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# Generating Leaders for Curriculum Management in Times of Pandemic

## Abstract

*Curricular changes and their implementation in educational institutions represent a great responsibility for educational managers, where their leadership must ensure educational achievements in the processes. This situation poses a great challenge that requires preparation, permanent updating sessions and working days for teacher empowerment. The objective of this research is to establish the effect of the training intervention program for curriculum management in public preschool institutions. We undertook an applied research and the design was experimental. We developed three non-face-to-face processes or treatments for a one year period. Observation cards with rubrics were used, validated by experts and with a very high level of reliability. The study population consisted of principals of public educational institutions who belonged to the Local Educational Management Unit 07-Lima Metropolitan, Peru. The results showed progressive and positive effects in each curriculum management treatment, strengthening the principals' competencies regarding planning, assessment, pedagogical accompaniment and learning communities.*

**Keywords:** Instructional Programs, Educational Management, Educational Administration, Professional Competency.

## Introduction

The Peruvian Ministry of Education has given principals full responsibility for the implementation of the new national curriculum as they are pedagogical leaders. However, in practice, this process is entirely delegated to teachers, who assume the challenge without the guidance of the principals' team. These school directors tend to prioritize their administrative tasks, his pedagogical management and are limited to applying monitoring instruments to collect information and demonstrate compliance with the supervisions of their management. Thus, this situation shows the absence of the accompaniment process that is required:

technical assistance and the relevant management of reflective dialogue.

In this regard, Figueroa, Pliscoff, & Araya (2014) remarked that the transformation of public management poses new challenges to the training of principals in the framework of modernization, which implies redesigning the curriculum to offer a response to the educational demand. With the regulations of the governing body, it was specified that principals are responsible for leading the process of implementing the curriculum to develop student learning. This represents a great challenge for school directors since there is a demand for permanent preparation, revision and analysis of the documents, training and updating, in addition

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to promoting workshops for the strengthening of school teachers (Ministry of Education, 2018).

This stance contrasts with what was proposed by Beltrán (2016) and Volante, Bogolasky, Derby, & Gutierrez (2015), whose reflections on the professionalization of curricular management practices are not flattering, while Volante et al. (2015) proposed a virtual platform model that helps planning, teaching and what students learn be coherent. The results showed that feedback about planning and evaluation is not provided. Similarly, there is not a reflection on prioritizing administrative tasks, hence, the quality of the service does not increase. In addition, it was affirmed that the main problem of curriculum management lies in the inability to make decisions and develop actions to ensure that the majority of students achieve learning during school time.

The weaknesses of pedagogical leaders to lead the implementation of the new curriculum go beyond the updating of management documents, because they must strengthen their own capacities and those of the teaching team they work with. These weaknesses create the need to receive technical assistance to lead the curriculum management process. In accordance with this, Velázquez & Valiente (2019) affirmed that the principal's management involves the administration of the school organization, the methodological work, learning management, attention to the family and the community, as well as the planning of school work, and the priority should be to direct learning. However, this type of management is limited by the lack of preparation, limited permanence in the position and the lack of supervision that provides guidance on the procedures and their implications. In contrast, García, Cerdas, & Torres (2018) affirmed that one of the most relevant processes regarding curriculum management is planning and it requires that principals and teachers get involved. Therefore, there is a perception of the strong link between curriculum management and systematized actions that guide teaching-learning

On the other hand, having good educational managers to assume the role of educational leaders is not enough. It is also necessary for principals to strengthen their skills in order to become efficient leaders. However, the existence of school managers who dedicate fundamentally to carrying out administrative activities does not allow the prioritization of activities that improve learning. In this regard, Quispe (2020) concluded that the managerial performance of the principal is optimal when the performance levels, and not only administrative matters, ensure better results. Similarly, Benavides, Donoso, & Reyes (2019) stated that it is essential to strengthen the principals' performance so we can have schools which are less dependent on the leader, for which responsibility and commitment of the entire educational community is required.

The educational institutions of intervention (33 schools) had principals who were not specialized in the preschool level and whose management performance showed unsatisfactory results. Due to the described reality, we proposed to develop the Distance Intervention Program for curriculum management in public educational institutions of preschool level. The program's purpose was to strengthen the principals' pedagogical and management skills regarding their teaching teams, developing distance inter-learning groups. The research problem was developed from a quantitative point of view in order to know how the program activities have a positive effect on curriculum management in the framework of the implementation of the new national curriculum; therefore, what are the effects of the intervention program for distance curriculum management in public educational institutions of the preschool level of Ugel 07-2020?

