Migration Letters

Volume: 20, No: S1(2023), pp. 1240-1257

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)
www.migrationletters.com

Remote Teaching in Self-Regulated Learning in Early Childhood Education Students at a Public University in Lima

María Luisa Cajo Salvador[1], Graciela Victoria Huatuco Maldonado[2], Dr. Juan Carlos Valenzuela Condori[3], Yovana Milagros Paliza Arellano[4], Analy Solange Matos Juarez[5]

Abstract

The research entitled Proposal based on remote teaching in self-regulated learning in students of Initial Education of the UNE, 2022 is a study of quasi-experimental design, the sample was 79 students divided into two groups 41 and 38, the Gordon questionnaire was used, Lindner and Harris (1996). The results show that in the pretest, 65.9% of the EG students have regular self-regulated learning, and then in the posttest, 92.7% rise to a very good level; Regarding the control group, it was found in the pretest that 42.1% were at a regular level, and in the posttest, 47.4% had a good level. It was concluded that the proposal based on remote teaching significantly improves self-regulated learning in UNE Initial Education students, 2022 ($z = -6{,}260$, $p < 0.05$).

Keywords: *remote teaching, self-regulated learning, asynchronous, synchronous.*

Introduction

The year 2020 was a challenging year due to the COVID-19 pandemic (caused by the SARS-CoV2 virus). This event will be recorded in world history as a momentous event. In Peru, COVID-19, with its various forms of contagion, generated high rates of transmission and lethality. All this had an impact on the economy and education, which directly affected the teaching-learning process of the students. A social isolation measure was established that led to the transition to virtuality in all schools, where considerable groups of students used to be concentrated, meeting for long periods of time. This implied the reinvention of educational processes and the consequent generation of new methodologies. This is how the school has had to adapt to the context of the pandemic. (Miguel, 2020); Around 70% of the world's student population was affected by this fact (UNESCO, 2020).

Distance learning can be a temporary alternative solution to this emergency, in order to continue with the activities of the educational process. To this end, the use of platforms such as Google Meet, Microsoft Teams, Zoom was implemented. Likewise, various asynchronous activities were adapted on platforms such as Moodle, Google Classroom, Google Drive and Google Forms. Despite its virtues, distance learning has brought with it

[1] Universidad Nacional de Educación Enrique Guzmán y Valle, Perú, mcajo@une.edu.pe, https://orcid.org/0000-0003-0430-4215
[2] Universidad Nacional de Educación Enrique Guzmán y Valle, Perú, ghuatuco@une.edu.pe, https://orcid.org/0000-0002-0272-5414
[3] Universidad Nacional de Educación Enrique Guzmán y Valle, Perú, jvalenzuela@une.edu.pe, https://orcid.org/0000-0002-2016-9132
[4] Universidad Nacional de Educación Enrique Guzmán y Valle, Perú, ypaliza@une.edu.pe, https://orcid.org/0000-0001-9683-9895
[5] Universidad Nacional de Educación Enrique Guzmán y Valle, Perú, amatos@une.edu.pe, https://orcid.org/0000-0001-5919-7619

difficulties and impacts on the lives of students at different levels. In the particular case of higher education students, what it has brought with it is the demotivation caused by social isolation, which implies the lack of active interaction that took place in face-to-face classes, between students and professors, and significant changes in the design of content.

Overall, the change in modality does not seem to have been received very positively. Part of the disaffection is generated due to the fact that the content offered was not designed within the framework of a distance higher education course, but rather tries to alleviate the absence of face-to-face classes with virtual classes, without further prior preparation (United Nations Educational, Scientific and Cultural Organization for Higher Education in Latin America and the Caribbean [UNESCO IESALC], 2020, p. 16).

In this sense, the lack of social interaction also brought with it problems related to mental health, such as anxiety, fear, depression, insomnia, anguish, among others, which affected a large number of university students. Another problem is related to technological resources. Access to technological resources (computers, notebooks, tablets, internet, among others) is still restricted for a part of the population, including students. This happens not only because of economic difficulties, but also because of ignorance.

At the same time, in the international context, the use of technology was developing along with the emergence of new tools, and the combined use of all or some of them for educational purposes. At the national level, Peru, affected by the pandemic, through the Ministry of Education [MINEDU] (2020), decreed that "the school year [should be developed] in its distance modality due to the high rate of COVID 19 infections" (p. 1). Faced with this, teachers had the urgent need to adapt to remote education, exposing their shortcomings and limitations in the management of information technologies, which led to a decrease in the quality of teaching and learning, at the different educational levels, both in basic and higher education. Likewise, 30.77% of teachers indicate that it is difficult to communicate with students through the Internet, making it difficult for them to teach (Rambay & De la Cruz, 2020).

At the local level, the problem, according to the students of the Faculty of Early Childhood Education of the UNE, is related to the fact that the teaching staff does not have an adequate command in the use of remote education to carry out their educational tasks, in addition to the lack of preparation of teachers to guide students in improving and renewing knowledge continuously at the pace of the technological changes that are taking place. they are generated over and over again in the territory. To this end, teachers are asked to carry out their work using virtual tools that contributed to sharing information, suggestions for activities, materials and digital tools. In this process, some teachers are behaving in online teaching in a very similar way to how they did in the classroom: giving lectures, using slides, proposing debates, and requesting written texts and applying tests.

In this sense, this proposal is based on remote teaching so that both teachers and students can be empowered through collaboration and online resources; Access to and use of digital technologies can help reduce the learning gap between students from high and low socioeconomic levels. To determine the influence of the proposal based on remote teaching on self-regulated learning in students of Early Childhood Education at UNE, 2022. Its theoretical importance lies in the fact that it seeks to provide fundamental and unpublished theoretical bases on the variables remote teaching and self-regulated learning, which will serve as a basis to sustain the proposals embodied in this study, its foundations can be incorporated as new knowledge and will serve the scientific community to continue research on these valuable topics. In the same way, this study has methodological justification, because its data collection techniques and instruments are validated and reliable through expert judgment and reliability statistics and can be used in other studies to collect data and have similar contexts. Finally, this study has practical justification, because its results can be taken into account to improve the work of teachers

in the classroom, taking into account the variables digital competences and self-regulated learning.

