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Use of comics for teaching Medical English Purpose

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Abstract. The main aim of this research was to demonstrate the effectiveness of the comics in teaching English for Medical Purpose (EMP) to students of Medicine in a public University in Peru. For said effect, was used a mixed-method, because in the first and last part, was obtained quantitative data from pre and post-test, both of them, designed for measuring written and oral skills in EMP. These numerical findings served for establishing the proficiencies in both skills, for this reason, this research has also a qualitative component. In the aftermath of the pre-test, the students took seventeen lessons, whereby were they learned fundamental health topics. Consequently, the students in groups of five completed the worksheet consisting of comics created by the author of this paper. Each worksheet had empty bubbles, thereby, the students could create a story, when they filled those bubbles. The stories created by the students served for assessing the written skills, after that, each group was represented in role-playing the story created, this last activity served for assessing the oral skills. In the last part, the students answered the post-test. It was notorious the different results in both test findings, therefore was demonstrated that the effectiveness of using comics in teaching EMP was evident, in the other side this research reaffirms the usefulness of comics in the teaching-learning English process.

Keywords. Comics, English for Medical Purpose, Oral skills, PPP method, Written skills

Introduction

A study carried out by Arce-Villalobos et al., (2017), determined that the majority of Peruvian medical schools considered for this study (36) had at least one English course, and this was a mandatory course for 25 of them. Another highlight is that the obligation to take the English course was more common in those schools outside of Lima, in this research, it is not specified what kind of English is teaching in these schools, but it assumed that is used the English for Medical Purpose.

In the second part of 1960, appeared the English for Medical Purpose (EMP), which main aim is to teach English to doctors, nurses, obstetricians, dentists, pharmacists, and other health professionals (Skehan, 1988).

The EMP has been included in the curricula of Medical Faculties in Peru with the denomination of English for doctors, in which the students receive basically knowledge.

about anatomy, physiology, pathology, and treatments totally in English, and the main reason for this subject is that English is the more important language in the medical world, in another word, the student can know the last medical information, the recent invents for medical application, and otherwise to publish paper researches (Studies et al., 2016). In addition to this, have been linked the mastery of this language and the achievement of goals in the lives of health

professionals (Pavel, 2020). An additional consideration is that EMP, includes the learned-centered design, where the students are placed at the hub of the learning, changed the traditional design, where the teacher was the main actor of the teaching-learning process; thus, the student is the main responsible for their learning, and the teacher becomes the facilitator of the mentioned process.(Albornoz-Acosta et al., 2020).

On another side, it has sought several tools for teaching EMP, one of them is the use of comics, due to two main situations: first, in spite of many people believe that a comic is only for children, this could be an excellent option for learning a new language, because it serves for describing adults and professional circumstances, like a pathology described in its symptoms, and second, the comics could describe the social interaction between doctor and patient, between the doctor and the family of the patient, (Barone & Bresler, 2000).

According to Stephen Cary, the comics offer a variety of options for learning any type of Language for any student, even any proficient level, even the novice in this idiomatic world, and he adds the comics would be a brilliant opportunity for learning English in a different context, furthermore, he points out, the comics with an attractive design that they possess, activate creativity, so that they become brain activators, in another hand, they allow teachers use the comics like real tools in the classroom, without forgetting the students have different learning needs(Editor, 2005).In the academic world, there is an undeniable inclination for visual learning, so students of all levels, look for colorful reading materials, such as comics, a situation that is notorious when teachers want to teach something new on the one hand, and on the other, considering the nowadays students quickly get bored in front of material without pictures(Frey et al., 2008).

If the comics are used, considering the communicative approach, we can figure out, that students could use English whereas communication is more important than express grammatically perfect statements (Mutia et al., 2020), and above all, we as teachers can encourage the students to create paragraphs and speeches linked with the context, that is to say if the medicine students develop conversations about health problems, for example, in Peru, are so common the fractures from accidents, or the questions that a diabetic patient asks, the students will learn, doing (Kasumi, 2015).

Then, I will determine if the use of comics is an effective option for teaching English, above all improving the productive skills: writing and speaking.

Literature review

English has been considered a Lingua Franca, because a big number of people use it, for communicating, and do not share a native language,(Mukhtar et al., 2021), in another side, we have to take into account that English is the language more used for publishing a research paper, and international Conferences are designed in this language, without forget that an indicator of academic progress in many universities in the world (Pavel, 2020) and health professionals are not excluded from this reality, with that in mind, medical students are aware of this a long time ago, and so they are looking for improve both productive and receptive skills. In this regard, so many years ago, has been used the comics, and for many reasons, one of them was children and adults love to read comics, and according to Sones (2008), it has been determined that comic has played an important role in the people education, the observed situation since 1940, even though, at the same time it has existed detractors like Fredric Werthan, who mentioned that comics are media that contain violence, and others aberrations, that make comics in vulgar literature.