In this sense, the proposed hypothesis was: The intervention program causes positive effects on curriculum management in public educational institutions of preschool level of UGEL 07-2020.

In previous studies, Concepción & Rodríguez (2016) offered a proposal for the implementation of the curriculum adapted to the competency-based approach. The participatory observation allowed the analysis of the level of satisfaction with the developed curriculum, concluding that the use of a software application unified criteria for planning, execution and monitoring, managing to strengthen teachers to embrace the change in curriculum management. Moreover, Gómez, Pizarro, Castro, & Quiroz (2016) showed the stance of those in charge of teacher training on curriculum innovations, who considered that competency-based innovations by are an imposed situation and are not related to the context. On the other hand, Benavides & Vásquez (2019) conducted a qualitative investigation with the purpose of identifying the role of curriculum management in a university in order to improve and understand curriculum management in proposals that develop distance activities, identifying critical nodes to propose improvements in teacher performance. Another qualitative study was presented by Guzmán, Maureira, Sánchez, & Vergara (2015). The objective of the research was to strengthen quality in some institutions by implementing curriculum redesign processes. The authors concluded that, as only authorities and some teachers participate, it is important that leaders understand that change must involve everyone.

Similarly, Fardoun, Paules, & Kamal (2014) explained the implementation of teaching-learning planning to help the process of curriculum management to provide a solution to the use of educational ICT in rural places, in which students and teachers have the same

technological means as in the cities so they can improve working conditions and education. In addition, Cadavid (2019) conducted a study to improve the educational offer in the rural sector with a flexible curriculum management involving the community that reduces student dropout and improves educational quality. As a result, it was found that the relationships among students and between teachers and students, as well as the relationship between what is planned and what is taught improves the educational service. Fernández (2020) carried out a descriptive and documentary field research on curriculum dynamics. The aim was to provide a better understanding of the conditioning of the social context in curriculum production to legitimize knowledge of the curriculum, reaching a conclusion that research, innovation and entrepreneurship constitute challenges for those in charge of curriculum action, where the logbook is a response to the need to be able to harmonize the curriculum.

With respect to the intervention program, the implementation of distance curriculum management is defined as an organized series of educational activities developed to achieve a certain purpose by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2006). On the other hand, Perilla (2018) stated that it is necessary to provide accompaniment in the educational proposal for curriculum implementation, which should be evaluated after providing a continuous training program that ensures improvement in the actors involved, identifying new aspects to be strengthened and complemented. In addition, spaces for reflection should be taken into account since the school director is responsible for generating optimal conditions to ensure learning goals and quality pedagogical processes, accompanying and reflecting with teachers permanently (Ministry of Education of Peru, 2014).

Alias, Zainudin, & Nasri (2018) presented a study to identify problems in the principals' competencies to manage the curriculum. The authors applied questionnaires that showed that the principals had high knowledge of strategies to improve the curriculum, but they have an average level to ensure that curriculum change promote cooperation among teachers and to mobilize effective programs. The given recommendation was that all principals should strengthen their leadership skills before taking the position. Likewise, Gunawan (2017) conducted a study that aimed to determine the limitations and efforts regarding educational management processes based on the elementary school curriculum, using a qualitative approach with interviews, observation and documentation about principals and teachers. The results showed that the current curriculum is not taken into account when

planning, implementing activities or when evaluating learning; hence, it is necessary to provide assistance to teachers with respect to the implementation of the curriculum.

Wang & Hsiu (2017) proposed a strategy for school management about curriculum development, using the review of articles from academic journals with theoretical and practical contributions as part of their methodology, with the purpose of offering recommendations to improve the principal's management in schools. It is concluded that curriculum development can cause a change in communication, processes, school autonomy and the need to provide training, where this change has to be the task of teachers and school leaders. In a similar vein, Kgomotlokoa (2016) proposed a program to implement curriculum management in basic education in a case study with a mixed approach to validate the effects of the program and its impact on the performance of students in schools. The results showed that teachers and students had benefited from leaders and managers training. Some recommendations were that topics related to learning, evaluation and monitoring should be covered, analyzing the results for the improvement of the educational service.

