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Program Of Formative Assessment Instruments In The Management Of Learning Evidence Of Teachers Of The Arena – Piura, 2023

Sandoval Chunga, María Carmen[1] , Atoche-Silva Luz Angélica[2] , Rufino Sosa, Mario[3] , Carmen Julia Morocho Ricalde[4] , Elizabeth del Socorro García Paz[5]

Abstract

The purpose of this study was to determine the influence of the formative assessment instrument program on the management of learning evidence of teachers in La Arena, Piura. It is of the applied type because its specific purpose is to improve a problematic situation that affects teachers, who through the application of the Design of Evaluation Instruments Program improved the management of learning evidence. The study population consisted of 40 teachers at both educational levels. The sample consisted of 26 teachers who met the inclusion and exclusion criteria. To achieve this purpose, 15 work sessions were held at the teacher level, and all the sessions contributed to strengthening professional competencies in each of the dimensions of the dependent variable. We worked with a single group of teachers to whom a pre-test was applied, then the program was applied and then a post-test was applied. Comparing the pre-test and the post-test, it is confirmed that there are significant differences, allowing us to demonstrate that the application of the program has had significant effects.

Key words: *Formative Assessment, Learning Evidence, Assessment Instruments, Teachers.*

1. Introduction

To be competent, it is necessary to receive a quality education, where the student is evaluated under the formative approach and with the relevant evaluation instruments to properly assess their evidence of learning. Vice Ministerial Resolution 094 of the Ministry of Education of Peru (RVM Minedu, 2020) defines evidence as everything that the student produces, whether tangible or intangible. In these evidences, students express what they have learned, that is, the level of achievement of their competencies is evidenced. Evidence must be relevant, the same that must be analyzed to provide information on the achievements, the difficulties they have with respect to a certain competence (RVM 334, Minedu, 2020).

At the international level, Martín-Párraga et al. (2022) in their review of theoretical frameworks regarding digital competence carried out in Spain,[1] analysed the problematic situation experienced by teachers with respect to teacher digital competence and in one of their conclusions they point out that theoretical frameworks or policies should be reconsidered where other strategies are proposed to collect more evidence from students and make assessment more objective, In addition, they refer that teachers must be empowered by their professional

[1]https://orcid.org/0000-0003-4897-419X Universidad César Vallejo de Piura – Perú.
[2]https://orcid.org/0000-0002-2901-2326 Universidad Nacional de Frontera.
[3]https://orcid.org/0000-0002-4539-9815 Universidad César Vallejo de Piura – Perú.
[4]https://orcid.org/0000-0002-8398-8696 Universidad César Vallejo de Piura -Perú.
[5]https://orcid.org/0000-0001-6529-4183 Universidad César Vallejo de Piura – Perú.

activity, one of the aspects being that of evaluation and feedback within the Reference Framework of Digital Competence for Teachers in Spain.

Likewise, the Latin American Laboratory for the Evaluation of the Quality of Education (LLECE), of the Regional Bureau of Education for Latin America and the Caribbean (OREALC/Unesco - Chile, 2020), carried out a study focusing on delivering learning results individually for both the student and the teacher. To know their progress with respect to the learning goals, both were monitored; A strategy that allowed to change the focus of the evaluation based on processes and growth, making adequate use of the evaluation instruments, in addition to analyzing the evidence of the students for the achievement of the proposed objectives. In the same vein, the Organisation for Economic Co-operation and Development (OECD, 2019) points out that improving skills assessment systems requires designing tools that are relevant to students' needs.

Likewise, Anijovich (2019) in his book presents the research carried out by the Education Endowment Foundation (a research center in the United Kingdom), together with the Research and Innovation Laboratory for Latin America and the Caribbean (SUMMA) and the La Caixa Foundation, reveal that evaluation is unilateral and is carried out only by teachers; Oral and written tests are the only evidence of learning. In addition, they argue that formative assessment currently implies a change of culture in the classroom where students themselves can judge their own evidence or productions and also the work of others. In this same sense, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2018) one of its objectives is to improve education and from the evaluation framework the rubrics should serve as a guide to the student, so it is necessary to know the criteria with which their evidence will be evaluated, highlighting the role of the teacher in order to improve and achieve the desired learning.

At the Peruvian level, Ministerial Resolution 186 of the Ministry of Education (Minedu, 2022) states that teachers must plan their activities based on the analysis of the learning evidence that is collected through evaluation based on established criteria, allowing teachers to identify the difficulties and achievements achieved by their students during the educational process in order to improve learning. In addition, the National Basic Education Curriculum (CNEB, 2016) states that this type of evaluation brings into play all the student's abilities and that the evidence must be analyzed through various instruments such as rubrics, portfolios, written tests, among others. Instruments that are developed by the teacher and that must be known by the students at the beginning of their learning activity.

On the other hand, the National Educational Project to 2036 (PEN, 2020) states that there are many difficulties regarding the quality of education that is often confused with the coverage of education, adding to this the population that still does not have access to education (Unicef, 2017) and the challenge of Peruvian education is to guarantee equitable education, quality and inclusive, where lifelong learning opportunities are promoted. In addition, teachers are expected to fulfill their mediating role, to achieve student autonomy by self-regulating their own learning; This is achieved over time, by applying the assessment instruments with which their learning evidence will be evaluated (Dignath & Veeman, 2020).