Happily, also, there are many scholars who support the position that the comics have several benefits, one of them is inequality reduction, when these are used as a tool of teaching

during the class, in another word, and it has been proved that the students can share their knowledge better when they work with comics. This proposal was corroborated by Morrinson (2002), who encouraged his students for designing their own comics. In this experience, the obtained results were mainly the raise of interaction and creativity in the students. Something similar happened with Bitz, (2004), who showed that the use of comics in class enhances the creativity above all produced stories in various scenarios, and in respect thereof, the students had to read more and look for information in order to generate a coherent story.

In another setting Pelton & Pelton, (2009), demonstrated that comics can be used as a reinforce knowledge, it is to say the comics serve for producing meaningful learning, and furthermore, the comics can encourage the students to create stories with an individual touch, in addition, no forget the comics can awake interest for a specific issue, that is to say, in many cases, the comics can be interesting than a textbook. Certainly, this promotes reading and imagination. (Piróg & Rachwał, 2019).

There are different ways for using comics one of them, is when the teacher gives the students comics with empty bubbles. This option allows the students to produce a variety of texts and refine their writing. Something similar to this had been demonstrated by Friedlander & Friedlander, (2018).

The Role-Playing application, many times have demonstrated its utility for improving oral skills, due to when it is carried out the students achieve self-confidence, best pronunciation, fluency and above all put into practice their prior knowledge which can be used for solving the problem, exchange ideas and opinions (Tipmontree & Tasanameelarp, 2020).

A long time ago that many learning projects have been used comics as tools for improving oral skills, thus the students can use comics that they created previously or another graphic story and then participate in role-playing, using their prior knowledge, enhance their pronunciation. Is in this way how Matuk et al., (2020) carried out a project where combined the comics and the role-playing, achieved positive results. Another successful experience where the students improve their conversation skills happened with Maiti & Bidinger, (1981), who used Conversation Analysis Tool (CAT) for measuring the oral competencies in the students, this assessment is useful for reducing the gaps of one conversation. In the end, Guadanillas (2014), gives different options for using comics both written and oral skills, with a communicative approach, which promotes mentioned skills, bearing in mind use situations based on real-life (Richards, 2021).

Methodology

In this research participated 19 students (volunteers) of the Medicine Faculty of Universidad Nacional de Piura (UNP). In the first part, they completed the pre-test which was designed for measuring the level of writing and speaking The pre-test had questions for completing with definitions and descriptions about morphology and physiology, without forgetting the questions related to diseases and treatments, in this case, was chosen the cardiovascular structure and function, furthermore a cardiovascular disease (was considered hypertension). These last topics were considered for measuring writing skills. Beyond complete the pretest, the students must to create a dialog, in which they worked in a group, and finally, they carried out role-playing, based on the dialog created previously, this part was considered for measuring the oral skills.

Afterward, the students took 17 lessons, all of them were designed with Presentation, Practice and Product Method (PPP), and all of them were focused on the main structures of human beings, starting with physical appearance and the human skeleton, and passing for neurological, cardiovascular, respiratory, and immunological and finishing with specialties and

general features of medical attendance. In all the cases, the students have used different comics or comic strips, all of them were designed according to real situations in hospitals in Piura. The students had complete the bubbles which were empty. After they completed, they performed the respective role-playing, according to the story created by them. To take an example, for the topic of physical appearance, in the first moment I drew a face and put the names of its parts, and gave new vocabulary about hair, forehead, nose, lips, eyes, also added information about how to describe the eyes for their colors and shapes, the same happened with the nose, lips. This part of the class also gave the students pieces of knowledge about the physical build. In the second part Practice, the students participated in pairs describing their partner, mainly their hair shape (Straight, curly, wavy,) hair color (black, brown, dark brown), their eyes (color and shape) their noses (shape), their lips (shapes) and obviously their face shapes (round, oval, triangle, square). Finally, I gave them a worksheet that contained a medical situation, in this case, was the graphic representation of a newborn affected by cleft lip; the main idea was for the student to create a story, describing the before and after, taking into account the description before and after surgical treatment. Another situation was approach the skeleton and fractures due to an accident (*figure 11.*)

In the last part, the students completed the post-test in which served for measuring the effectiveness of the use of comics as a strategy for improving productive skills in Medicine students.

Participants

The target population for this study was considered from the Medicine Faculty of Universidad Nacional de Piura, which is a public University, while the sample size of 19 undergraduates were volunteers belonging to Centro de Estudiantes de Medicina of the mentioned University. I have to add that this sample of students was accepted because they adjusted the purposes in this study, in other words, they had finished both English for Doctors I and II. Apart from that, I have to say this research design was quasi-experimental, without a control group.

Instruments

The instruments used for measuring the written and oral skills were two. The first instrument was the Pre-test and Post-test. Both of them had the same questions, and they were designed of four questions, which measured basic knowledge about anatomy, physiology, pathology, and therapeutics.