Taking this framework into account, this research sought to implement a program to strengthen the capacity of educational managers to lead work groups and be pedagogical leaders in their institutions and institutional educational networks: Distance training workshops or inter-learning groups, strategies or strengthening experiences in which learning is mutual and favors reflection and feedback, addressing issues that cover the needs or problems of pedagogical nature detected or manifested in order to improve teaching and promote meaningful learning (Ministry of Education, 2020). The principals targeted for the intervention participated in six workshops, in which they developed contents determined by the aspects of improvement to implement the new curriculum: planning, implementation and curricular evaluation. Subsequently, they received the used input to develop the replications with the directors of the institutional educational networks they are part of. At the end of the training sessions, each principal had to have his/her attendance records, attaching also photos as evidence of the execution of this activity.

The Ministry of Education of Peru (2017) defines curriculum management as the ability to implement the school educational project including teaching and learning, management that should be oriented to train competent students and seek the permanent improvement of teaching and learning. Improving learning implies that beyond acquiring knowledge, they are competent people, considering the fundamental competencies and learning linked to all curricular

areas, where the great challenge is that all students can manage to develop these competencies and learning. To achieve this challenge, collegial work is required from pedagogical leaders to manage what, how and when to teach and evaluate; in addition, principals, teachers and parents must be involved. There is no doubt that it is the principal who leads this process of developing learning that is linked to the demands of society and that guarantees the integral development of students. Hence, knowing the curriculum as a guiding document is not enough as it is necessary to put it in practice.

Similarly, Morales (2020) defines curriculum management as a process that requires the continuous development of activities that encourage the reflection of the involved actors, who have the challenge of identifying opportunities, needs, strengths and weaknesses in the curriculum proposal, considering the macro, meso and micro levels. Hence, based on this action, decisions are made in a timely and relevant manner in order to develop the design, implementation and evaluation of the curriculum so it can be possible to achieve a quality educational service. Likewise, Villarroel, Gairín, & J. (2019) stated that principals must develop competencies related to pedagogical leadership to guide and promote the teaching-learning processes developed by teachers, they should also provide pedagogical accompaniment to coordinate, monitor and give technical assistance to teachers. Furthermore, these competencies should include curricular management of learning by monitoring student learning; and, finally, these skills should include managing innovation projects proposed by teachers.

One of the main factors of curriculum management is institutional planning, which involves knowledge of pedagogical processes, school climate, student characteristics and their context, which needs to be oriented to the achievement of learning goals. Other important factor is management assessment, which is a process led by the principal to provide the educational community with accountability for continuous improvement and learning achievement. Moreover, pedagogical accompaniment is a strategy led by the principal that involves the management of the pedagogical processes that take place in the educational institution to accomplish joint reflection in order to achieve the proposed learning goals. Finally, learning communities are spaces promoted and led by the school director with the participation of the entire teaching team, based on mutual collaboration, professional self-evaluation and continuous training, aimed at improving pedagogical practice and ensuring learning achievements.

Curriculum management is derived from a broader scenario such as school management, which involves the set of activities regarding teaching and learning, administrative activities and activities with community institutions as allies that help to achieve better learning. This management comes from educational management, understood as the set of aspects for the operation of the educational institution, that is, administration processes. Thus, curriculum management is the set of actions for the implementation of the curriculum and the achievement of good practices within schools, which was carried out permanently, with specific objectives (Morales, Preciado, Samid, & Clara, n.d.). For the success of this implementation, flexibility is required to propose adjustments that respond to diverse dynamics, cultures, and customs observed in the school itself, in the community, that is, the context.

Therefore, the implementation of curriculum management responds to processes or phases, such as: design, implementation, evaluation and curriculum redesign. This last phase is the one that invites us to a permanent reflection for the continuous improvement of curriculum design (Volante, Bogolasky, Derby, & Gutierrez, 2015). It is important to mention that, in regard to our research, the micro-curricular implementation phase is carried out in the classroom and revolves around the relationship that exists between teachers and students during the teaching-learning process.