At the local level of the Piura region, studies indicate that in educational institutions many of the teachers have difficulties to carry out formative evaluation, apply evaluation instruments and properly manage evidence, a strategy that Minedu has been promoting since 2016, the same one that is contemplated in the CNEB. In the Educational Institution of Catacaos the result of the monitoring carried out by the management team states that teachers have deficiencies in applying this type of evaluation (Álvarez, 2021). Similarly, Elías (2021) shows that 61.20% of teachers state that sometimes or never the evidence of learning demonstrates the achievement of their learning.

I.E No. 14123, through monitoring, has found that one of the training needs of teachers is to continue strengthening themselves with respect to formative assessment guidelines, the use of various assessment instruments to analyze evidence of learning, and in most teachers they make use of the checklist to evaluate cognitive, procedural and attitudinal competencies because it is difficult for them to apply other types of training. instruments because they are more laborious to make. Faced with this problem to evaluate under the formative approach, the general problem arises: How does the program of formative evaluation instruments influence the management of learning evidence of teachers in La Arena, Piura? The specific problems can be summarized as: How does the program of formative assessment instruments influence the knowledge, doing, being and evidence of the learning product of teachers in La Arena - Piura? This research has a theoretical justification because it relates constructivist theory to the formative assessment approach. The EI works under the constructivist paradigm, an approach enriched with the contributions of Vygotsky, Piaget, Ausubel and Bruner where the student is the protagonist and the teacher is the one who through mediation to his students build their learning, also framed in the guidelines of the formative evaluation promoted by the Peruvian state through the CNEB and it is the teachers who must encourage this progress through various situations Significant. One of the processes of this formative assessment is to generate evidence of what students are learning, to make feedback and offer feedback

In this same sense, it has a practical justification because through the pre-test carried out on teachers, the program for the design of formative assessment instruments was based; methodological, because an instrument was used that was the validated and reliable questionnaire that can be used for future research. It is relevant, because of the significant results obtained for the strengthening of professional teaching capacities, and it is convenient, because it allowed to solve the problem that was identified at the level of teachers in the educational institution.

For these reasons, the general objective of this research was to determine the influence of the program of formative assessment instruments on the management of learning evidence of teachers in La Arena – Piura, and the specific objectives are summarized as: To determine the influence of the program of formative assessment instruments on knowledge, in the doing, in the being and in the evidences of the product of the learning of the teachers of La Arena – Piura.

Likewise, the general hypothesis is formulated: the program of formative assessment instruments significantly influences the management of learning evidence of the teachers of La Arena – Piura and as specific hypotheses are: the program of formative assessment instruments significantly influences the knowledge, doing, being and evidence of the product of teachers of La Arena – Piura.

2. Objectives and Hypotheses

2.1 General objective

To determine the influence of the formative assessment instrument program on the management of evidence of learning of teachers in La Arena, Piura.

2.1.1 Specific objective

To determine the influence of the program of formative assessment instruments on the knowledge, doing, being, and learning product evidence of teachers in La Arena, Piura.

2.2 General hypothesis

The program of formative assessment instruments significantly influences the management of learning evidence of teachers in La Arena – Piura.

2.2.1 Specific hypothesis

The program of formative assessment instruments significantly influences the knowledge, doing, being, and evidence of the product of teachers at La Arena – Piura.

3. Methodology

3.1. Type and design of research

3.1.1. Type of research

The present research is of an applied type because its specific purpose was to improve a problematic situation that affected teachers, who through the application of the Program for the Design of Formative Assessment Instruments improved in the management of learning evidence. In addition, this type of research developed ideas that have been operative in the educational field. (Concytec, 2018).

3.1.2. Research design

It has a pre-experimental design whose main characteristic is to quantitatively verify the causality of one variable over another, that is, it involves the manipulation of the independent variable, which is why a program was designed that was worked on at the level of teachers and in this way verify the effects on the dependent variable (Arias and Covinos, 2021).

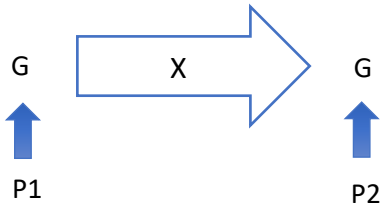

Figure 1. Schema corresponding to the research design

Where:
G: Teachers' group
P1: Pre test
X: Program (V. Independent)
P2: Postest

3.2 Population, sampling and sampling

3.2.1 Population

It is the set of objects or individuals that you want to investigate (Canales, et al., 1994). The I.E has 40 teachers who represented the teaching population at its two educational levels.

Teachers	Quantity
Initial	9
First Grade	5
Second Grade	4
Third Grade	4
Fourth Grade	5
Fifth Grade	5
Sixth Grade	4
Physical education	3
Computation	1

Total	40

Table 1. Population of the I.E
Source: Authors' own creation
Note: Number of teachers per grade.