In another hand, for measuring each of the written and oral skills were used Rubrics obtained and modified from the research titled Rubric-referenced self-assessment and self-efficacy for writing made by Andrade et al.,(2009), with which were assessed criteria like convention, sentence fluency, organization and finally ideas and content. On another side, each of these has different numerical scales and performances. Meanwhile, the oral skills rubric was obtained and adapted from three previous research: Khonamri et al., (2021); Elboroloy, (2020), and Aksakallı & Yağız, (2020), which were considered pronunciation, grammatical structure, comprehension, and time.

In the first moment, it was applied the pre-test and after the seventeen lesson classes, it was applied the post-test, both of them were designed moreover, I have to add the questions were the same in both the tests.

Results

Table 1: *Results of written skills*

Table 1: *Results of written skills*

	Convention	Sentence fluency	Organization	Content
Pre-test				
Mean	0,947	1.105	1.052	0.789
Standard Deviation	0.705	0.994	0.779	0.713
Post-test				
Mean	3.894	3.947	4.052	3.631
Standard Deviation	0.809	0.848	0.848	0.76

Source: Results of written pre and post-test conducted with the medical students of Universidad Nacional de Piura. The second was taken six weeks after.

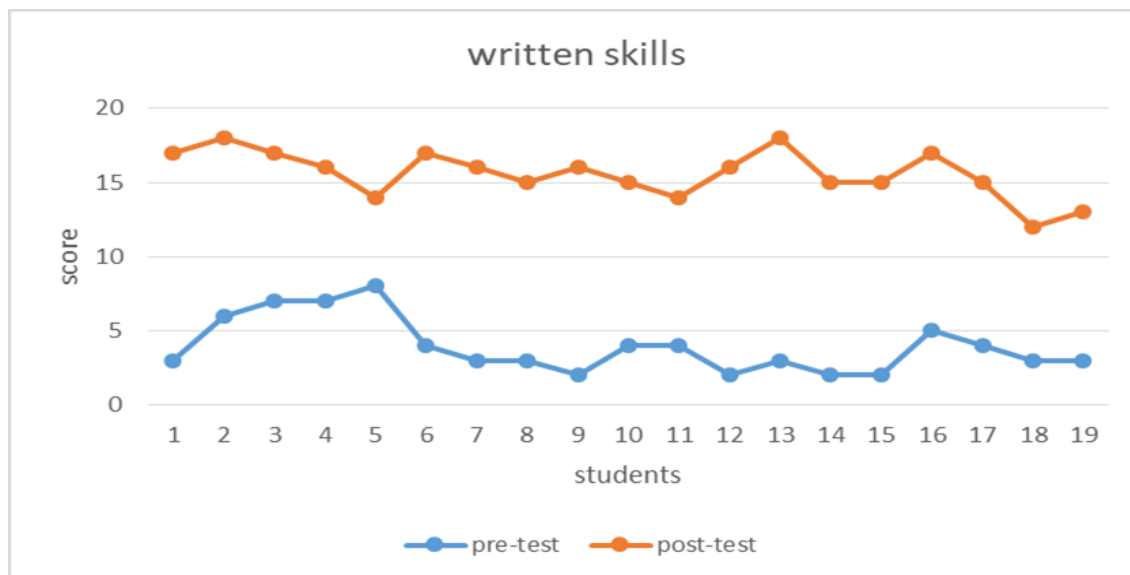


Figure 1: We can observe in this figure the notable difference between the pre and post-test findings, supported the possibility that the effectiveness of comics for improving written skills.