We should take into account what Bolivar (1997) stated regarding the importance of leadership in order to offer a quality educational service. The educational leader must have sufficient pedagogical preparation to become the support of the teaching team and supervise the methodology of the curricular activities to make them dynamic. In this regard, Leithwood, Seashore, Andersen, & Wahlstrom, (2004) highlighted the great influence of educational leaders, who make efforts for their training, evaluation and continuous development, which guarantees improvements in schools and therefore, better learning. Finally, Pozner (2000) stated that it is necessary to select highly qualified and committed professionals as school principals, with the necessary competencies to lead the processes, especially pedagogical ones, and that they should be strengthened in their leadership skills.

In conclusion, the program to be developed should guarantee that principals have continuous training that involves theoretical content and, according to experiential theory, it can be possible to achieve learning by using new strategies or methods that allow them to rethink, reflect and implement a new form of curriculum management.

**Materials and Methods**

It was an applied research since the starting point is a phenomenon or fact, which is the study variable and its causes. Hence, it could help us determine a methodological intervention in order to implement a program or model as an improvement proposal to address the initial problem (Carrasco, 2005). In addition, the research has practical purposes, since it acts on a certain aspect of reality to transform or change it. The purpose of the intervention program is to produce significant and optimal results in the principals' management for the implementation of the national curriculum through pedagogical workshops, in which the needs observed in the performance of principals are addressed, who in turn, when empowered, will have a multiplier effect on the principals of the educational networks they are responsible for, strengthening their institutional and management capacities to guide their teachers.

The research design is defined as a series of planned procedural and methodological strategies to investigate, test hypotheses, and should be closely related to the nature of the problem and the objective of the research. Thus, the research design is experimental, where the sample is subjected to four treatments (processes) of the program, with entry and exit tests per process.

The representative scheme is as follows:

EG:	T1	ENT	X	ET
	T2	ENT	X	ET
	T3	ENT	X	ET

Where:

- T : Treatment
- EG : Experimental group
- X independent variable
- ENT : Entry test
- ET : Exit test

**Table 1.**

*Operationalization of the dependent variable, curricular management*

Dimensions	Items	Measurement scale	Levels and ranges
Planning	From 1 to 5	1=does not comply	Achieved (61-80) Processes (41-60) Initial (20-40)
Management evaluation	From 6 to 10	2=minimally complies	
Pedagogical accompaniment	From 11 to 15	3=partially complies	
Learning communities	From 15 to 20	4= complies	

The population was defined as the set of all people, who have or coincide with the same specifications or characteristics by Hernández-Sampieri & Mendoza (2018). In our case, the population is composed of school directors of public educational institutions of preschool level, of the jurisdiction of the Local Educational Management Unit N °7, who were selected in a representative random sample of each network, out of the total of 14 networks.

The technique we used was observation, which made it possible to collect, through our senses, information related to the characteristics of the object or reality that was the subject of the research, using instruments. The instruments let us collect data in order to process them so that they could be considered true knowledge with scientific rigor. A checklist was used to determine the level of achievement of curricular management. Data were collected in two specific moments, one at the beginning of the process called pre-test and the other at the end called post-test.

The instruments were validated through expert judgment (seven), this procedure is defined by Valderrama (2012) as the opinions of professionals with experience to provide their opinions on the logic and understanding of the questions or items of the instrument, which must be related to the indicators, thus ensuring that data are obtained to verify the formulated hypotheses of the research.

On the other hand, for construct validity, the Kai-ser-Meyer-Olkin (KMO) test was first applied and the result obtained was.720, that is, higher than 0.7, which is acceptable. In addition, the Bartlett's test gave a sig= 0.024, lower than 0.05, which implies that factor analysis can be applied. Therefore, the instrument complies with construct validity.

In regard to reliability, according to Valderrama (2012), an instrument of an investigation must produce consistent results when applied on different occasions in order to be considered reliable. Thus, the instrument was subjected to Cronbach's Alpha, determining the reliability of the instrument at very high levels.

The research took into account ethical aspects, maintaining the anonymity of the participants, having the informed consent of the participating principals, and the corresponding authorization was requested from the director of the Local Educational Management Unit N° 07 of San Borja - Lima in order to be able to conduct this study in the educational institutions of the jurisdiction. Finally, for the development of the study, other ethical aspects such as reliable sources and originality of the research work were taken into account.

