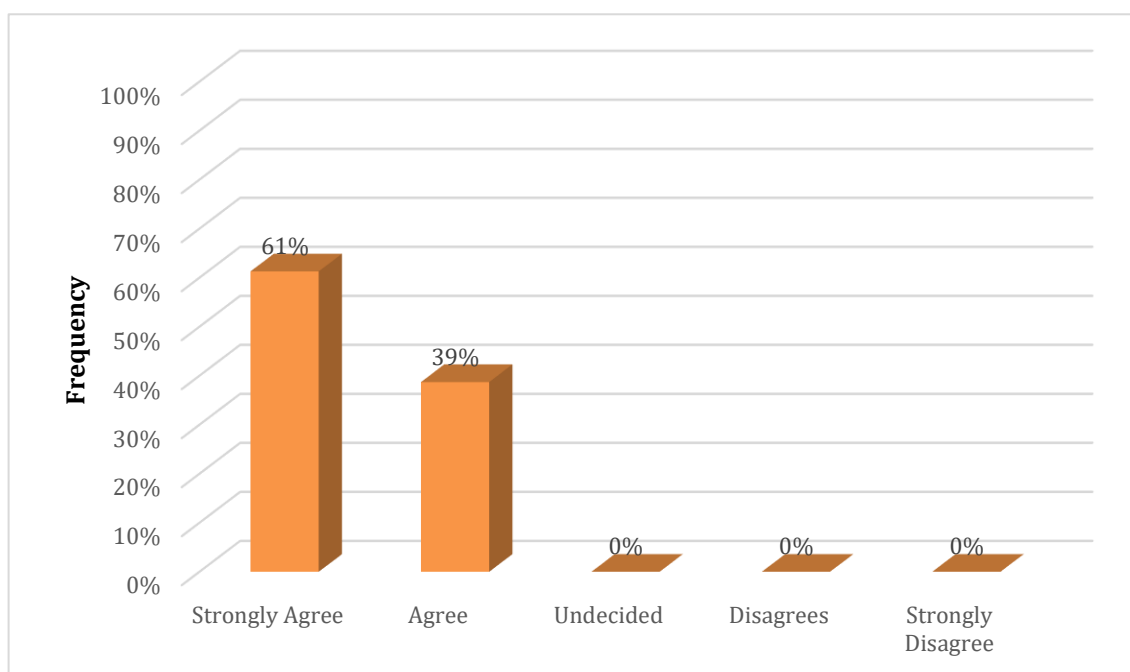


Figure 3 clearly sets out the results obtained about using mapping to identify specific information in a text. The data points out that almost all (97%) of students “strongly agree” with the use of mind maps as a form of developing reading comprehension; specifically, the aspect of scanning. This meant that students thought that utilizing graphic organizers as a form of structuring students’ analysis of texts in order to see the bigger picture, find connections between parts of the text and detect hierarchies among several bits of information. While, only 3% of students felt “undecided” about the use of graphic organizers to identify specific information.

This meant that students did not feel that their reading comprehension was improved through the use of this activity.

This result was in concordance with what the researcher observed during the educational process, as although some students finished answering questions regarding specific information from the reading, other students had difficulties identifying what to do or where to put the answers in the mind map.

Teacher's Perception

As one of the objectives of the research was to identify teachers' and students' perceptions about the effectiveness of lesson study to improve tenth-graders' reading comprehension, the purpose of this section is to report the results from the teachers' perceptions. The analysis of these results was gathered from the field notes, observation and reflections from the process followed during this study. Furthermore, this analysis is presented in the chronological stages of the lesson study cycle. It is also necessary to point out that, although this cycle was applied for several weeks, the analysis is described in a general manner to avoid repetition.

Before lesson study

To begin with, the lesson study cycle started when the four participants of the process (3 collaborators and me) identified the classroom needs through a collaborative reflection. Because this process was applied in different institutions, each pre-service teacher came out with a different focus. In my case, with the help of my "more knowledgeable other" (MKO), I realized that my students had issues with reading comprehension, specifically in the aspects of predicting, skimming, scanning, detailed reading and guessing the meaning of words.

After that, I had to conduct what is known as the "study of teaching materials". For this process I also had the help of my MKO, who helped me identify the most suitable strategies for teaching reading comprehension. She provided me with the resources necessary to identify these techniques, as well as mentioning what I must expect from students of that educational level.

During lesson study

After completing the "study of teaching materials", I started creating my first research lesson. This process was done with what my MKO had mentioned about students and the teaching strategies that I focused on. In addition, this lesson was modeled after Gagné's nine events of instruction support. This model was composed of 9 stages of teaching, where the activities were designed to get students' attention during the opening stage, recalling their prior knowledge, teaching and modeling the activities that students will be assessed on, and giving students the opportunity to demonstrate what they have learned. As well as assessing their knowledge through activities directly related to the objectives of the class.

After the development of the first research lesson, I taught the class following the activities and expected responses of the students as stated in the aforementioned lesson plan. I also took into consideration the interaction that students had during the learning process, to determine the impact of the activities and the instruction carried out.

On the other hand, my collaborator was assigned the task of observing the class and students' behavior as a non-participant observer, in order to contrast my experiences against what the collaborator observed. Furthermore, it is necessary to mention that because the collaborator could not be in all the classes, it was agreed to systematically have a record of these in the form of field notes to later use for the debriefing process.