A number of international precedents have been found. Among them, it was found that Castro et al. (2021) concluded that it is very important to propose techniques to improve self-regulation, teamwork and motivation in the student. Likewise, there must be feedback developed by the teacher, in order to be clear about teaching in this modality. In the same vein, Tello et al. (2021) concluded that there is a high link between the two variables, which means that, as long as the student has a better degree of resilience, he or she will have a better level of self-regulation of his or her learning compared to his or her peers. Another study developed by Infante et al. (2021) concludes that 27 technological apps were found to help self-regulation of learning. The most relevant are Whatsapp and Google Calendar, which are also recommended by most university teachers.

On the other hand, at the national level, Guarniz (2021) found that there is a significant positive link between self-regulated learning and digital skills. In other words, the better the self-regulated learning, the better the digital skills in the learning achievement of the students assessed. In this sense, Arcujaulla et al. (2021) indicate that the students evaluated were able to reinforce the self-regulation of their course learning, through the flipped classroom model. In addition, as Cruzado (2021) indicates, the students assessed have high levels of self-regulation. However, after applying the Chatbot, as a support in their learning, this self-regulation increased, which means that this tool, under proper use, offers optimal results.

In this context, a term for the solution offered in these exceptional circumstances is formally introduced: remote teaching, Many members of the academic community have debated the terminology that should be adopted and the term remote teaching has emerged as an alternative to establish a distinction with online education. Unlike educational experiences that are fully designed and planned to be online, remote teaching responds to a sudden shift from instructional models to alternatives in a crisis situation. In these circumstances, fully remote teaching solutions that would otherwise be delivered face-to-face or as hybrid courses are used and will return to this format once the crisis or emergency has passed.

Regarding the theories about the Proposal based on remote teaching, Revelo (2017) points out that the Connectivist Theory (or simply "Connectivism") was born as a response of George Siemens and Stephen Downes to a perceived need to create a theory of learning for the digital age. According to its proponents, technological progress and, in particular, the advent of the Internet have resulted in a very accelerated and dynamic globalized world scenario, leading to the existence of an abundance, if not an excess, of information available and easily accessible to a large number of people. part of the world's population. From this point of view, such developments naturally also brought with them impacts on human ways of learning, so they required adaptations to classical theories of learning. Having the theoretical bases, in the present study we have considered Dimensions of the proposal based on remote teaching.

Dimension 1: Synchronous Tools

The first dimension, called "remote teaching through synchronous tools", according to Martínez (2020), includes chat, videoconferencing, among other technologies for immediate interaction. This type of technology can be transcendental to meet the needs of teachers in various disciplines. For example, the teacher can carry out an interaction of instant responses, in order to solve the doubts of the students and in this way, the student can assimilate certain contents, more quickly

- Advantages

- Possibility of student-teacher and student-student interactions;

- Disadvantages

- Possibility that the institution's system may not support simultaneous demand;

- Difficulty of access for students

Dimension 2: Asynchronous tools

The second dimension, called "remote teaching through asynchronous tools", according to Martínez (2020), includes forums and emails. These tools are characterized by their structure that generates the construction of knowledge, which raises the need for research and studies, and the textual elaboration of what is requested in activities. In other words, the student needs previous studies to satisfactorily perform what is required in these virtual environments. These dynamics must comply with deadlines set by each student, not by the teacher.

- Advantages:

- Immersion in solving a problem or learning one topic at a time can be beneficial for students who want to spend more time on the subject

- In the medium and long term, it fosters proactivity and time management skills

- Students with potential connection issues wouldn't miss classes

- Students without access to the Internet could search for files (on a flash drive, for example) somewhere in the university.

- Disadvantages:

- Students who struggle to set and meet deadlines may be overworked by the end of the semester

- Teachers must be available to respond to students as soon as demand arises

- In addition to these two modalities, mixed schemes can be considered. In these, for example, the material could be made available asynchronously and face-to-face meetings could be held to clarify doubts during class time.

Technological resources enable new ways of perceiving, manipulating and transforming the objects of study, although with certain limitations. They can be used to:

- Access facts, processes, events or data, in an entertaining, synthetic and visual way, facilitating the understanding of tedious or complex information (web pages, infographics, videos, etc.);

- Represent knowledge (prepare a report or presentation, using Writer or Impress), a network or concept map (using CmapTools);

- Interact with applications to verify or corroborate laws;

- Analyze relationships between variables;

- Visualize phenomena (creating an animation with Modellus).

Interacting with these resources engages critical thinking and supports different modes of reasoning about the content of the subject. Here, we suggest the use of educational digital technologies as a tool for the construction of knowledge, which requires the student to appeal to forms of analytical and critical thinking, while interacting with them to solve an activity associated with the study content.

It should be noted that the pedagogical use of all educational resources is conditioned by the teacher's mastery of the subject. In other words, a teacher who "knows the content of the subject" is in a better position to select the resources that best suit the proposed teaching objectives. The resource itself is neither good nor bad, but its relevance in relation to the teacher's proposal is evident, and this is strongly associated with their knowledge in the context of the packaging.

It is worth mentioning that not all of the proposed resources were selected for the teacher to design activities that include them as available on the Web. In some cases, they are proposed as triggers for pencil-and-paper drawing or laboratory activities. The resources selected for each topic – such as videos, simulators, molecular modelers, infographics – favor the appropriation of abstract concepts, one of the teaching and learning problems of the discipline. Virtual simulators and laboratories make it possible to reproduce phenomena and experiences as many times as necessary, which is very useful when the necessary inputs are not available to carry it out or when the action requires safety conditions that are not available or when you want to train the student in a practice before carrying it out in the real laboratory.

On the other hand, it is necessary to include, in the classes, considerations about science and technology, its history and reflections on STS (Science, Technology and Society) relationships, aimed at promoting the scientific and technological literacy of students. In this sense, several videos are suggested that will allow you to solve these problems. The use of images and infographics encourages the use of language in lessons, which can serve as a starting point for writing explanatory or informative texts and asking students to use images to create their own infographics. In all cases, you can use the resources of the Office / OpenOffice / Google Suite for Education packages: spreadsheets, word processors and slideshows, among others.

Discipline-specific resources are combined with other general resources, such as a video or still camera and video editors that allow you to film and photograph lab experiences, interviews, and fieldwork, to develop your own products that showcase the journey through building school scientific knowledge. Another general resource that can be used to research ideas from previous students, evaluate a course of instruction, or as a content core closing activity is the CmapTools program, which allows for networking and concept mapping.