**Results**

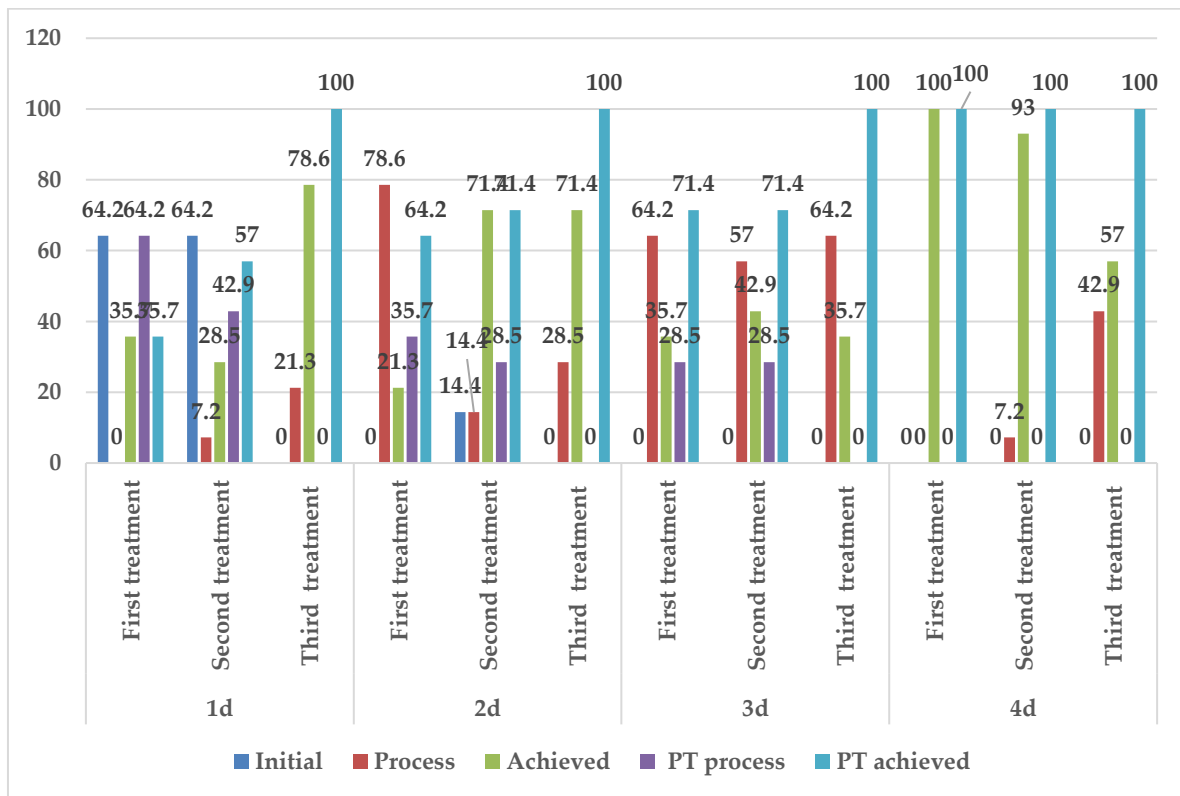
The descriptive results indicated that in the studied dimensions of the treatments, planning, management assessment, pedagogical accompaniment and learning communities, there

was a tendency of learning growth in the beneficiaries of the program after evaluating the pre-test and post-test, reaching the achievements of up to 100% in the third treatment.

**Table 2.**

*Cross table. Dimensions and treatments*

			Pre-test dimension 1			Total	Post-test dimension 1		
			Initial	Process	Achieved		Process	Achieved	Total
Treatment	First treatment	Count	9	0	5	14	9	5	14
		Total %	64.2	0	35.7	100.0	64.2	35.7	100.0
	Second treatment	Count	9	1	4	14	8	6	14
		Total %	64.2	7.2	28.5	100.0	42.9	57.0	100.0
	Third treatment	Count	0	3	11	14	0	14	14
		Total %	0	21.3	78.6	100.0	0	100.0	100.0
			Pre-test dimension 2			Total	Post-test dimension 2		
			Initial	Process	Achieved		Process	Achieved	Total
Treatment	First treatment	Count	0	11	3	14	5	9	14
		Total %	0	78.6	21.3	100.0	35.7	64.2	100.0
	Second treatment	Count	2	2	10	14	4	10	14
		Total %	14.4	14.4	71.4	100.0	28.5	71.4	100.0
	Third treatment	Count	0	4	10	14	0	14	14
		% del total	0	28.5	71.4	100.0	0	99.9	100.0
			Pre-test dimension 3			Total	Post-test dimension 3		
			Initial	Process	Achieved		Process	Achieved	Total
Treatments	First treatment	Count	0	9	5	14	4	10	14
		Total %	0	64.2	35.7	100.0	28.5	71.4	100.0
	Second treatment	Count	0	8	6	14	4	10	14
		Total %	0	57	42.9	100.0	28.5	71.4	100.0
	Third treatment	Count	0	9	5	14	0	14	14
		Total %	0	64.2	35.7	100.0	0	100.0	100.0
			Pre-test dimension 4			Total	Post-test dimension 4		
			Initial	Process	Achieved		Process	Achieved	Total
Treatments	First treatment	Count	0	0	14	14	0	14	14
		Total %	0	0	100.0	100.0	0	99.9	100.0
	Second treatment	Count	0	1	13	14	0	14	14
		Total %	0	7.2	93	100.0	0	100.0	100.0
	Third treatment	Count	0	6	8	14	0	14	14
		Total %	0	42.9	57	100.0	0	100.0	100.0