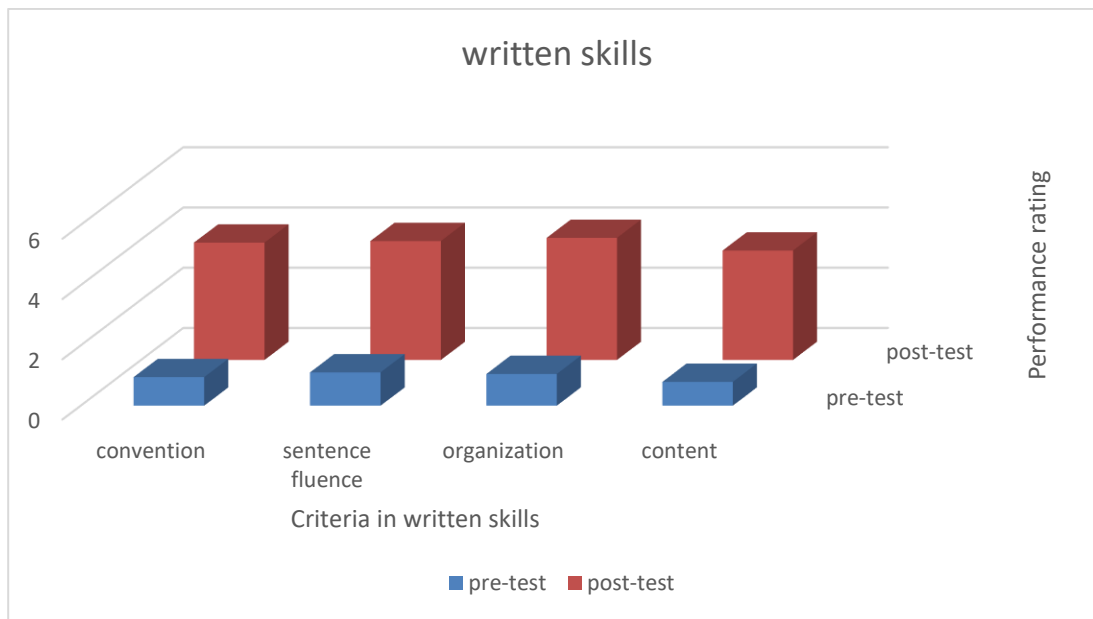


Figure 2: We can observe in this figure the difference among the written criteria both pre-test and post-test, mainly in Convention and Organization, in another word, the students made few or no mistakes, when they completed the empty bubbles, for Convention, on the other hand, the outcomes in Organization means the story created by students had a logical order.

Table 2: Results of Oral skills

	Pronunciation	Grammatical structure	Time	comprehension
Pre-test				
Mean	1	1.210	1.473	0.947
Standard Deviation	0.816	0.970	1.211	1.311
Post-test				
Mean	4.157	4.315	4.0	3,578
Standard Deviation	0.898	0.885	1.054	0.873

Source: Results of Oral pre and post-test conducted with the medical students of Universidad Nacional de Piura. The second was taken six weeks after.

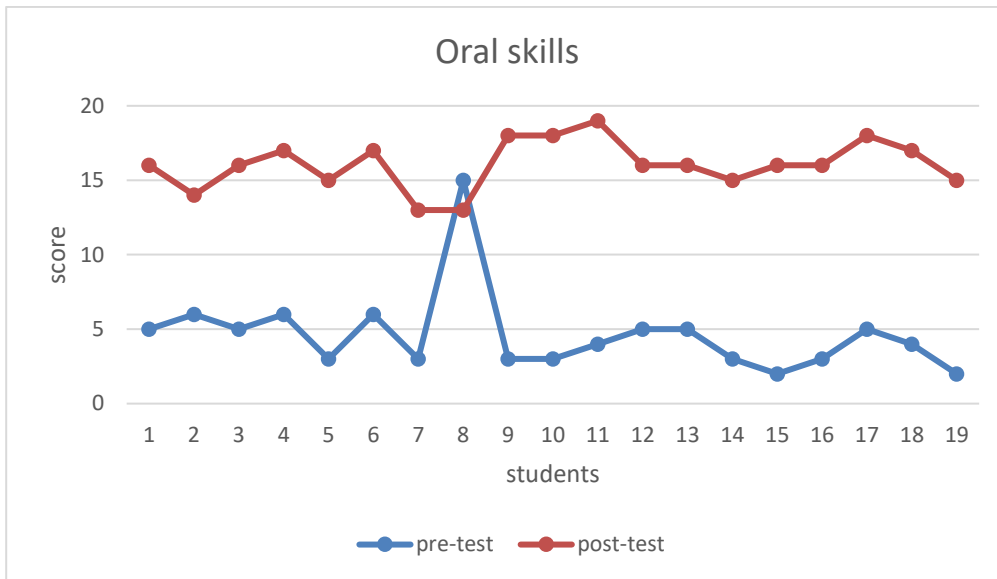


Figure 3: We can see in this figure that even though there is a good grade in the pre-test, it is so clear the difference between the pre and post-test findings, supported the possibility of the effectiveness of comics for improving Oral skills.