A fundamental aspect is also the teacher's perception of remote teaching.tags.Higher education teachers on the teaching and learning process in distance learning classes during the Covid-19 pandemic. In terms of positive factors, there is not much to highlight, but some reports point to the reduction in travel expenses; the recording of the classes, which are carried out in the three modalities identified, allowing the student to watch as many times as they want and at the time that is most convenient for them; and the possibility of taking a greater number of disciplines at the same time, due to the low probability of jet lag.

Regarding the negative points, it was perceived, according to the reports, that there is no effectiveness in any of the methods, because in any methodological strategy used by the teacher, there will always be a part that will be harmed, either by limitation of access, or by difficulty with Information Technologies or by aversion to this type of teaching. It is concluded that the use of the two methods (synchronous and asynchronous) is the least harmful, because the teacher includes those who can attend, but does not exclude those who cannot. In addition, it provides vivid moments and provides materials and video classes that the student can view at their convenience. As limitations of the study, it should be noted that only the teachers' reports were heard, based on what they heard from the students during the period studied.

As for self-regulated learning, according to Panadero (2017), it is a fundamental conceptual framework for understanding the cognitive, motivational and emotional

aspects of learning. Self-regulated learning has made an important contribution to educational psychology since the first papers in which scholars began to distinguish between self-regulated learning and metacognition. In the 1970s, there were discussions in the theoretical field of psychology about aspects that permeate the relationship between memory and learning, deriving the study of metacognition. In the first place, defined as the mastery that the individual has over his own knowledge, in the same decade it is embodied as the mastery of cognitive processes and products, which provide control and self-regulation of the intellectual process.

Intellectual self-regulation is possible through metacognition. In this field, research led by Barry Zimmerman was initiated to understand self-regulation or self-regulated learning (SLR), influenced by the constructivist paradigm, which states that the individual is an agent of his or her learning. Zimmerman (2002) states that self-regulated individuals are persistent, decisive, strategic, and able to evaluate their progress, differently from those cognitively dependent and with little self-regulation. Self-regulation is the ability of the individual to be a 'self-teacher'. In other words, they must be able to prepare, facilitate and regulate their learning, in order to generate feedback and judgment about the process. This is observed in the degree of active involvement in the learning process (metacognition, motivation, and behavior); the behavior of cyclical change (control of effectiveness, involvement and reflection of results), and the dependence of motivational aspects (degree of involvement in relation to controls and beliefs).

The self-regulation model proposed by Zimmerman (2002) is divided into phases, components and processes, which converge with the aim of producing learning results. The first phase, anticipation/preparation, aims to establish the objectives and strategic plans to achieve the chosen goals. This phase is influenced by aspects of motivation, self-efficacy, objectives and assessment of learning. The second phase is known as execution and control and has the purpose of enforcing the objectives set in the first stage. At this stage, self-control is required through the use of learning strategies and attention control. And finally, the phase of self-reflection and self-reaction, which involves judgment, self-evaluation and attribution of cause on the objectives established in the first phase. There may be satisfaction or dissatisfaction, the presence of reactions (derived from self-reflection) and defensive reactions, with resistance and abandonment, or satisfaction and self-esteem. This phase is the result of motivational and cognitive constructions where the three phases correspond to a cyclical process, since previous feedback is taken advantage of that allows continuous changes and improvements.

Zimmerman (2002) indicates that self-regulation is gradually built up in the individual. Thus, as it is conquered, the dependence on social support that is more required in the traditional method of learning is reduced. In addition to the levels mentioned above, there are phases of self-regulation in the model proposed by Zimmerman. The first includes the preliminary phase (planning), also called the cyclical phase. In the second phase, there is performance (realization). Finally, in the third and final phase proposed, there is self-reflection (evaluation). In this way, in the end, it will promote a differentiated understanding among those evaluated, thus being a unique, dynamic and cyclical way of operating. In this context, some possible strategies were identified that are more replicated by self-regulated students. Regarding the Dimensions: Self-regulated learning.

Dimension 1: Planning Phase

The first dimension of the variable is the "planning phase". According to Bocanegra and Navarro (2017), it is at this stage that students decide what and how they will proceed to achieve their goal, which they must take ownership of. This phase features the following sub-processes: goal setting, strategic planning, self-efficacy beliefs, expectation of results, and intrinsic interest or perception of the value of the task.

Dimension 2: Implementation Phase

The second dimension, called the "execution phase", according to Bocanegra and Navarro (2017), stands out from the perspective of self-regulated learning, because it informs students about their progress and deficiencies in relation to the goals. Through this, the student can change his/her behavior or modify the environment and, thus, adjust the courses of action to achieve the established goal.

Dimension 3: Self-reflection phase

As a third dimension, there is the "self-reflection phase". For Bocanegra and Navarro (2017), students who self-regulate their learning tend to attribute their failure to modifiable factors and are able to adapt their study procedures to more complex tasks, as they evaluate their performance with greater regularity and adequacy, which constitutes the third sub-process of this phase. In addition, Zimmerman and Martinez-Ponz (1986) identified ten strategies present in self-regulated students. For these authors, the use of these strategies provides the student with a valuable tool, their use is highly correlated with academic success rates and with teachers' opinion of their degree of self-regulation in the classroom.

1. Self-assessment: statements indicating students' evaluations of the quality or progress of their work ("I reviewed my work to make sure it was OK").

2. Organization and transformation: statements that indicate the students' initiatives to reorganize, improve, and improve the learning materials ("I always make a diagram before making the reports of the Chemistry experiments").

3. Goal setting and planning: statements indicating the setting of educational goals: planning, staggering over time, and carrying out activities related to these goals ("I start studying two weeks before the tests and I'm rested").

4. Information search: statements that indicate students' efforts to acquire extra information from non-social sources when faced with a school assignment ("Before starting a job, I go to the school library to collect as much information on the topic as possible").

5. Note-taking: Statements indicating efforts to record events and outcomes ("In class I take as many notes as possible on what the teacher gives").

6. Environmental structure: statements that indicate efforts to select or change the physical or psychological environment in order to promote learning

7. Self-consequences: statements that indicate imagination or the application of rewards or punishments for school successes or failures ("If I pass the exam well, I offer myself a few ranks").