**Figure 1.**

*Descriptive results by treatment*

**Hypothesis Testing (Anova)**

After hypothesis testing, it was possible to demonstrate that in the three applied treatments regarding curriculum management, the results indicated that the significance associated with the three treatments had an observed variation of the curriculum management dependent variable, where in the first dimension the p-value (,000) and

F (36.899); in the second dimension the p-value (,000) and F (56.003); in the third dimension the p-value (,000) and F (9.505) and in the fourth dimension the p-value (,002) and F (7.385); indicating that the p-value is the margin of error, lower than alpha and F is the average of the three treatments.

**Table 3.**

Anova test

		Sum of squares	gl	Root mean square	F	Sig.
Post-test dimension 1	Among groups	214,905	2	107,452	36,899	,000
	Within groups	113,571	39	2,912		
	Total	328,476	41			
Post-test dimension 2	Among groups	239,190	2	119,595	56,003	,000
	Within groups	83,286	39	2,136		
	Total	322,476	41			
Post-test dimension 3	Among groups	90,143	2	45,071	9,505	,000
	Within groups	184,929	39	4,742		
	Total	275,071	41			
Post-test dimension 4	Among groups	10,333	2	5,167	7,385	,002
	Within groups	27,286	39	,700		
	Total	37,619	41			

The study of the comparisons of the three treatments was done according to the HSD Tukey index. In the first dimension, the first treatment differs from the third treatment (,000) and the second treatment differs from the third treatment (,000); the third treatment differs from the first treatments. In the second dimension, the first treatment differs from the third treatment (,000) and the second treatment differs from the third treatment (,000); the third treatment differs from the first treatments. In the third dimension, the first

treatment differs from the third treatment (,001) and the second treatment differs from the third treatment (,002); the third treatment differs from the first treatments. In the fourth dimension, the first treatment differs from the third treatment (,002) and the second treatment differs from the third treatment (.015); the third treatment differs from the first treatments. This is also demonstrated by the differences between the compared means of the obtained scores.

**Table 4.**

Tukey HSD treatment comparisons

Dependent variable	(I) Treatments	(J) Treatments	Difference between means (I-J)	Error Dev.	Sig.	95% confidence interval	
						Lower limit	Superior limit
Post-test dimension 1	1st treatment	2nd treatment	-,78571	,64499	,450	-2,3571	,7857
		3rd treatment	-5,14286*	,64499	,000	-6,7143	-3,5715
	2nd treatment	1st treatment	,78571	,64499	,450	-,7857	2,3571
		3rd treatment	-4,35714*	,64499	,000	-5,9285	-2,7857
	3rd treatment	1st treatment	5,14286*	,64499	,000	3,5715	6,7143
		2nd treatment	4,35714*	,64499	,000	2,7857	5,9285
	3rd treatment	,92857	,61146	,293	-,5611	2,4183	
Post-test dimension 2	1st treatment	2nd treatment	-1,50000*	,55234	,026	-2,8457	-,1543