Inclusion criteria: Be appointed teachers in the specialty of primary education, have a workload of thirty hours
Exclusion criteria: Be preschool teachers, with less than thirty hours of workload.

3.2.2 Sample

The sample is a subgroup of the population that interests the researcher. Instruments were applied to this select group to collect relevant information on the problem being investigated. The sample must be representative of the selected population in order to generalize the results found in the sample (Hernández & Mendoza, 2018). The sample consisted of 26 primary school teachers who participated voluntarily and met the inclusion criteria.

Teachers	Quantity
First Grade	5
Second Grade	3
Third Grade	4
Fourth Grade	5
Fifth Grade	3
Sixth Grade	4
Physical education	1
Computation	1
Total	26

Table 2. Number of participating teachers
Source: Authors' own creation
Note: Number of teachers per grade.

3.2.3 Sampling

One of the characteristics of the sampling technique is that it is carried out as long as the population is large (Arias & Covinos, 2021). In this study, a non-probabilistic convenience sampling was used.

3.2.4 Unit of analysis

The unit of analysis is the teachers selected from I.E N° 14123. They are the subjects selected from the research to provide the necessary information, which will later be treated statistically (Hernández & Mendoza, 2018).

to. Data collection techniques and instruments:

The technique used was the survey and as an instrument a questionnaire was applied to the teachers that was used to collect data that is used in scientific research works and that consists of a set of questions and numbered in a table and considers a series of possible answers that the respondents must answer (Arias and Covinos, 2021).

This instrument, called Teachers' Perception of Learning Evidence, consists of 32 items and has been applied face-to-face to primary school teachers with a duration of thirty minutes, its measurement scale has been ordinal; This instrument was validated by five PhDs in Education and its validity was demonstrated through the V of aiken test (0.98). For reliability, Cronbach's alpha was applied, obtaining 0.905. Likewise, we have worked with Baremos that has served to determine the score for each of the categories: always, sometimes and never in each of the dimensions and the variable.

Validity:

Rodríguez et al. (2021) report that validity is the degree to which an instrument measures a variable; in this case, the questionnaire; It measures the dependent variable that has been carried out by requesting the opinion of five experts in the field, who had the task of analyzing and evaluating the instrument. In addition, Aiken's V test was performed on all the results of each of the assessments given by the experts, obtaining 0.98, which confirms the validity of the questionnaire.

N°	Surname and first name	ORCID
01	Acosta Jiménez, Gloria del Rosario	0009-0001-8747-0464
02	Chiroque Cienfuegos Cecilia	0000-0002-7938-4179
03	Palacios Chinga Javier Alexander	0000-0002-6830-4612
04	Salinas La Torre,Eddy Rosario	0000-0002-9844-0631
05	Vega Olivos, Aura	0000-0002-0591-1087

Table 3. Experts in the evaluation of the instrument
Source: Authors' own creation

Reliability

For Corral (2009), reliability is a process that begins when the instrument is applied; in this case, the questionnaire; to a certain group of subjects with the same characteristics and conditions as the real group to whom it will be applied later. Reliability results when the instrument is applied to a certain group of people and the correlation of the results is positive. To determine the reliability of the questionnaire, the results are obtained with certain procedures or, in other cases, through formulas. To affirm that the instrument is reliable, its results must be between 0 and 1, while the results are close to 1 it will be more reliable, otherwise the instrument must be restructured.

For this research, a pilot test was applied to 26 primary school teachers in the district of La Arena with similar characteristics and who attend in the different grades. These teachers were not part of the study. Cronbach's alpha coefficient was applied to obtain the reliability of the instrument, obtaining a reliability level of 0.905.

3.3 Procedures

Various sources of information were consulted, such as the repository of different universities, doctoral theses, scientific articles from indexed journals, and all the information related to the two study variables. Likewise, he coordinated with the director to work on research in EI, as well as to develop the program for the design of formative assessment instruments. Then, all teachers at the primary level of the EI were sensitized to the importance of improving the teacher's skills, according to the MBDD, and thus provide quality education. A pre-test was applied to the teachers in the sample and consists of 32 items with a duration of 30 minutes; In

addition, the agenda was developed and fifteen sessions were implemented. A post-test was then applied, the results were processed to prepare the final report.

3.4 Data analysis method

For the processing of the data that were collected through the questionnaire that was applied to the teachers in a pre-test and a post-test, it was carried out using the Statistical Package for Social Sciences (SPSS) and also Microsoft Excel. Descriptive and inferential statistics were performed. Regarding the descriptive aspect, tables have been used to organize the data. As for inferential statistics, it has allowed to demonstrate the validity or nullity of the hypotheses, in this case all the null hypotheses were rejected through Wilcoxon's non-parametric test. In the present study, the sample consisted of 26 teachers, so it is less than 50 and this being so, the Shapiro-Wilk normality test was applied, with a significance of less than 0.05, so the data obtained are not normal.