8. Repetition and memorization: statements that indicate students' initiatives and efforts to memorize the material ("When I prepare for a physics exam, I write the formula many times, until I know it by heart").

9. Seeking Social Help: Statements indicating students' initiatives and efforts to seek help from peers, teachers, and adults. For example, "if I have difficulty studying, I ask my father, who is a doctor, for help."

10. Review of data statements: indicating the efforts of the student's initiative to review grades, tests, textbooks in order to prepare for a class or a written assignment

Finally, if traditional learning is assessed versus self-regulated learning on a historical basis, it can be pointed out that traditional methodology has been approached even before the nineteenth century. Thus, progressive movements in favor of education emerged, called Escola Nova, which designed new teaching practices that pointed to the student as the protagonist of their own training. This movement had important representatives in the

field of education: John Dewey (1859-1952), Maria Montessori (1870-1952), Henri Wallon (1879-1962), Célestin Freinet (1881-1966), Lev Vygotsky (1896-1934), Jean Piaget (1897-1980), among others who developed innovative educational experiences, which opposed the current traditional model of education (Castro et al., 2021).

The traditional methodology differs mainly from the self-regulated methodology because it treats the student passively in the teaching-learning process. In this way, the above brings the teacher as an active figure, so that he is the one who reviews the content to be addressed and, consequently, does not generate reflective thinking, so the student plays a passive role in learning and obtains a greater informative characteristic (Castro et al., 2021). In contrast, in self-regulated learning, the mediating subject of teaching is the teacher, who seeks to guide his students in order to verify their learning through an evaluative process, which can have a formal or informal aspect, in addition to transmitting their due evaluations about it and interfering with corrective guidelines (Castro et al., 2021).

Methodology

The study was framed in a quantitative approach, according to Hernández et al. (2014), the fundamental characteristics of quantitative methods are the orientation towards quantification and the cause of the phenomena, the absence of concern for subjectivity, the use of controlled methods, the objectivity sought through a distance from the data, the orientation towards verification, Results-oriented. According to the authors Hernández et al. (2014), this type of research is distinguished by having well-defined immediate practical purposes, that is, research is carried out to act, transform, modify or produce changes in a certain sector of reality and the study according to its design was quasi-experimental.

The sample consisted of two classrooms, I1 = 41 students Experimental group and I2 = 38 students Control group, selected from non-probability sampling, selected by non-probability sampling, because, as it is a quasi-experimental research, the groups are already previously formed, and the intact groups were taken. The survey was used as a technique and the self-regulated learning questionnaire by Gordon et al. (1996) as an instrument, whose content validity is 0.92 and Cronbach's alpha reliability is 0.92.

Results

Due to the nature of the study, inferential results have been weighed for this study, the first is referred to the statistical test for the determination of normality. According to the results:

H0: There are no significant differences between the ideal and normal data distributions

H1: There are significant differences between the ideal and normal distribution of data

Table 1 Normality Tests

	Kolmogorov-Smirnov		
	Statistical	Gl	Gis.
Self-Regulated Learning Pretest	,159	79	,000
Postest Self-Regulated Learning	,152	79	,000

If alpha (Sig) > 0.05; The Null Hypothesis is accepted

If alpha (Sig) < 0.05; The Null Hypothesis is rejected

The value of 0.000 and 0.000; H0 is rejected and H1 is accepted, the results come from a normal distribution.

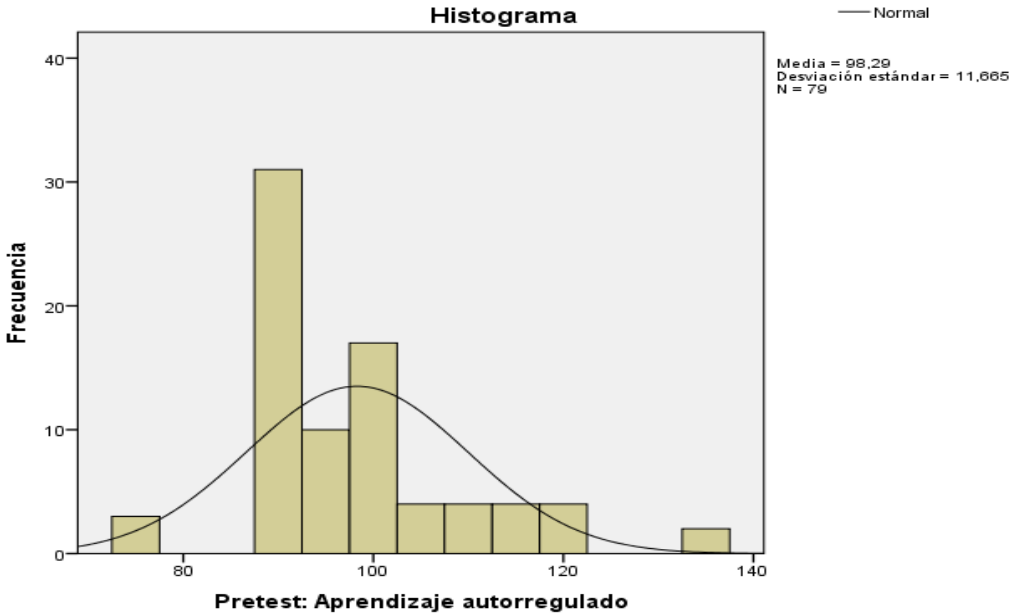

Figure 1. Frequency distribution of self-regulated learning test scores in the pretest