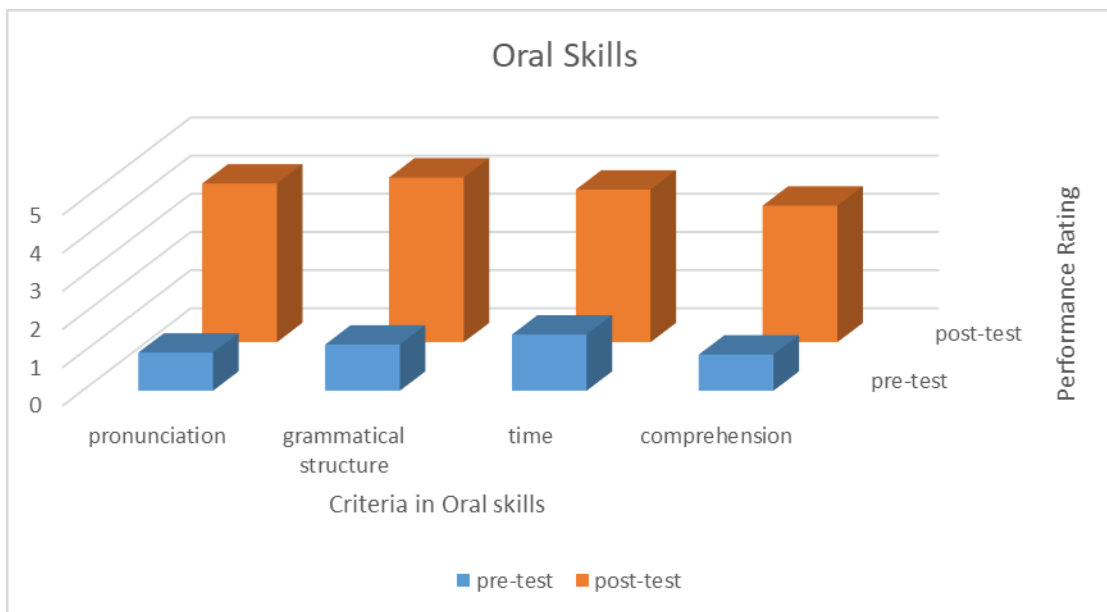


Figure 4: We can see in this figure the difference among the Oral criteria both pre-test and post-test, mainly in Grammatical Structure and Pronunciation, by this way, the students used a variety of terms when they role-played, moreover, they showed improvement in their pronunciation above all in tone and accent.

For determining the significance of results obtained from written skills tests, it was formulated the next hypothesis:

Null Hypothesis: the use of comics is not effective in written skills teaching.

Alternative Hypothesis: the use of comics is effective in written skills teaching.

For this case, I used t-test for related samples, and the results are in the next table:

Table 3: *Paired Samples Test. (written test).*

	Paired difference					t	df	Sig.
	Mean	Std. Deviation	Std. Deviation	95% confidence interval of the difference				
				Lower	Upper			
Written pre and post test	-11,63158	2,24129	,51419	-12,71185	-10,55131	-22,621	18	,000

Source: Results obtained of SPSS program (21st version)

After the Paired Sample Test application, it was observed that the significance was below the set level of .050 (sig. =.000), indicating also the significant difference between the scores obtained from the pre and post-test. For this reason, the null hypothesis was rejected, therefore we can deduce the effectiveness of comics on written skills teaching.

In another hand, for determining the significance of results obtained from oral skills tests, it was formulated the next hypothesis:

Null Hypothesis: the use of comics is not effective in oral skills teaching.

Alternative Hypothesis: the use of comics is effective in oral skills teaching.

Table 4: *Paired Samples Test. (Oral test).*

	Paired difference					t	df	Sig.
	Mean	Std. Deviation	Std. Deviation	95% confidence interval of the difference				
				Lower	Upper			
Oral pre and		3,73148	,85606		-9,62253		18	,000

post-test	- 11,4210 5			- 13,2195 7		- 13,34 1		
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Source: Results obtained of SPSS program (21st version).

As shown in Table 4, the significance was below the set level of .050 (sig. =.000), therefore, the null hypothesis was rejected and was accepted the statement states the use of comics is effective on oral skills teaching.

Discussion

This research searched the effectiveness of using comics in teaching English for Medical Purpose, where the final results were concordant with some research before mentioned, for example, the students were able to create several stories, working in a group, because they could interact more, taking into account the Morrison mentions. On another side, to find the bubbles empty turned on student's imagination, this last was reflected in the various ways of stories created, and the presentation in the role-playing, this part is similar that Friedlander & Friedlander mentioned. In addition to the above, I have to add, that comics are useful for producing long-term acquisition of knowledge, this based on situations like the students used properly bone structure information, for completing bone problems during menopause, or when they used information about five senses when they completed the changes in the fetus. It is in line with what Tipmontree & Tasanameelarp mentioned.

Meanwhile, the results of oral skills, after the role-playing, were significant, with respect to the first outcomes. In this way, it was noted the pronunciation, and grammatical structure improved substantially, without forget, the students used better the time for their presentation, and they improved their comprehension, all of this, seems to be expressed by Matuk et al.

Conclusion

Based on the results obtained in this research, it can be concluded that the use of comics, had a significant effect on teaching English for Medical Purpose. In the first moment, the application of pre-test served for making diagnose about medical knowledge that students had; these were below required parameters, both written test, where the students could not answer basic questions, and oral test where they could not participate in role-playing which was associated with the written part. After 17 lessons, applying different comic strips, the post-test results were evidently different with regard to pre-test, allowing to infer that the use of comics, which are designed in a local context, are effective for improving written and oral skills in the students.