4. Results

The purpose of this research was to determine the influence of the formative assessment instrument program on the management of learning evidence of teachers in La Arena – Piura. To achieve this goal, 15 working sessions were held at the level of primary school teachers. At the beginning of the program, all the participants reflected on the importance of continuing to improve their professional competencies, within the framework of the MBDD, about the development of evaluation instruments for the collection of student evidence, as contemplated by the CNEB.

All the sessions contributed to strengthening the professional competencies of the teachers in each of the dimensions of the dependent variable: evidence of knowledge, of doing, of being or attitudinal and of product. We worked with a single group of primary school teachers who were given a pre-test before starting the development of the program. Next, the program called Design of Formative Assessment Instruments was applied and then a post-test was applied to this same group.

To determine the influence of the formative assessment instrument program on the management of learning evidence, the data were analyzed from descriptive statistics through the frequencies in each of the dimensions. An analysis of the measures of central tendency and then a percentage analysis of each of the dimensions and the study variable, as detailed in the following table:

	Pre-test				Post-test			
	M	Md	MO	D.E	M	Md	MO	D.E
Evidence of Knowledge	4.23	4.00	4	2.197	15.15	16	16	1.223
Evidence of Doing	5	5.00	5	0.000	15.65	16.00	16	0.485
Evidence of Being	3.69	0.00	0	4.067	15.77	16.00	16	0.430
Product Evidence	5.12	5.00	3	2.688	15.15	15.00	16	0.881
Managing learning evidence	17.65	16.5	12	5.315	61.73	62	62	1.663

Table 4. Descriptive statistics of the pre- and post-test of the management of learning evidence
Source: Authors' own creation

Table 4 shows that the arithmetic means of the dimensions of the study variable management of evidence of learning: knowledge, doing, being or attitudes, and evidence of learning differ significantly from the post-test. The median of the first dimension: evidence of knowledge in

the pre-test was 4.23, after applying the program the mean in the post-test had an increase of 11.77; Also in this dimension, the majority of teachers had a fairly high increase in the pre-test, and when applied to the post-test, the mode had a fairly high increase. Similarly, if you look at the mean, it is 4.23 and the SD is approximately 2, that is, most teachers are far from the mean and that is 2 points of difference, however, after having applied the post-test, the standard deviation of 2 dropped to 1, that is, the data are closer, The difference between a teacher and another teacher is one point. In the dimension of doing pre-test 5 and post-test 16; Evidence of SER pre-test 3.69 and post-test 16, product evidence pre-test 5.12 and post-test 16. Similarly, with the other measures of central tendency, a high increase from pre-test to post-test is observed.

Categories	Pre-test		Post-test		Differences	
	f	%	f	%	f	%
Never	18	69	0	0	-18	-69
Sometimes	8	31	0	0	-8	- 31
Always	0	0	26	100	+26	100
Total	26	100				

Table 5. Percentage of Category Achieved in Dimension: Evidence of Knowledge
Source: Authors' own creation

As shown in Table 5 regarding the percentage of the categories achieved in the variable management of learning evidence, in the pre-test of the first dimension, 69% of the teachers never managed the evidence of learning knowledge, 31% sometimes did and 0.0% always did so. Significant improvements were observed when the program for the design of formative assessment instruments was applied, where the professional competencies of teachers were strengthened, so much so that when applied to the post-test, 100% of teachers always manage the evidence of knowledge of their students, making use of the appropriate instruments for this purpose. So much so, that there were significant improvements and it is evidenced in the differences established -18 teachers who never managed and the -8 who did sometimes, all teachers +26 which is 100% of teachers manage the evidence of knowledge using appropriate evaluation instruments.

	Pre-test		Post-test		Differences	
Categories	f	%	F	%	f	%
Never	18	69	0	0	-18	-69
Sometimes	8	31	0	0	-8	- 31
Always	0	0	26	100	+26	100
Total	26	100				

Table 6. Percentage of Category Achieved in Dimension: Evidence of Doing
Source: Authors' own creation

In the second dimension, evidence of doing, 69% of teachers never managed the evidence of their students' actions or performance, and 31% of teachers sometimes did and 0% always did so. After applying the program to design formative assessment instruments, improvements in teachers were evidenced, which was demonstrated in the post-test that 100% always manage the evidence of performance or the actions of their students. There were significant

improvements and this can be demonstrated by the differences observed in the table: -69%, and -31%, this means that there are 0 teachers in the categories of never and sometimes, that is, +26 teachers strengthened their professional competencies.

	Pre-test		Post-test		Differences	
Categories	f	%	f	%	f	%
Never	18	69	0	0	-18	-69
Sometimes	8	31	0	0	-8	- 31
Always	0	0	26	100	+26	100
Total	26	100				

Table 7. Percentage of Category Achieved in Dimension: Evidence of Doing
Source: Authors' own creation

In the dimension of evidence of the student's being or attitudes, it is observed that in the pre-test, 0% of teachers always manage this type of evidence, 31% of teachers sometimes do so and 69% who never do it. If the program is applied and the design of formative assessment instruments are implemented, significant improvements are visualized, so much so that, in the post-test, 100% of the teachers adequately manage the evidence of the being or attitudes of their students. In addition, the table shows these differences -18 teachers improved, so much so that there are 0 teachers in the category of never and 0 teachers (-8) in the category sometimes.

