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54

DEVELOPMENT OF PEDAGOGICAL SKILLS IN THE TRAINING OF BASIC EDUCATION TEACHERS

DESARROLLO DE COMPETENCIAS PEDAGÓGICAS EN LA FORMACIÓN DE DOCENTES DE EDUCACIÓN BÁSICA

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ABSTRACT

Teachers' pedagogical skills have become a point of great importance with regard to educational quality. The objective of this research was to create a tool based on learning standards to develop pedagogical skills in the training of Basic Education teachers at the Technical State University of Quevedo in 2023. Through a pre-test and post-test, the results revealed that, before the intervention, most participants had a medium level of pedagogical skills, while only a small number had a high level. However, after the application of the tool, all future teachers managed to reach the highest level. The inferential analysis, using the Wilcoxon test, demonstrated statistically significant differences between the means of the pedagogical skills before and after the intervention, which suggested that the tool based on learning standards had a positive and significant influence on the development of the planning skills, methodology, selection and use of resources, and learning assessment. In conclusion, the implemented tool was effective in strengthening the pedagogical skills of future Basic Education teachers, highlighting the importance of designing and implementing innovative strategies in teacher training that allow the development of solid teaching skills adapted to the needs of the current educational context. It is advisable to explore the long-term impact of these strategies on teachers' performance and satisfaction, as well as on their students' learning results.

Keywords:

Teacher training, pedagogical skills, early childhood education, pedagogical practice, pedagogical tool.

RESUMEN

Las habilidades pedagógicas de los docentes se han convertido en un punto de gran importancia con respecto a la calidad educativa. El objetivo de esta investigación fue crear una herramienta basada en estándares de aprendizaje para desarrollar habilidades pedagógicas en la formación de docentes de Educación Básica de la Universidad Técnica Estatal de Quevedo en el año 2023. A través de un pretest y postest, los resultados revelaron que, Antes de la intervención, la mayoría de los participantes tenía un nivel medio de habilidades pedagógicas, mientras que sólo un pequeño número tenía un nivel alto. Sin embargo, tras la aplicación de la herramienta, todos los futuros docentes lograron alcanzar el nivel más alto. El análisis inferencial, utilizando la prueba de Wilcoxon, demostró diferencias estadísticamente significativas entre las medias de las habilidades pedagógicas antes y después de la intervención, lo que sugirió que la herramienta basada en estándares de aprendizaje tuvo una influencia positiva y significativa en el desarrollo de las habilidades de planificación, metodología. , selección y utilización de recursos, y evaluación del aprendizaje. En conclusión, la herramienta implementada resultó efectiva para fortalecer las habilidades pedagógicas de los futuros docentes de Educación Básica, resaltando la importancia de diseñar e implementar estrategias innovadoras en la formación docente que permitan el desarrollo de habilidades docentes sólidas y adaptadas a las necesidades del contexto educativo actual. Es recomendable explorar el impacto a largo plazo de estas estrategias en el desempeño y la satisfacción de los docentes, así como en los resultados de aprendizaje de sus estudiantes.

Palabras clave:

Formación docente, habilidades pedagógicas, educación infantil, práctica pedagógica, herramienta pedagógica.

INTRODUCTION

Teachers' pedagogical skills have become a point of great importance in terms of educational quality. From an international perspective, the United Nations Educational, Scientific and Cultural Organization (Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, 2018) considers that although educators are key players in the search for equity and quality in education, their training is still a cause for concern since by 2030, some 69 million teachers should be trained in order to ensure the universalization of education.

According to Espinoza-Freire (2021), teacher training for basic education responds to basic and specific professional development. Teachers must have pedagogical, research, technological, and formative evaluation skills that allow them to support their students' cognitive, procedural, and behavioral development without neglecting aspects such as administrative management, ethics, and professionalism.

However, in Ecuador, there are difficulties in the training of future Basic Education teachers in the development of pedagogical skills that correspond to the learning standards. Roca-Piloso & Alonso-Betancourt (2020), reveal that there is a marked tendency in teachers' initial training process towards specialization in natural sciences, mathematics, social sciences, and language to the detriment of pedagogical skills. In addition, there is evidence of biases in the planning of teaching activities with respect to learning standards, difficulties in the efficient use of methodologies that promote active participation, and little use of didactic and technological resources in accordance with the standards.

The skills approach contributes to increasing the relevance of educational programs, as it seeks to guide learning according to the challenges and problems of social, community, professional, organizational, and disciplinary research aspects through systematic studies, such as functional analysis, the study of problems, the recording of behaviors, and the analysis of processes by taking into account sustainable human development and people's vital needs (Espinoza-Freire, 2021, 2024).

In this regard, learning standards have become a key reference for the development of pedagogical skills in teacher training. Cancán & Capcha (2021), assert that there is a positive and significant correlation between learning standards and metacognitive strategies in students, which supports the importance of aligning pedagogical skills to these standards. For Espín & Juanes (2021), pedagogical skills allow the knowledge processes of university students to be guided and supported by the reflection of pedagogical activity. These skills integrate attributes regarding knowing, knowing how to do, and knowing how to be, which are requirements of professional activity and qualities of the people who perform and realize the activity.

According to Játiva et al. (2021), point out that teachers should have knowledge and proficiency in methodologies that allow them to meet the different cognitive needs of each of their students, implementing strategic actions to channel the integral development of the learner's personality, a task that requires wisdom, patience, perseverance, and teaching vocation. Moreover, Luna (2021), points out that the teacher has an obligation to guide young people's development by cultivating generic, specific, and professional skills, accompanying them in their training, and developing their own skills.