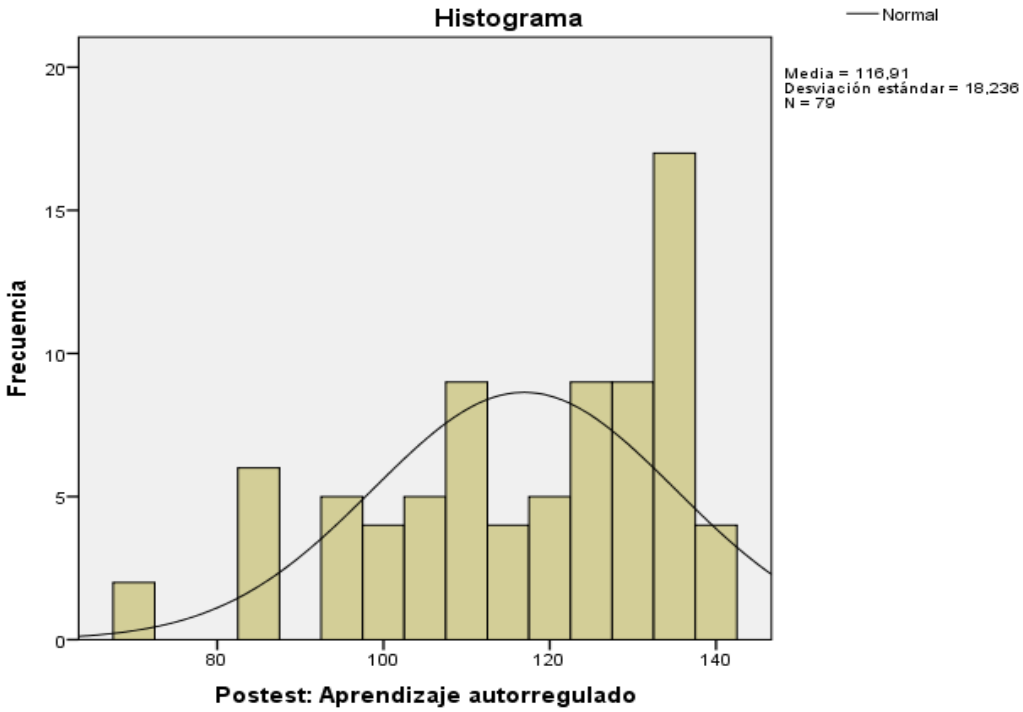

Figure 2. Frequency Distribution of Posttest Self-Regulated Learning Test Scores

The figures show that the results obtained from the self-regulated learning variable do not come from a normal distribution, therefore, non-parametric statistics will be used to test their hypothesis, as is the case of Whitney's Mann's U statistic.

Step 1: Making Statistical Hypotheses

Hi There is a significant influence of the proposal based on remote teaching, self-regulated learning in the students of Early Childhood Education of the UNE, 2022.

H0 There is no significant influence of the proposal based on remote teaching, self-regulated learning in the students of Early Childhood Education of the UNE, 2022.

Step 2: Decision Rule

Research hypotheses are accepted if and only if $p < 0.05$

Null hypothesis is accepted if and only if $p > 0.05$

Step 3: Mann-Whitney U Statistical Test

Table 2 Difference in ranks in the two groups

		Groups	N	Average Range	Sum of Ranks
Pretest: Learning	Self-Regulated	Experimental group	41	35,71	1464,00
		Control Group	38	44,63	1696,00
		Total	79		
Posttest: Learning	Self-Regulated	Experimental group	41	55,55	2277,50
		Control Group	38	23,22	882,50
		Total	79		

Table 3 Mann-Whitney U Test for Independent Samples

	Pretest: Self-Regulated Learning	Posttest: Self-Regulated Learning
U de Mann-Whitney	603,000	141,500
W for Wilcoxon	1464,000	882,500
Z	-1,733	-6,260
Asymptotic (bilateral) sig.	,000	,000

Step 4: Interpretation

Tables 1 and 2 represent the results in comparison of the pretest and posttest in both groups using Whitney's Mann's U statistic; In the first place, in the pretest it is deduced that the application of the proposal based on remote teaching does not positively influence self-regulated learning in students, because the result found between the groups gives a result that corresponds to $Z = -1.733$ and a p-value greater than 0.05, also locating that the average range in the EG is equal to 35.71 in reference to the average range of the CG which is equal to 44.63; however, after applying the proposal based on remote teaching in the posttest, differences were found that are considered highly significant, with a Z value = -6.260 and a p-value less than 0.05 that favors the GE, obtaining an average range equal to 55.55 (a value higher than that obtained by the CG equal to 23.22). Then the Ho is rejected, and the Ha is accepted, where it is proven that the application of the proposal based on remote teaching positively influences self-regulated learning in the students of Early Childhood Education of the UNE, 2022.

Under these results, it can be seen that the GE presents greater conditions and a better development of self-regulated learning, this is due to the application of the proposal based on remote teaching. It is concluded that the application of the proposal based on remote teaching significantly improves the development of self-regulated learning in students of Early Childhood Education of the UNE, 2022.

Specific hypothesis 1

Step 1: Making Statistical Hypotheses

Hi There is significant influence of the remote teaching proposal in the planning phase.

H0 There is no significant influence of the remote teaching proposal in the planning phase.

Step 2: Decision Rule

Research hypotheses are accepted if and only if $p < 0.05$

Null hypothesis is accepted if and only if $p > 0.05$

Step 3: Mann-Whitney U Statistical Test

Table 4 Difference in ranks in the two groups

	Groups	N	Average Range	Sum of Ranks
Pretest: Planning Phase	Experimental group	41	37,20	1525,00
	Control Group	38	43,03	1635,00
	Total	79		
Posttest: Planning Phase	Experimental group	41	56,55	2318,50
	Control Group	38	25,14	841,50
	Total	79		

Table 5 Mann-Whitney U Test for Independent Samples

	Pretest: Planning Phase	Posttest: Planning Phase
U de Mann-Whitney	664,000	100,500
W for Wilcoxon	1525,000	841,500
Z	-1,135	-6,670
Asymptotic (bilateral) sig.	,000	,000

Step 4: Interpretation

Tables 4 and 5 represent the results in comparison of the pretest and posttest in both groups using Whitney's Mann's U statistic; In the first place, in the pretest it is deduced that the application of the proposal based on remote teaching does not positively influence the planning phase, because the result found between the groups gives a result that corresponds to Z = -1.135 and p value greater than 0.05, also locating that the average range in the EG is equal to 37.20 in reference to the average range of the CG which is equal to 43.03; however, after applying the proposal based on remote teaching in the posttest, differences were found that are considered highly significant, with a Z value = -6.670 and a p-value less than 0.05 that favors the GE, obtaining an average range equal to 56.55 (a value higher than that obtained by the CG equal to 22.14). Then the Ho is rejected, and the Ha is accepted, where it is proven that the application of the proposal based on remote teaching positively influences the planning phase in the students of Early Childhood Education of the UNE, 2022.