	Pre-test		Post-test		Differences	
Categories	f	%	f	%	f	%
Never	18	69	0	0	-18	-69
Sometimes	8	31	0	0	-8	- 31
Always	0	0	26	100	+26	100
Total	26	100				

Table 8. Percentage of the category achieved in the dimension: Product Evidence
Source: Authors' own creation

And in the last dimension, evidence of the product applied to the pre-test, it is shown that 69% of teachers never manage this type of evidence of their students, 31% do it from time to time and 0% always do it. After the application of the program called Design of Evaluation Instruments, the professional teaching competencies were strengthened, so that in the post-test 100% of the teachers manage the clairvoyances of the being or attitudes of the students. This significant improvement is evidenced in the differences found: -18 teachers and -8 teachers with this type of evidence, leaving 0 teachers in the categories that never and sometimes manage this type of evidence and +26, that is, 100% always manage it.

	Pre-test		Post-test		Differences	
Categories	f	%	f	%	f	%
Never	16	62	0	0	-16	-62
Sometimes	10	38	0	0	-10	- 38
Always	0	0	26	100	+26	100

Total	26	100

Table 9. Percentage of the category achieved in the variable Management of learning evidence
Source: Authors' own creation

In the pre-test, 62% of the teachers surveyed never applied instruments to manage evidence of knowledge, doing, being and product. After applying the program of design of formative assessment instruments and after the post-test, no teacher was found who did not manage the evidence of their students, because 100% of teachers managed to move on to always manage the evidence of learning.

According to the frequency tables for each dimension and the total score, the data were analyzed from inferential statistics to respond to the objectives of this research. To do this, the normality of the data was first determined, finding with the Shapiro-Wilk statistician (for having worked with a sample of less than 50) that the data are non-parametric as evidenced in the following table.

Dimensions/Variable	Pre-test			Post test		
	Statistical	Gl	Gis.	Statistical	Gl	Gis.
Evidence of Knowledge	0.892	26	0.011	.665	26	<,001
Evidence of Doing	0.0	26	0.0	.604	26	<,001
Evidence of being	0.637	26	<,001	.524	26	<,001
Product Evidence	0.845	26	0.001	.755	26	<,001
VD: Managing Learning Evidence	0.846	26	0.001	.900	26	0.016

Note: SPSS

Table 10. Normality Test of the Dimensions of Learning Evidence Management
Source: Authors' own creation

Table 10 shows the results obtained from the Shapiro Wilk normality test in the four dimensions in the pre- and post-test. The significance was less than 5% ($p<0.05$), concluding that the pre- and post-test data had a non-normal behavior.
Likewise, in the dependent variable, the significance of applying the Shapiro-Wilk normality test is observed in both the pre-test and post-test. These significances are 0.001 and 0.016, both values are less than 0.05, concluding that the pre-test and post-test data also have a non-normal behavior. In this way, we worked with Wilcoxon's test; which has allowed us to respond to the hypothesis test.

	Positive Ranges			Draws		
Dimensions	N°	Average Range	Sum of Ranks	N°	Z	Gis.
Post-Test Knowledge Pretest Knowledge	26b	13.5	351	0	-4.49	<,001

Make Postest Hacer Pretest	26b 13.5	351	0	-4.64	<,001
Be Postest Be a pretest	26b 13.5	351	0	-4.52	<,001
Postest Product Product Pretest	26b 13.5	351	0	-4.55	<,001
Posttest Evidence Management Pretest Evidence Management	26b 13.5	351	0	-4.46	<,001

Table 11. Effectiveness of the program, design of assessment instruments in relation to the management of learning evidence and its dimensions: Wilcoxon's range test
Source: Authors' own creation

Table 11, as can be seen, shows the average range of the pre-test and post-test measurements, with a sum of positive ranges of 351 in all dimensions and an average range of 13.5 for all dimensions. Comparing the pre-test and the post-test, it is confirmed that there are significant differences after the application of the formative assessment instrument design program, where the statistical (z=-4.46) and a significance of 0.001<0.05.

Dimension/ Variable	Test Z	Significance	Criterion	Decision-making
Evidence of Knowledge	-4.49	<,001		Accept the alternate H
Evidence of Doing	-4.64	<,001		Accept the alternate H
Evidence of Being	-4.52	<,001	<,001	Accept the alternate H
Product Evidence	-4.55	<,001		Accept the alternate H
Managing learning evidence	-4.46	<,001		Accept the alternate H

Table 12. Hypothesis testing
Source: Authors' own creation

With respect to Table x, it was observed that the dimensions of the study variable "Management of learning evidence" had a significance of p<0.01, which is less than 0.05. For this reason, the null hypothesis is rejected and the alternative hypothesis is accepted. These results show that the application of the formative assessment instrument design program has had very significant effects on the management of learning evidence.

5. Discussion

The purpose of the research was to determine the influence of the formative assessment instrument program on the management of learning evidence of teachers in a state entity of La Arena.