References

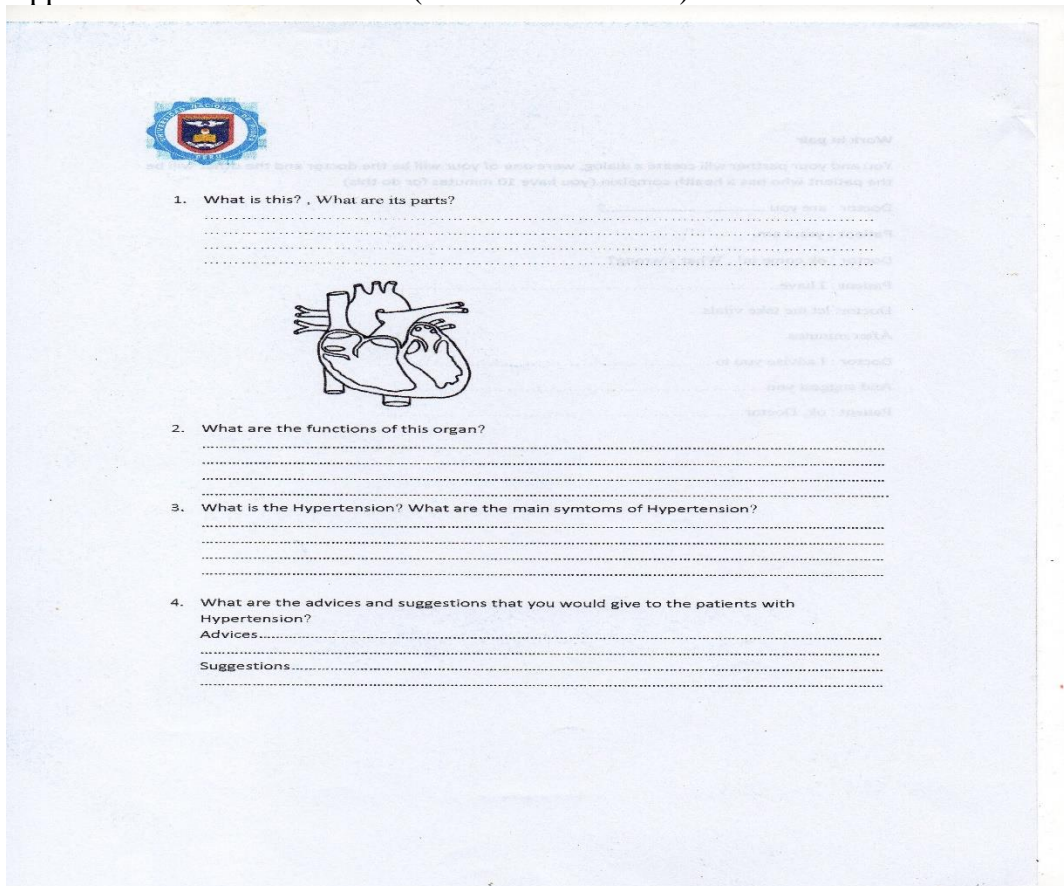
- [1] Aksakalli, C., & Yağız, O. (2020). The Pre-Service EFL Teachers' Development of Phonological Processing and Evaluation of Their Attitudes toward Pronunciation. *GIST – Education and Learning Research Journal*, 20(20), 7–31. <https://doi.org/10.26817/16925777.712>
- [2] Albornoz-Acosta, J. A., Maldonado-Cid, J. G., Vidal-Silva, C. L., & Madariaga, E. (2020). Flipped classroom impact and recommendations in the teaching-learning process of geometry. *Formacion Universitaria*, 13(3), 3–10. <https://doi.org/10.4067/S0718-50062020000300003>

- [3] Andrade, H., Wang, X., Du, Y., & Akawi, R. (2009). Rubric-referenced self-assessment and self-efficacy for writing. *Journal of Educational Research*, 102(4), 287–302. <https://doi.org/10.3200/JOER.102.4.287-302>
- [4] Arce-Villalobos, L. R., Toro-Huamanchumo, C. J., Melgarejo-Castillo, A., & Taype-Rondan, A. (2017). Enseñanza de idiomas en escuelas de medicina humana de Perú. *Revista de La Facultad de Medicina*, 65(4), 583–588. <https://doi.org/10.15446/revfacmed.v65n4.59416>
- [5] Barone, T., & Bresler, L. (2000). *International Journal of Education and the Arts. Research Studies in Music Education*, 15(1), 71. <https://doi.org/10.1177/1321103X0001500110>
- [6] Bitz, M. (2004). The comic bulk project: Forging alternative pathways to literacy. In *Journal of Adolescent & Adult Literacy* (Vol. 47, Issue 7, pp. 574–586).
- [7] Editor, R. (2005). Professional Materials. *Journal of Adolescent & Adult Literacy*, 49(3), 252–255. <https://doi.org/10.1598/jaal.49.3.9>
- [8] Elboroloy, S. A. M. (2020). Using Drama Approach and Oral Corrective Feedback in Enhancing Language Intelligibility and Oral Fluency among English Majors. *Theory and Practice in Language Studies*, 10(11), 1453. <https://doi.org/10.17507/tpls.1011.16>
- [9] Frey, N., Oaks, T., Frey, N., & Fisher, D. (2008). *Nancy Frey & Douglas Fisher (eds.) (2008)*. 9(2), 171–174.
- [10] Friedlander, P., & Friedlander, P. (2018). *Teaching Hindi with Comics*. 15(1999), 163–178.
- [11] Kasumi, H. (2015). Communicative Language Teaching and Its Impact on Students' Performance. *Journal of Educational and Social Research*, November. <https://doi.org/10.5901/jesr.2015.v5n1s1p155>
- [12] Khonamri, F., Federation, R., Federation, R., & Republic, C. (2021). Self-Assessment and EFL Literature Students' Oral Reproduction of Short Stories. *European Journal of Contemporary Education*, 10(1), 77–89. <https://doi.org/10.13187/ejced.2021.1.77>
- [13] Maiti, & Bidinger. (1981). 濟無No Title No Title. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- [14] Matuk, C., Hurwich, T., Prospero, J., & Ezer, Y. (2020). Iterations on a Transmedia Game Design Experience for Youth's Autonomous, Collaborative Learning. *International Journal of Designs for Learning*, 11(1), 108–139. <https://doi.org/10.14434/ijdl.v11i1.24911>
- [15] Morrison, T. G., Bryan, G., & Chilcoat, G. W. (2002). Using student-generated comic books in the classroom. In *Journal of Adolescent & Adult Literacy* (Vol. 45, Issue 8, pp. 758–767). <https://doi.org/10.2307/40012828>
- [16] Mukhtar, A. A., Sahito, Z., & Siddiqui, A. (2021). *Teachers' Perception about English as a Medium of Instructions : Evidence from the Government Higher Secondary Schools of Sindh, Pakistan*. 11(4), 362–371.
- [17] Mutia, D. I., Gani, A., & Syukri, M. (2020). The influences of comics' media application in students' scientific perspectives attitude. *Journal of Physics: Conference Series*, 1460(1). <https://doi.org/10.1088/1742-6596/1460/1/012130>
- [18] Pavel, E. (2020). Language learner motivation and strategies in English for medical purposes. *Philobiblon*, 25(1), 135–148. <https://doi.org/10.26424/philobib.2020.25.1.08>
- [19] Pelton, L. F., & Pelton, T. (2009). The Learner as Teacher: Using Student-Authored Comics to “Teach” Mathematics Concepts. *EdMedia: World Conference on Educational Media and Technology*, June 2009, 1–9.