Under these results, it can be seen that the GE presents greater conditions and a better development of the planning phase, this is due to the application of the proposal based on remote teaching. It is concluded that the application of the proposal based on remote

teaching significantly improves from the planning phase in the students of Early Childhood Education of the UNE, 2022.

Specific hypothesis 2

Step 1: Making Statistical Hypotheses

Hi There is significant influence of the remote learning proposal in the implementation phase.

H0 There is no significant influence of the remote teaching proposal in the implementation phase.

Step 2: Decision Rule

Research hypotheses are accepted if and only if $p < 0.05$

Null hypothesis is accepted if and only if $p > 0.05$

Step 3: Mann-Whitney U Statistical Test

Table 6 Difference in ranks in the two groups

	Groups	N	Average Range	Sum of Ranks
Pretest: Execution Phase	Experimental group	41	38,24	1568,00
	Control Group	38	41,89	1592,00
	Total	79		
Posttest: Execution Phase	Experimental group	41	52,96	2171,50
	Control Group	38	26,01	988,50
	Total	79		

Table 7 Mann-Whitney U Test for Independent Samples

	Pretest: Execution Phase	Posttest: Execution Phase
U de Mann-Whitney	707,000	247,500
W for Wilcoxon	1568,000	988,500
Z	-,713	-5,225
Asymptotic (bilateral) sig.	,000	,000

Step 4: Interpretation

Tables 6 and 7 represent the results in comparison of the pretest and posttest in both groups using Whitney's Mann's U statistic; firstly, in the pretest it is deduced that the application of the proposal based on remote teaching does not positively influence the execution phase, because the result found between the groups gives a result that corresponds to Z = -.713 and p value greater than 0.05, also locating that the average range in the EG is equal to 38.24 in reference to the average range of the GC which is equal to 41.89; however, after applying the proposal based on remote teaching in the posttest, differences were found that are considered highly significant, with a Z value = -5.225 and a p-value less than 0.05 that favors the GE, obtaining an average range equal to 52.96 (a value higher than that obtained by the CG equal to 26.01). Then the Ho is rejected, and the Ha is accepted, where it is proven that the application of the proposal based on remote teaching positively influences the execution phase in the students of Early Childhood Education of the UNE, 2022.

Under these results, it can be seen that the GE presents greater conditions and a better execution phase, this is due to the application of the proposal based on remote teaching.

Step 5: Statistical Conclusion

It is concluded that the application of the proposal based on remote teaching significantly improves the level of the execution phase in the students of Early Childhood Education of the UNE, 2022.

Specific hypothesis 3

Step 1: Making Statistical Hypotheses

Hi There is a significant influence of the proposal based on remote teaching in the self-reflection phase.

H0 There is no significant influence of the remote teaching proposal on the self-reflection phase.

Step 2: Decision Rule

Research hypotheses are accepted if and only if $p < 0.05$

Null hypothesis is accepted if and only if $p > 0.05$

Step 3: Mann-Whitney U Statistical Test

Table 8 Difference in ranks in the two groups

		Groups	N	Average Range	Sum of Ranks
Pretest: Phase	Self-Reflection	Experimental group	41	36,37	1491,00
		Control Group	38	43,92	1669,00
		Total	79		
Posttest: Phase	Self-Reflection	Experimental group	41	55,27	2266,00
		Control Group	38	23,53	894,00
		Total	79		

Table 9 Mann-Whitney U Test for Independent Samples

	Pretest: Phase	Self-Reflection	Posttest: Phase	Self-Reflection
U de Mann-Whitney	630,000		153,000	
W for Wilcoxon	1491,000		894,000	
Z	-1,492		-6,177	
Asymptotic (bilateral) sig.	,000		,000	

Step 4: Interpretation

Tables 8 and 9 represent the results in comparison of the pretest and posttest in both groups using the Whitney Mann's U statistic; In the first place, in the pretest it is deduced that the application of the proposal based on remote teaching does not positively influence the self-reflection phase, because the result found between the groups gives a result that corresponds to Z = -1.492 and a p value greater than 0.05, also locating that the average range in the EG is equal to 36.37 in reference to the average range of the CG which is equal to 43.92; however, after applying the proposal based on remote teaching in the posttest, differences were found that are considered highly significant, with a Z value = -6.177 and a p-value less than 0.05 that favors the GE, obtaining an average range equal to 55.27 (a value higher than that obtained by the CG equal to 23.53). Then the Ho is rejected, and the Ha is accepted, where it is proven that the application of the proposal

based on remote teaching positively influences the self-reflection phase in the students of Early Childhood Education of the UNE, 2022.

Based on these results, it can be seen that the GE presents greater conditions and a better phase of self-reflection, this is due to the application of the proposal based on remote teaching. It is concluded that the application of the proposal based on remote teaching significantly improves the self-reflection phase in the students of Early Childhood Education of the UNE, 2022.

Discussion

The objective of this research was to determine the influence of the proposal based on remote teaching on self-regulated learning in the students of Early Childhood Education of the UNE, 2022, at the end of the analysis, it could be noted that, among the students surveyed, it stands out that a unanimous opinion is that it is more advantageous to work in person. However, the only way to guarantee the study and teaching of these students was precisely to renounce that close contact to make way for totally distance learning. The problems caused by this period will continue to show up over the years. However, with good practices and professionals dedicated to teaching students better and better, it is possible to get closer to the normality that existed before the pandemic.

Therefore, it is incumbent upon future and already active teachers to pay attention to the educational problems caused by the pandemic. During the writing of this work, the progress of the class in question was closely followed. In addition, it was possible to conclude that the students had a good follow-up by the pedagogical team. As a result, they managed to get through the remote period to alleviate all the problems caused by the pandemic. The COVID-19 pandemic entered human history, marking a moment in which technologies will never cease to accompany the academic lives of teachers and students.

In this sense, it was found that the proposal based on remote teaching significantly improves self-regulated learning in students of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in self-regulated learning after the application of the remote teaching proposal ($z = -6.260$, $p < 0.05$), in order to strengthen the support of this result it was necessary to make a comparison with the study carried out by Guarniz (2021), who with a result of 0.871 in the significance level of Spearman's hypothesis test, what he means is that there is a positive significant link. At the international level, similar studies were also carried out on these variables that can serve as support for sustenance, such is the case of Gaeta et al. (2021), where they stated that a positive influence was found on the self-efficiency applied to cope with stress and positive emotions on the self-regulation of student learning, likewise, It was found that it depends a lot on the age and gender that you have these emotions.