After lesson study

After conducting the first lesson, the lesson study group (3 collaborators) and I, got together to start the “debriefing” process. Here, we began sharing what we experienced during the delivery of the research lesson. First, each collaborator was given a sample of the lesson plan applied during the learning process. Then, I began recounting the events of that class so that the collaborators could understand if I followed the lesson as intended.

This process also allowed me to identify if there were any challenges that I could see students had during the process, in order to correct the lesson and improve the way it was being taught. For example, I realized that during the modeling section, the reading models I was teaching were confusing for them. So, I changed the level of difficulty and improved the instruction.

After that, the collaborator who observed me got up and started retelling the events from his point of view. This allowed me to realize some issues that were present during the lesson. For instance, during one of the lessons, in the discussion of the class objective, I did not check for understanding. This meant that if students had trouble understanding what was expected of them, I was not able to fill that learning gap.

Based on this evidence, we can say that this process allowed me to understand better what the creation of a lesson objective entails. This meant that I was able to align the objectives, the activities of the class and the assessment, so it was easier for students to understand, create and scaffold their learning. It also

allowed me to grow professionally, as I was able to overcome professional obstacles and develop new skills.

DISCUSSION

The central question of this research sought to determine “how does lesson study improve the reading comprehension among tenth-grade students at a public school in the city of Loja during the 2021-2022 school year?”. This question was answered with the help of the pretest and posttest, which results indicated that there was a statistical ($p \leq 0.05$) difference between the two assessments. This meant that students had a positive improvement in their reading comprehension after the application of the lesson study model. This finding is in agreement with the Gersten et al. (2010) results which showed that the application of this model created a marginal significance in students’ overall comprehension of passages due to the fact that lesson study created a study of “instructional improvement strategies”, which in turn formed a highly interactive instruction environment, which according to Beck et al. (2002, as cited in Gersten et al., 2010) is the most essential part for quality comprehension.

However, due to the nature of the present research (single pre-posttest design with no control group) caution must be applied, as the findings are not transferable to large populations. Furthermore, due to the short amount of time spent during the application of this research, it is difficult to conclude that this mode influenced students to use this type of strategies outside of the research environment. A further study with the application of a control group and applied in a long period of time is therefore suggested to clearly understand the association between the use of the lesson study model in reading comprehension.

The second question in this research was focused on answering “what are the most suitable reading strategies through lesson study to improve the reading comprehension among tenth-graders at a public school in the city of Loja, during the 2021-2022 school year?”

Based on the questionnaire given to students and the field notes taken during the research, a strong relationship between the use of reading strategies such as previewing, mind maps, questioning, and summarizing on improving reading comprehension was found. Students were able to easily identify main ideas, understand new words and find specific information using these aforementioned techniques.

This outcome supports previous research made by McWhorter (2019) and Hazayameh and Alomery (2021) which stated that these types of activities can help students improve their reading comprehension since it allows them to familiarize themselves with the structures and contents of texts, as well as allowing to take notes to promote better recollection of information and improve comprehension.

On the question of “how does lesson study contribute to improve the reading comprehension among tenth-graders at a public school in the city of Loja during the 2021-2022 school year?”, this study found through the use of field notes and the debriefing process, that because this model focused on the study of teaching materials and the improvement of the teaching-learning experience, the researcher enhanced its teaching practices, for example, the correct development and creation of a lesson plan and activities using Gagné’s nine events of instruction support, consequently developing students’ knowledge properly since it took into consideration their interactions with the materials and the activities.

Thus, this result mirrors those of the previous works in this field (Kincal et al., 2019; Özdemir, 2019; Goh & Fang, 2016) which stated that because lesson study includes students’ interest, it increases learners’ learning levels indirectly and significantly. Furthermore, this outcome is similar to what Stepanek (2007) observed, that is, that because this model focuses on creating more effective teaching strategies it leads to improved student learning.

Regarding the question “how effective is the application of reading strategies through lesson study to improve the reading comprehension among tenth-graders at a public school in the city of Loja during the 2021-2022 school year?”, through the application of the pretest and posttest it was clearly visible that students improved their overall score. Especially, in the areas of predicting, skimming, scanning, detailed reading and guessing meaning from context, since students were able to use context clues and general information from the readings to identify what will happen next in the story, recognize new words, and find specific information quickly.

This corroborates the ideas of Spratt et al. (2012) which explain that these components are the most important ones when teaching and learning comprehension. Since these are the main tools to correctly comprehend texts. In fact, according to Oakhill et al. (2014) comprehending a text is not simply reading to complete a task. It implies keeping track of our analysis of texts and it focuses on making use of these subskills all at once during the entire reading process in order to become an expert reader.

CONCLUSIONS

The findings of this study support the idea that the implementation of an intervention plan through lesson study helped the preservice teacher to design effective lesson plans in order to make learning more open to students' needs and interactions. Moreover, students were able to develop their reading comprehension, since the lesson plans applied through the model took into consideration the interaction that learners had with the activities and the materials. Finally, the strategies such as previewing, questioning, mapping, and summarizing, are considered the most suitable to improve the reading comprehension of students since students participated more actively in class and developed the tasks faster.

In addition, the findings of this research support the idea that the implementation of an intervention plan through lesson study helped the pre-service teacher to design effective lesson plans with the correct sequence, following Gagné's 9 events of instruction, in order to make learning more open to students' needs and interactions. It also helped the pre-service teacher to correctly manage a classroom, be more receptive to new ideas, and to work collaboratively.

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