The present study will demonstrate the effect of the application of the program through the non-parametric Wilcoxon test, determining that the development of the program had -4.46 points of difference between the pre-test and the post-test that was applied to 26 primary school teachers with a significance of <.001. Comparing these results confirms that this difference is

significant and the program gave favorable results regarding the management of learning evidence.

At the international, national and regional levels, there is little research on the management of evidence of learning, however, there is information on the subject. In this sense, Gutiérrez (2021) in his study was able to verify that there are few teachers who collect evidence using evaluation criteria to evaluate learning achievement. According to Alcaraz (2016), these criteria should be prioritized and are associated with the terms of evaluative judgments and decision-making. These postulates are confirmed in the present research, where in the dependent variable management of learning evidence, only 36% of teachers sometimes manage this evidence and a larger group, 62%, never do so. In the same vein, Ravela et al. (2017) distinguish three key processes to evaluate according to the formative approach, one of them being that the teacher must promote the generation of evidence in students, a process that revolves around the question: What are students learning?

On the other hand, Álvarez (2020) in accordance with the Framework of Good Teaching Performance (2012) states that teachers in an EI in Catacaos have the need for continuous formative improvement and that they must reflect on the work they have been developing with their students, in order to improve evaluation practice. In this normative document of Minedu Peru, the MBDD explains that teachers as part of their professional development must be prepared to develop evaluation instruments and adequately assess the evidence of learning, results that can be contrasted with Table 10 where 69% of teachers never manage the evidence of learning, so it is one of the training needs that was met with the program called design of learning instruments. Formative assessment to manage evidence of learning. So much so, that teachers in Mexico have embraced this approach as the process that allows them to recognize the difficulties and achievements of students in order to make the best decisions at the right time in order to improve learning.

Likewise, the study carried out by Chávez (2019) is reaffirmed, which shows that teachers recognize that in order to monitor the achievements, the difficulties of students, even their learning pace, it is essential that an objective evaluation of learning is carried out, a conclusion that the Ministry of Education of Puebla (2018) reinforces with the following postulate: which is evaluated objectively when information is collected throughout the educational period of the students using different evidence generated by the student. In addition, it points out that the ethical aspect should be taken into account when evaluating students; evaluation that must be focused on the performance or performance of the same.

Regarding the formative assessment instruments in the work of Pérez and López (2022) and according to the results found in the present research, where it was found that 69% of teachers never managed the evidence of learning by using the appropriate assessment instruments, it is highlighted that they do not agree with the authors, since, The results are adverse to Pérez's study, where he states that all the teachers in Ecuador of the school where the research was carried out and who were part of the study conclude that they do make use of different evaluation instruments, but they lack the empowerment of how to apply various instruments to evaluate the evidence generated by the student in the different competencies and how to process the information they collect to make the best decisions.

Regarding the type of instruments used by teachers to evaluate students, Joya (2020) agrees on an instrument such as the evaluation rubric, which according to R.M. 094 (Minedu, Peru, 2020) is understood as the matrix that contains the evaluation criteria and that will allow the evaluation performance of students to be assessed. Likewise, this rubric, which is prepared by the teachers, must describe the levels of performance to be evaluated (Educar Chile (2018),

whose purpose is to provide feedback to the student (Ravela et al., 2017), an instrument that was worked on with the teachers of the I.E of La Arena when applying the program of design of formative assessment instruments and that, according to the results in the post-test, presents a significant increase.

In this same sense, Giménez et al., (2021) in their research conclude that one of the instruments with the least use by teachers is the assessment scale, coinciding with the results obtained in the present study because when applying the pre-test to the teachers of La Arena it was found that there are few teachers who make use of this assessment scale, to manage evidence of the student's attitudinal nature or being; that, according to Ruay and Garcés (2015), this scale is composed of a set of characteristics, aspects or qualities, which must be assessed taking into account a scale to evaluate the fulfillment of student performance.

Elias' research (2021) concludes that evaluating under the formative approach has positive effects, as reported by the Ministry of Education through the CNEB, Secretariat of Public Education of Mexico [SEP], 2013; Educar Chile, 2016; Febles, 2023; Ríos, 2023, who argue that teachers must know at what level their students are so that they can carry out the respective accompaniment, provide feedback and continue with the process of improving learning, for this it is necessary to properly use the evaluation instruments, which were created with the purpose of improving learning. In addition, Elías explains that there are few teachers who state that their students have demonstrated their learning achievements on some occasions. Achievements understood as evidence of learning as defined by Minedu Peru (2016) as the productions, performances of students, whether tangible or intangible.