On the other hand, Moreno and Pérez (2021) conclude that students' academic performance is favorable while students obtain more metacognitive skills in their development and it occurs through the phases of self-regulated learning. Therefore, the role of the teacher in the context of the pandemic has undergone significant changes while retaining its importance. Although ICTs offer an infinite universe of content, only the professional teacher is able to filter what is really relevant to the student's teaching and learning. In this sense, the role of the teacher is fundamental, even in the face of so many changes brought about by technology. As a result of the pandemic, it was necessary to adapt the teaching-learning process with the help of ICTs, even in the midst of the difficulties derived from this flawed system, the education of thousands of students became possible. As a methodological approach, it was decided to carry out the study under the deductive scientific method. The deductive method, in turn, proved to be fundamental for the selection and comparison of the thematic proposal. Still in terms of

approach, the research is characterized by being endowed with a qualitative aspect; in relation to objectives, exploratory research; As for the temporal delimitation, this is an investigation based on retrospective studies.

As for the research techniques, due to the procedural framework, it is a bibliographic review under the systematic format, whose cut and collection of material carefully obeyed the correlation and adherence of the selected materials with the central content discussed. To this end, in addition to the traditional theoretical contributions related to the discipline in question, the Google Scholar and Scielo platforms were used as a basis for searches and selections.

The proposal based on remote teaching significantly improves the planning phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in motivation after the application of the remote teaching proposal ($z = -6.670$, $p < 0.05$). In order to strengthen the support of this result, it was necessary to compare it with the study carried out by Arcujaulla et al. (2021), where the authors stated that the students evaluated managed to reinforce the self-regulation of their course learning, through the flipped classroom model, at the international level. Similar studies were also carried out on these variables that can serve as support for sustenance, as in the case of Castro et al. (2021), where they conclude that it is very important to propose techniques to improve self-regulation, teamwork and encouragement in the student, there must also be feedback developed by the teacher, to be able to be clear about teaching in this modality and these times.

In this sense, the work of the teacher in the Covid-19 pandemic permeates the concepts of protagonism, mediation, didactic transposition and curatorship. The so-called protagonism refers to the process of receiving guidance, through the teacher who encourages the student to learn through situations and challenges. Students will be able to lead the way in their learning as long as they have someone to mediate in this process and, here, the fundamental role of the teacher is evident. Protagonism refers to the participation of the student by dedicating themselves to the material produced by the teacher, the model in which the classes have to be ready to be consumed must be abandoned, encouraging the work of the students together with the teachers in the sense of creativity and critical thinking.

The proposal based on remote teaching significantly improves the execution phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group, in self-planning, after the application of the remote teaching proposal ($z = -5.225$, $p < 0.05$). In order to strengthen the support of this result, it was necessary to make a comparison with the study carried out by Muñoz (2021), who stated that the results yielded a coefficient of 0.956.He also concluded that there is a positive influence, so we can say that, if there are better evaluation rubrics, there will also be better self-regulation of learning in students. At the international level, similar studies have also been carried out on these variables that can serve as support for sustenance, such as the case of Tello et al. (2021), where they conclude that there is a high link between the two variables. This means that, as the student has a better degree of resilience, they will have a better level of self-regulation of their learning compared to their peers.

Thus, the phenomenon of the use of Information and Communication Technologies (ICT) as auxiliary mechanisms of education, which predates the pandemic, can be appreciated. What generated the pandemic crisis and social isolation was to abruptly create a scenario where distance learning became the only viable solution. These technological mechanisms should not be seen as enemies of traditional education, but as aids in the teaching-learning process. Apart from that, education and, mainly, educators cannot

remain stagnant in time, the implementation of the use of ICT requires a process of continuous training by teachers.

The proposal based on remote teaching significantly improves the self-reflection phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in self-regulation after the application of the remote teaching proposal ($z = -6.177$, $p < 0.05$). In order to strengthen the support of this result, it was necessary to make a comparison with the study carried out by Cruzado (2021), where he concludes that the students evaluated have high degrees of self-regulation. However, after applying the Chatbot as a support in their learning, this self-regulation increased. This means that this tool, under proper use, offers optimal results. At the international level, similar studies have also been carried out on these variables, which can serve as support for sustenance. This is the case of Infante et al. (2021), who conclude that 27 technological apps were found to help self-regulation of learning. The most relevant are Whatsapp and Google Calendar, which are also recommended by most university teachers.

In addition, there is a challenge to guarantee the right to education and, above all, in the teaching model that uses ICTs, these technologies are not part of the reality of the poorest. Implementing the use of ICTs in the teaching-learning process depends on combating inequality, or at least on policies that minimize its effects. The COVID-19 pandemic, therefore, opened up inequality in education. Thus, some students adapted, with less difficulty, to the implementation of distance learning, since they are used to using the latest smartphones, tablets, computers, etc. Others, however, do not even have access to the basics to adapt to the "new normal". This is the situation of a vulnerable population, whose access to the school environment also implied having school lunches as an important source of the daily food table, often being the only daily meal.

The discussion on an educational model that uses ICT as an ally must, therefore, permeate the debate on socio-economic inequality. A positive aspect of emergency remote teaching is the environment for students and teachers, a better mastery of these technologies is essential to make the teaching-learning process viable. In one way or another, the future of education is linked to information technologies, the teaching professional will continue to be fundamental, however, they must master this new educational model.

Conclusions

The proposal based on remote teaching significantly improves self-regulated learning in students of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in self-regulated learning after the application of the remote teaching proposal ($z = -6.260$, $p < 0.05$).

The proposal based on remote teaching significantly improves the planning phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in motivation after the application of the remote teaching proposal ($z = -6.670$, $p < 0.05$).

The proposal based on remote teaching significantly improves the execution phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in self-planning after the application of the remote teaching proposal ($z = -5.225$, $p < 0.05$).

The proposal based on remote teaching significantly improves the self-reflection phase in the students of the Faculty of Early Childhood Education of the UNE, 2022. It was shown that there are significant differences between the results obtained by the subjects of the experimental group and the control group in self-regulation after the application of the remote teaching proposal ($z = -6.177$, $p < 0.05$).