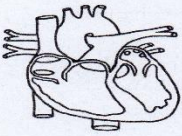
- [20] Piróg, D., & Rachwał, T. (2019). Comics as a tool for a narrative approach in early career counseling: theory versus empirical evidence. *British Journal of Guidance and Counselling*, 47(4), 498–511. <https://doi.org/10.1080/03069885.2018.1538494>
- [21] Richards, J. C. (2021). Teacher, Learner, and Student-Teacher Identity in TESOL. *RELC Journal*. <https://doi.org/10.1177/0033688221991308>
- [22] Skehan, P. (1988). State of the art article. *Language Teaching*, 21(4), 211–221. <https://doi.org/10.1017/S0261444800005218>
- [23] Studies, L., International, A., & Centre, A. (2016). English for Medical Purposes for Saudi Medical and Health Professionals. *Advances in Language and Literary Studies*, 7(6). <https://doi.org/10.7575/aiac.all.v.7n.6p.243>
- [24] *The Comics and Instructional Method Author (s) : W . W . D . Sones Source : Journal of Educational Sociology, Vol . 18, No . 4, The Comics as an Educational Medium Published by : American Sociological Association Stable URL : http://www.jstor.org/stab.* (2008). 18(4), 232–240.
- [25] Tipmontree, S., & Tasanameelarp, A. (2020). Using role-playing activities to improve the EFL students' oral English communication skills. *International Journal of Business and Society*, 21(3), 1215–1225.
- [26] Volume, A. (2014). Reading, speaking and writing through creative resources: comics in second language teaching. *Arab World English Journal*, 5(4), 443–453.

Appendices

Appendix A: Pre and Post-test. (Written Assessment).



1. What is this? , What are its parts?
.....
.....
.....



2. What are the functions of this organ?
.....
.....
.....

3. What is the Hypertension? What are the main symptoms of Hypertension?
.....
.....
.....

4. What are the advices and suggestions that you would give to the patients with Hypertension?
Advices.....
Suggestions.....

Figure 5. The written assessment was focused on basic knowledge about Heart and hypertension.

Appendix B: Pre and Post-test. (Oral Assessment).