It is worth mentioning that the program Design of Formative Assessment Instruments Applied to Teachers has developed sessions based on the formative approach in order to improve the quality of education. To this end, we worked with the evaluation instruments that Minedu through the CNEB and its regulations promote, such as the use of the checklist, the instrument most used by teachers to evaluate the different competencies, another of the instruments are the evaluation rubrics, the observation record, the assessment scales, etc. among others. It is also highlighted that the instruments that teachers can use for the management of the evidence of the student's knowledge, performance or doing, attitudes or being and the evidence of the product, such as the didactic contract, the inventory and knowledge form, among others, have been incorporated. (Tobón, 2013; Ruay and Garcés, 2015; Educar Chile, 2018; Minedu Mexico 2018)

Regarding the variable management of learning evidence, Table 11 shows that most teachers never managed the various evidences produced by their students, such as evidence of knowledge, evidence of doing or performance, evidence of the student's being or attitudes, and evidence of the product, as pointed out by Huerta (2018). This proposed classification regarding the type of evidence is common to identify in the classrooms of the I.E of La Arena, which is why this classification was considered since they help the teaching work and improve the learning process of the students. When the post-test was applied, favorable results were obtained with respect to this dependent variable.

Likewise, in the dimension of knowledge evidence management, there are instruments to assess the evidence generated by students such as the mind map, summaries, diagrams, comparative tables, results that in the pre-test are negative because most of the teachers of the I.E of La Arena state that they never manage this evidence. and a smaller percentage do so from time to time. In the results of the post-test, teachers who work in the lower grades such as the first and second grades prioritize the work in reading and writing, so much so that they sometimes make use of the mind map, summaries, diagrams and comparative charts, on the contrary, teachers

who work in third to sixth grade do generate and manage this type of learning evidence. as can be seen in the results.

Regarding the second dimension, evidence of doing or acting, as defined by Ruay and Garcés (2015), it is the teacher who assesses the student's performance and must do so in real learning situations and according to the results of the pre-test of this research, according to Table 8, most teachers did not make use of formative assessment instruments to manage the evidence of students' actions as per cent. e.g. timelines, Ishikawa's spine, role-playing, research activities and problem solving, and in the post-test teachers working in first and second grade sometimes work on timelines with their students, as part of the evidence of this dimension.

In the third dimension of the management of evidence of being or attitudes, it was found that before the program, most teachers did not use instruments to assess this dimension and that, according to Huerta (2018), it allows students to reflect on their actions, values, and it is up to the teacher to promote self-assessment. To carry out socio-dramas, to promote real situations so that they assume commitments and improve coexistence. These results increased significantly in the post-test in most of the upper grades from third grade to sixth grade. In first and second grade, they sometimes managed this type of evidence. In addition, it should be noted that managing the evidence of attitudes by making use of an appropriate instrument for this purpose is very important because it allows for comprehensive evaluation.

Likewise, there is the product evidence, which, according to Andrino (2020), is all the results that the student achieves at the end of an activity, learning unit, a cycle or a school year with the characteristic that they must meet the criteria established according to performance. Among these evidences are the portfolio, model, album, recipe book, among others. In the pre-test, most of the teachers did not manage this type of evidence and at the end of the program developed with the teachers of the I.E of La Arena, it was evident that 100% of the teachers applied adequate instruments to manage the product evidence. The portfolio is the most useful evidence in the lower grades, such as the first and second grades; On the contrary, in third, fourth, fifth, and sixth grades, he sometimes made use of this type of evidence.

The Ministry of Education of Puebla (2021) maintains that evaluation is developed from the ethical aspect since it affects the emotions of the student, so it recommends that the teacher should be objective when evaluating and that he should focus on the performance of the student body and not on the person, and Huerta (2018) reaffirms this postulate, Since, one of the types of evidence from its classification is evidence of the student's being or of attitudes and values. According to the pre-test in the dimension of management of the evidence of the student's attitudes or being, it was obtained that 69% of the teachers of the I.E of La Arena have not managed adequately, because they have not used the appropriate instruments to objectively evaluate these performances and have enough evidence to assess them.

One of the dimensions of the variable program of formative assessment instruments is observation instruments with their observation record indicator that according to Tobón, 2017; SEP 4, 2013, consider it as a list of indicators that describe certain aspects of students' actions, these aspects to be evaluated must be related to the problems of their context. In the results of the pre and post-test, there is evidence of great significance of the program, the design of formative assessment instruments that has contributed to managing the evidence of learning by making adequate use of the observation record, since it is very useful since they are used at all times of the educational process.

In the execution of the instrument design program, in the results obtained, it is evident that all teachers make use of the Anecdotal or Anecdotal Registry, which is an instrument where the

teacher records in detail situations of greater relevance for the student or group of students whose actions are being observed. In this register, teachers write down the situations presented as they observe it, that is, objectively. (CEaD, n.d.; SEP 4, 2013).

In the pre-test, the results are discouraging because most of them do not adequately manage the evidence, but when the program and the post-test are applied, there are significant differences, which are demonstrated with the application of the attitude scale, which is an instrument where a list of statements or phrases are prepared or selected to assess the attitudes of the students. (SEP 4, 2013).

Likewise, another of the indicators of the variable program of formative assessment instruments is the assessment scale, which is an instrument where characteristics, aspects or qualities are selected that the teacher must evaluate according to a scale, this scale allows the degree of compliance with a certain aspect to be evaluated (Briceño, 2019). This postulate is reaffirmed with the results of the post-test of the teachers of the I.E of La Arena, since 100% made adequate use of this instrument to manage the attitudes of the students. This has allowed performance to be observed gradually (Ruay & Garcés, 2015).