		3rd treatment	-5,64286*	,55234	,000	-6,9885	-4,2972
	2nd treatment	1st treatment	1,50000*	,55234	,026	,1543	2,8457
		3rd treatment	-4,14286*	,55234	,000	-5,4885	-2,7972
	3rd treatment	1st treatment	5,64286*	,55234	,000	4,2972	6,9885
		2nd treatment	4,14286*	,55234	,000	2,7972	5,4885
		3rd treatment	-,21429	,49302	,901	-1,4154	,9869
Post-test dimension 3	1st treatment	2nd treatment	,07143	,82304	,996	-1,9337	2,0766
		3rd treatment	-3,07143*	,82304	,002	-5,0766	-1,0663
	2nd treatment	1st treatment	-,07143	,82304	,996	-2,0766	1,9337
		3rd treatment	-3,14286*	,82304	,001	-5,1480	-1,1377
	3er tratamiento	1st treatment	3,07143*	,82304	,002	1,0663	5,0766
		2nd treatment	3,14286*	,82304	,001	1,1377	5,1480
2nd treatment		-1,71429*	,47380	,002	-2,8686	-,5600	
Post-test dimension 4	1st treatment	2nd treatment	-,21429	,31615	,778	-,9845	,5559
		3rd treatment	-1,14286*	,31615	,002	-1,9131	-,3726
	2nd treatment	1st treatment	,21429	,31615	,778	-,5559	,9845
		3rd treatment	-,92857*	,31615	,015	-1,6988	-,1583
	3rd treatment	1st treatment	1,14286*	,31615	,002	,3726	1,9131
		2nd treatment	,92857*	,31615	,015	,1583	1,6988
*. Difference between means is significant at 0.05 level.							

## Discussion

According to the results of hypothesis testing, the three treatments have significant effects on curriculum management. This highlights the importance of reflecting on the professionalization of curriculum management practices and having a proposal that generates planning, teaching and coherence of student learning. However, it contrasts with Volante, Bogolasky, Derby, & Gutierrez (2015) and Beltrán, (2014), whose investigations show the low quality in terms of how educational managers have prioritized administrative work due to lack of key competencies such as decision making, especially pedagogical ones that are orientated towards students learning.

It is demonstrated, through the treatments, that the principals who prioritize their role as a leader for the achievement of quality learning goals, are able to guide the processes of planning, assessment, pedagogical accompaniment and learning communities with the involvement of the actors responsible for conducting student learning. This is, they can assume this challenge with the necessary tools as a result of a permanent preparation, involvement, responsibility and commitment, which is

demonstrated when significant results are obtained in the different aspects of curriculum management.

These results, where the planning, implementation of activities and evaluation of student learning do not take into account the current curriculum, show that it is necessary to provide assistance to teachers in the implementation of the curriculum. For this reason, the Peruvian Ministry of Education (2017) stated that it is crucial to have principals who are permanently trained to plan, implement and evaluate the process of curriculum management for the formation of competent students, as shown by the obtained results, so it can be affirmed that attention has been given to the identified principals' management needs as also visualized by Vértiz et al. (2020).

Regarding institutional planning, school directors must know the pedagogical processes. The results show that they have been significant in the three developed studies, which coincides with the results of research that emphasizes the importance of learning planning and the role of the pedagogical leader that allows them to face permanent challenges. That shows that it generates training needs in the principals, due to the new curricular proposals and the prioritization

of administrative activities rather than those of a pedagogical nature, this due to the usual requirements for the follow-up of institutional management.

In regard to the evaluation of curricular management, a process led by the manager to provide the educational community with accountability for continuous improvement and learning achievement (Peruvian Ministry of Education, 2014), the results of hypothesis testing demonstrated the effectiveness of the program in the applied treatments. The sessions aimed at strengthening the principals in regard to the management of information to identify critical nodes, the incorporation of learning results in the accountability and self-evaluation for continuous improvement. These aspects are important and guide the management evaluation process for permanent and timely decision making, which are paramount in quality institutional management (Ministry of Education of Peru, 2017; Tito et al., 2020; Arias-Chávez et al. 2021).

In regard to pedagogical accompaniment, defined by the (Ministry of Education of Peru, 2014) as a process led by the school director that involves the management of pedagogical processes to achieve the joint reflection of the accompanying leader and the accompanied teachers, the results of the hypothesis testing demonstrated the effectiveness of the results in the three developed treatments. The results for this dimension is related to the stance of, Morales (2020) and Benavides & Vásquez (2019) who highlighted the importance of identifying the critical nodes to propose improvements in the performance of teachers in order to improve and understand curricular management. This is possible when the accompanying actions by principals are orientated towards the provision of technical assistance to the pedagogical needs identified through monitoring, information that, after being systematized and analyzed, should lead to a timely intervention that strengthens pedagogical practice and, hence, student learning. Therefore, not only is it necessary to have a monitoring plan and/or schedule as well as the necessary instruments, but also to have school directors who know and master the pedagogical processes and feedback for teachers.