References

Arcujaulla, S., Celis, S., Flores, J., Granda, L. (2021). Flipped classroom model in the area of social personnel to promote self-regulation of learning. (Bachelor's thesis). Peru: Escuela de Educación Superior Pedagógica Pública Monterrico. Retrieved from http://209.45.111.196/bitstream/20.500.12905/1934/1/Tesis-EP-Arcujaulla.pdf

Bernal, A. (2010). Research Methodology. Mexico: Pearson.

Bocanegra, N., & Navarro, M. (2017). Virtual assessment. A resource to enhance self-regulation and learning. Mexico: Universidad Pedagógica de Durango. Retrieved from https://redie.mx/librosyrevistas/libros/evaluacionvirtual.pdf.

Carranza, J. (2021). Self-regulation and academic self-efficacy in university students of the FACSHE-UNPRG Language Center. (Master's thesis). Peru: Universidad César Vallejo. Retrieved from https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/55037/Carranza_CJ-SD.pdf?sequence=1&isAllowed=y

Carranza, J. (2021). Self-regulation and academic self-efficacy in university students of the FACSHE-UNPRG Language Center. (Master's thesis). Peru: Universidad César Vallejo. Retrieved from https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/55037/Carranza_CJ-SD.pdf?sequence=1&isAllowed=y

Carrasco, S. (2009). Scientific research methodology: Methodological guidelines for designing and elaborating the research project. Lima: Ed. San Marcos.

Castro, N., Suárez, X., & Rivera, P. (2021). Self-regulation strategies used by university students in virtual environments and academic satisfaction achieved during the pandemic. (Scientific article). Revista de Educación Mendive. Retrieved from https://dialnet.unirioja.es/servlet/articulo?codigo=8200470

Criado, C. (2021). Academic motivation and attitude towards learning in the remote modality in students of a Private University of Trujillo. (Master's thesis). Peru: Universidad César Vallejo. Retrieved from https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/69825/Criado_BCE-SD.pdf?sequence=1&isAllowed=y

Cruzado, G. (2021). Chatbot as a self-regulation strategy for learning in times of pandemic. (Scientific article). UPN Institutional Repository . Retrieved from https://repositorio.upn.edu.pe/handle/11537/27977

Cruzado, G. (2021). Chatbot as a self-regulation strategy for learning in times of pandemic. (Scientific article). UPN Institutional Repository . Retrieved from https://repositorio.upn.edu.pe/handle/11537/27977

Gaeta, M., Gaeta, L., & Rodríguez, M. (2021). Self-efficacy, emotional state and self-regulation of learning in university students during the COVID-19 pandemic. (Scientific article). Journal of Research Events in Education. Retrieved from https://revistas.ucr.ac.cr/index.php/aie/article/view/46280#sec-1

Galindo, F., & Ruiz, F. (2017). Digital skills in the face of the emergence of the Fourth Industrial Revolution. Spain: scielo. Retrieved from https://www.researchgate.net/publication/322017042_Competencias_digitales_ante_la_irrupcion_de_la_Cuarta_Revolucion_Industrial

Guarniz, O. (2021). Self-regulated learning and digital competencies in learning achievements in students of an adult training program at a private university in Trujillo, semester 2020-2.

(Doctoral thesis). Peru: Universidad César Vallejo. Retrieved from https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/56459/Guarniz_BOC-SD.pdf?sequence=1&isAllowed=y

Hernandez, R., Fernandez, C., Baptista, P. . (2014). Research Methodology. Mexico: McGRAW-HILL.

Infante, V., Dapelo, B., Cobo, R., López, Y., Escobar, B., & Beyle, C. (2021). Applications they use and recommendations provided by university students for the self-regulation of learning in the context of the COVID-19 pandemic. (Scientific article). Lirne Text Magazine.

Infante, V., Dapelo, B., Cobo, R., López, Y., Escobar, B., & Beyle, C. (2021). Applications they use and recommendations provided by university students for the self-regulation of learning in the context of the COVID-19 pandemic. (Scientific article). Lirne Text Magazine. Retrieved from https://repositorio.uvm.cl/bitstream/handle/20.500.12536/1448/Art%C3%ADculo%20de%20revista%20-%20Aplicaciones%20que%20emplean%20y%20recomendaciones%20que%20entregan%20docentes%20universitarios%20para%20la%20autorregulaci%C3%B3n%20del%20aprendizaje%20en%20

Martinez, J. (2020). Digital competencies for teachers and the challenge of virtual education derived from covid-19 (Scientific Article). Colombia: Education and Humanism. Retrieved from http://revistas.unisimon.edu.co/index.php/educacion/article/view/4114.

Moreno, C., & Pérez, C. (2021). Self-regulation factors of learning that intervene in school performance. (Master's thesis). Colombia: Corporación Universitaria Minuto de Dios. Retrieved from https://repository.uniminuto.edu/bitstream/10656/12977/4/TM.ED_PerezRodriguezCarolina_MorenoHerediaClaudiaPatricia_2021.pdf

Muñoz, K. (2021). Assessment rubrics and the self-regulation of learning in students at a public university in the city of Andahuaylas, 2021. (Master's thesis). Peru: Universidad César Vallejo. Retrieved from https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/71099/Mu%c3%b1oz_VK-SD.pdf?sequence=8&isAllowed=y

Baker, E. (2017). A Review of Self-regulated Learning: Six Models and Four Directions for Research. Front. Psychol. Retrieved from https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00422/full

Rambay, M., & De la Cruz, J. (2020). Development of digital skills in university teachers in times of pandemic: a systematic review. Chimbote: uladech magazines. Retrieved from https://revistas.uladech.edu.pe/index.php/increscendo/article/view/2331/1605

Revelo, J. (2017). Model of integration of teaching digital competence in the teaching of mathematics at the Equinoccial Technological University (PhD thesis). Spain: University of Extremadura. Retrieved from https://dehesa.unex.es/bitstream/10662/6214/1/TDUEX_2017_Revelo_Rosero.pdf

Tello, E., Pupo, R., & Leyva, D. (2021). Resilience and self-regulation of learning in students of the first cycle of Psychology. (Scientific article). Luz Magazine. Retrieved from https://luz.uho.edu.cu/index.php/luz/article/view/1107

Zimmerman, J. (2002). Becoming a Self-Regulated Learner: An Overview. From theory to practice. Scielo, 18.