According to the research carried out by Pérez and López (2021), the checklist is an instrument that teachers develop and use, however, they do not know how to apply them properly. This postulate is reaffirmed in the present study, since when developing the program for the design of formative assessment instruments with teachers, all of them, without exception, knew and applied the management of evidence, making use of the check, collation or control list as it is called.

Likewise, the estimation scale is an observation instrument that teachers use to assess various situations that they generate through learning activities, as pointed out by Tobón, 2017; Moreno, 2016, Minedu, n.d., whose purpose is to assess the products of the students, taking into account the quality of the products or the satisfaction with which each of the indicators is achieved. In addition, it is used to assess the performance of students, of an attitudinal type, as Minedu (2010) recommends it is an instrument to assess attitudes such as responsibility, respect, solidarity, etc. In the post-test, it is shown that the teachers of La Arena make adequate use of this instrument to manage the evidence of the student's being or their attitudes and self-evaluation, co-evaluation and hetero-evaluation continue to be promoted.

Another of the instruments that has been very useful for teachers is the appreciation list, since in the pre-test most of the teachers were unaware or did not use this instrument and at the end of the program the results have been significant since all teachers make use of the appreciation list as it has allowed them to evaluate a more complex evaluation that has differentiated them from the list for having more than two levels of performance and thus making a more objective assessment. (Universidad del Desarrollo, 2020).

Applied from the program for the design of assessment instruments as part of another indicator of the independent variable is the learning diary or, as Parra (2013) calls it, the student's logbook but of his or her learning evidence, since it is a formative instrument that allows the student to reflect on deficiencies throughout the educational process. Of course, in a certain period. In the post-test, it is shown that 100% of teachers make use of this training tool to manage student evidence because it is of great help.

On the other hand, there is the work or field diary, an instrument of great help for the teacher since, in it, he will record relevant situations of the work that he has been developing together with his students with the purpose of improving their actions and therefore improving learning, that is, he will carry out a deconstruction of his daily workday. such as the postulate of Minedu,

n.d.; SEP 4, 2013; who propose this strategy based on questions in order to provide students with a better quality of education.

There is also the didactic contract, which is a planning instrument and serves as a guide to guide the development of the different activities promoted at the time of planning or agreeing on the learning unit together with the students. and as stated by Minedu (2010), it allows the advancement of these planned activities and that must be organized through the following questions: what do they know based on..? What needs to be learned, and how will these activities be carried out? How will their progress be monitored? How long will it take? This information has strengthened the professional competencies of the teachers, since in the post-test there is a significant improvement in all the dimensions worked.

Another of the instruments worked on was the form of inventory of knowledge and previous studies, which is an instrument similar to the questionnaires that are mostly worked on by teachers with the difference that this form is an instrument that is used to collect almost ready information where the student marks whether he knows it or not and can be used as stated by Ruay and Garcés, (2015) before working on an activity as prior knowledge, as it can also be used to check how much students have learned or as an exit test.

The application of this program has had positive effects because it has strengthened the professional competencies of teachers as established in the Framework for Good Teaching Performance, and formative assessment instruments have been designed that have been applied satisfactorily and have had favorable results, as demonstrated in the post-test. 100% of the teachers of the I.E of La Arena have applied for the management of learning evidence.

6. Conclusions

1. The application of the formative assessment instrument program had a significant effect on the management of learning evidence of teachers in La Arena – Piura. This is demonstrated in the results obtained between the pretest and the posttest (Z = -4.46 and significance = <.001).

2. The application of the formative assessment instrument program has a significant effect on the first dimension of knowledge, i.e., teachers significantly improved their ability to adequately manage evidence, as demonstrated in the pre- and post-test (Z = -4.49 and significance = <.001)

3. The application of the program of formative assessment instruments has a significant effect on the second dimension: the student's doing or performance, i.e., the teachers significantly improved the adequate management of the evidence of doing, as demonstrated in the pre- and post-test (Z = -4.64 and significance = <.001)

4. The application of the formative assessment instrument program has a significant effect on the third dimension: being or attitudes, i.e., teachers significantly improved the adequate management of evidence of being, as demonstrated in the pre- and post-test (Z = -4.52 and significance = <.001)

5. The application of the formative assessment instrument program has a significant effect on the fourth dimension: the output, i.e., teachers significantly improved the adequate management of students' product evidence, as demonstrated in the pre- and post-test (Z = -4.55 and significance = <.001)

7. Recommendations

1. It is recommended to disseminate the results obtained by applying this program for the design of formative assessment instruments for teachers of a state entity in La Arena so that it can be applied in other realities.

2. Apply the program in the same I.E with the teachers of the level, initial and physical education teachers, since all teachers must evaluate under the formative approach, making use of various evaluation instruments to adequately manage the students' evidence.

3. Promote the strengthening of professional teaching competencies, as contemplated in the Framework of Good Teaching Performance and continue evaluating according to the formative approach as stipulated by the CNEB.

4. Continue researching the assessment instruments used in other contexts in order to adapt them to reality, according to needs and interests.

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