Similar results were obtained in the study by García, Cerdas, & Torres (2018), which showed that curricular execution is vital in the fulfillment of the programming or planning of pedagogical activities, the execution of planned activities, the methodology or strategies, the use of materials and the evaluation of learning.

Finally, with respect to learning communities, it is understood as spaces promoted and led by principals with the participation of the entire teaching team to foster mutual collaboration, professional self-evaluation and, above all,

continuous training, with the purpose of strengthening pedagogical practices and guaranteeing learning achievements in students according to the Peruvian Ministry of Education (2014). Hypothesis testing of this dimension showed significant results in the three developed treatments, which means that it has been possible to strengthen the principals, who are responsible for promoting learning communities for continuous improvement. The obtained result regarding this dimension is related to the study conducted by Gómez, Pizarro, Castro, & Quiroz (2016) since it showed that those in charge of teacher training have to strengthen curriculum innovations, who consider that innovation by competencies is an imposed situation, without being related to the context. This situation leads us to reflect on the importance of having a curriculum that considers the characteristics and particularities of each reality or, in any case, that allows diversifications or adaptations based on an institutional proposal.

This coincides with the objective of the program proposed in this research to strengthen the competencies of pedagogical leaders for curriculum implementation actions, since an empowered principal about curriculum management will be able not only to attend to the needs of his or her teaching team, but also to strengthen his or her peers in spaces such as educational networks.

In this regard, and given that learning communities have to do with the principals and teachers' interests, this is linked to the stance of Fernández (2020). This researcher remarked that, in order to provide a greater understanding of the conditioning of the social context in curriculum production to legitimize curriculum knowledge, research, innovation and entrepreneurship are challenges for those who are in charge of curriculum action. Definitely, a school director promotes pedagogical initiatives, innovation and research, being the one who leads them and generates spaces for the dissemination and exchange of experiences within the school as the primary scenario and later in external or community spaces. In this regard, sessions have been developed to promote good practices, reflection sessions and continuous training to improve pedagogical practices.

Hypothesis testing's results allowed us to affirm that the intervention program developed in three treatments has had a significant effect on the four dimensions, which is in line with the findings of the study by Wang & Hsiu (2017), who presented recommendations to improve school management, which includes curriculum management, stating that curriculum development leads to a change in communication, processes, and school autonomy, being necessary to provide ongoing training. Likewise, Kgomotlokoa (2016) proposed,

in his research, a program to implement curriculum management in basic education and studied its impact on the performance of school students. In accordance with the results, by strengthening principals as leaders of schools to lead institutional processes and pedagogical processes, it can be stated that it is also aimed at benefiting teachers and students, through training for leaders and directors, recommending that they cover topics related to learning, evaluation and monitoring, analyzing the results for the improvement of educational services. These contents have been considered and developed in the sessions of the program in its three treatments and for the four dimensions considered in the present research.

### Conclusions

The results obtained after the development of the intervention program have had positive effects on the development of curricular management, strengthening the competencies of the directors in planning, assessment, pedagogical accompaniment and learning communities, ensuring an effective and efficient management for the achievement of institutional and learning goals.

In addition, institutional planning, carried out in a pertinent manner within the framework of the curriculum and with adequate diagnoses for the establishment of learning goals and long-term planning documents, guarantees a contextualized starting point that will guide the various learning achievements.

As for management evaluation, it strengthens the competencies of the pedagogical leaders to identify critical issues, learning results in accountability and self-evaluation for the continuous improvement of the offered educational service, generating a curricular management that permanently disseminates the results, meeting the identified needs and making timely and relevant decisions for sustainable change.

In terms of pedagogical accompaniment, it has allowed the guidance of the pedagogical processes developed by teachers, guaranteeing student learning, as well as reflective dialogue and feedback for teachers.

Finally, in regard to learning communities, it has strengthened the competencies of the principals in promoting good practices, encouraging reflection sessions based on learning achievements and continuous training to improve pedagogical practices, which guarantees greater learning achievements.

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