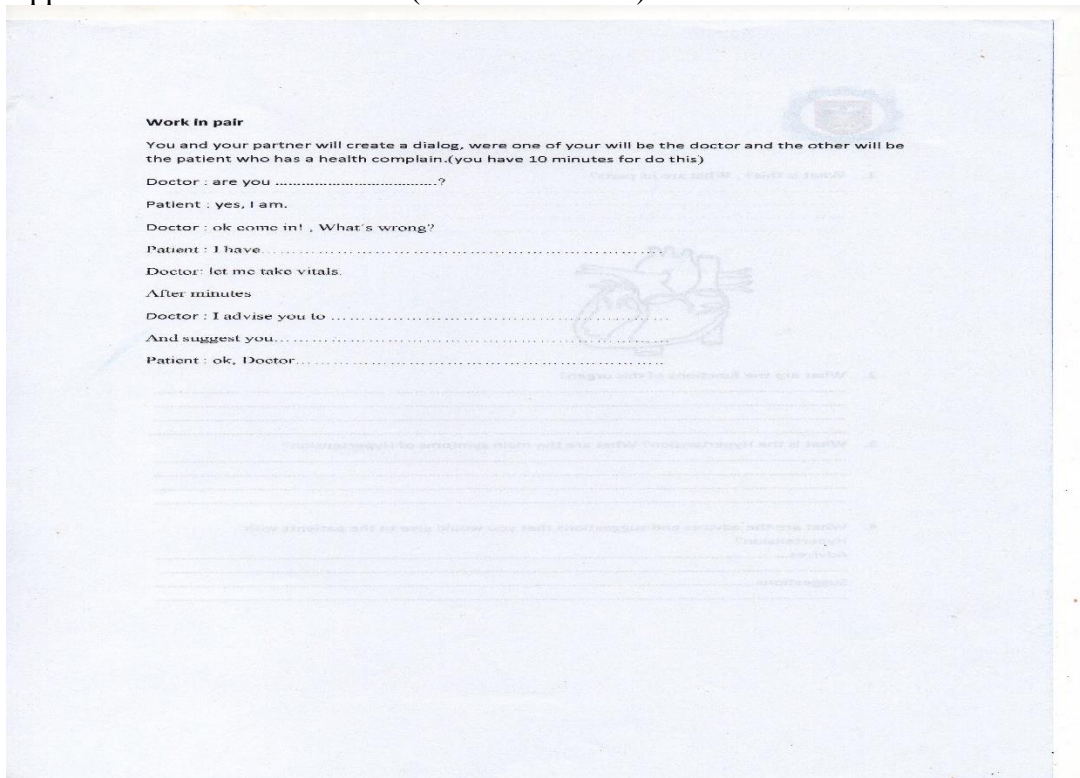


Figure 6. The Oral assessment was focused on the basic dialog between the doctor and patient, after that the students should carry out role-playing in the group.
Appendix C: **PPP Method.**



Figure 7. The 17 medical lesson plans, were performed three times weekly (Monday, Wednesday, and Friday), in every meeting, was used the PPP model, that is to say, our class had the parts: Presentation, Practice, and Production. In this figure, I am making the **Presentation.**



Figure 8. After the initial explanation (presentation), continue the **Practice** in which the students were participating, both completing a picture on the board and pronouncing mentioned names, using real structures. It is important to mention that in this part the students have more autonomy, but they were supervised, moreover the mistakes were corrected.



Figure 9. The Production was the final activity and it usually lasted approximately 60 minutes, in this portion of time the students received a worksheet or comic, which had the bubbles empty. **Filling bubbles:** students are grouped for completing the bubbles of comics, the principal idea was they interact with each other, and create a story, taking into account the pictures, the characters, and the principal topic which was explained previously. After this work in the group, the next step was role-playing.

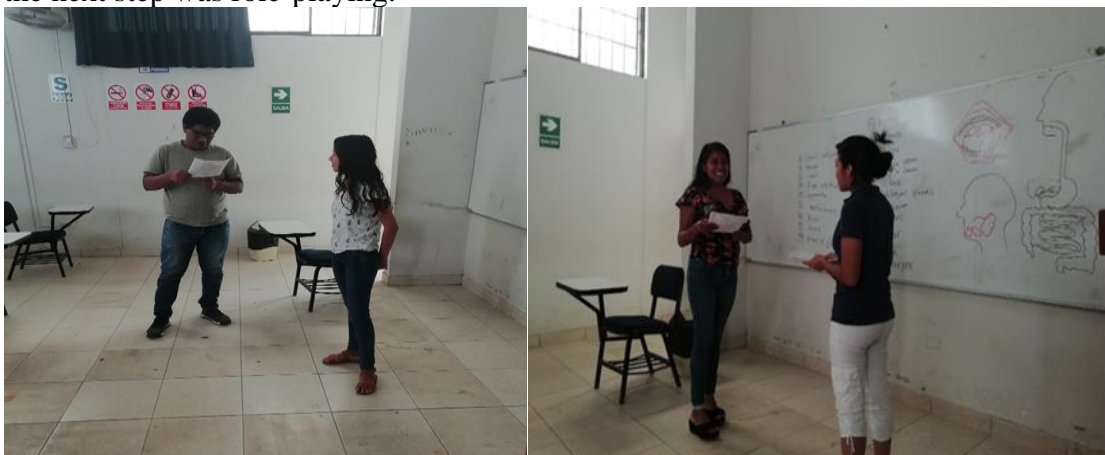


Figure 10. The highlight of the Production was the role play, it consisted in the space of time, where the students showed they were able to create a clinical scenario, where one of them was the doctor and another the patient, in this experience, the students demonstrated they assumed common real situation, like when the patient comes to the hospital, and ask for help.

Appendix D: Some comics were completed by the students.



Figure 11. The main idea of this research was to use stories more common in the Peruvian context, for example, the cleft lips and fractures provoked by accident.