In this context, the general objective of this study was to create a tool based on learning standards to develop pedagogical skills in the training of Basic Education teachers at the Technical State University of Quevedo (UTEQ) in 2023. This is of great importance since the investigation sought to contribute knowledge to the educational sciences regarding the relationship between learning standards and the development of pedagogical skills in initial teacher training, a topic seldom explored in the Basic Education course at UTEQ.

MATERIALS AND METHODS

This research had a quantitative, experimental-applied approach, whose objective was to solve a given problem, focusing on the search for and consolidation of knowledge for its application (Arias, 2020). In terms of type, the experimental research is purely explanatory; a longitudinal pre-experimental design was used with a single group and a pre-test/post-test model. This design is laid out as follows:

GE: 01 X 02

The population was 44 teachers on the Basic Education course at UTEQ, 29 of whom were females and 15 were male. The sampling was non-probabilistic, based on inclusion criteria, and considered male and female teachers in the field of educational sciences located in the basic training cycle and professional training from the first to the eighth semester. The exclusion criterion was those teachers who belong to other educational institutions and who only provide services to the course at given moments. The distribution of the sample consisted of 24 people: 14 women and 10 men.

According to Hernández-Sampieri & Mendoza (2020), maintain that data collection involves three closely related activities: selecting an instrument, applying it, and making observations, records, and dimensions. Thus, a multiple-choice questionnaire was employed using a Likert scale, in which each option was assigned a number: (1) Never, (2) Rarely, (3) Frequently, and (4) Always. The instrument was subjected to an expert evaluation process, whereby five research professors analyzed the validity of the questionnaire, determining the relevance of the items. After the initial review, two items were eliminated, leaving the scale with a total of nine items. Subsequently, the experts evaluated each item by assigning it a score from 1 to 5 according to its performance in the dimensions and indicators to be measured. The rank ratio coefficient obtained was 0.9, thus validating the use of this instrument for data collection.

After the validation of the instrument, a pilot test was carried out with a group of teachers from the Psychopedagogy course at the same university because they had similar characteristics to those of the sample. An internal consistency (Cronbach's Alpha) of 0.816 was obtained, indicating a high consistency and stability that means the reliability can be classified as acceptable.

Subsequently, the results were analyzed by coding the data and creating tables of frequency distribution and percentages, based on the established values. In this way, descriptive statistics was selected as a processing technique, which allowed a methodical analysis of the measures of central tendency based on the information collected. In addition, inferential statistics was used with the purpose of obtaining useful conclusions to make deductions about a totality. Both statistical analyses were carried out using the SPSS version 25 statistical package.

In relation to ethical aspects, the protection of the participants was taken into account, thus the surveys were anonymous; the autonomy of the teachers was respected by informing them of the aims and objectives of the study without any type of economic or power coercion. Likewise, prior authorization and informed consent were obtained from the management staff at UTEQ.

RESULTS AND DISCUSSION

The data presented in Table 1 show a significant improvement in the levels of pedagogical skills of future Basic Education teachers at UTEQ after the application of the tool based on the learning standards.

Table 1. Levels of the variable pedagogical skills.

Level	Pre-test		Post-test	
	F	%	F	%
High	3	12.5	24	100
Medium	21	87.5	0	0
Low	0	0	0	0
Total	24	100	50	100

Source: Own elaboration

In the pre-test, 87.5% of the Basic Education students had a medium level of pedagogical skills, while only 12.5% had a high level. However, after the intervention, 100% of the students achieved a high level of pedagogical skills. These results suggest that the tool based on the learning standards was effective in developing the pedagogical skills of future teachers in the dimensions of competence in planning, methodology, selection and use of didactic and technological resources, and learning assessment.

This finding is in line with Roca-Piloso & Alonso-Betancourt (2020), who state that the knowledge gained by Basic Education teachers during their initial training, linked to research, can be developed from the basic and specific skills established in the graduate profile. The learning standards, by promoting critical thinking and improving the knowledge of specific concepts, seem to have helped to strengthen these pedagogical skills in future teachers.

On the other hand, Cifuentes et al. (2020), found that undergraduate Basic Education students in Colombia performed below national and reference averages in the specific teacher competency modules. This suggests the need to design curricula according to the needs of the context and to strengthen the pedagogical training of future teachers, as proposed by the learning standards. These results highlight the importance of implementing innovative strategies in teacher training that enable the development of solid pedagogical skills adapted to the needs of the current educational context. Future research could explore the long-term impact of learning standards on teachers' performance and satisfaction, as well as on students' learning outcomes.

In relation to pedagogical competence planning Table 2, there is evidence of a significant improvement in the trainee teachers at UTEQ. In the pre-test, 50% of the students had a medium level for competency in planning, while 45.8% reached a high level and 4.2% had a low level. However, after the intervention, 100% of the students achieved a high level in this dimension. These results indicate that the implemented tool was effective in developing the planning competence of future teachers. This coincides with Espín & Juanes (2021), who point out that the process of training university professionals requires studying the development of pedagogical skills from different angles in order to be applicable to different situations.

Table 2. Levels of the dimension competency in planning.

Level	Pre-test		Post-test	
	F	%	F	%
High	11	45.8	50	100

Medium	12	50.0	0	0
Low	1	4.2	0	0
Total	50	100	50	100

Source: Own elaboration

According to Fernández-Sosa & Carrizales-Garabito (2024), found that teachers' ability to plan was mediocre, so they recommended strengthening this aspect in a didactic way to enhance teachers' professional training. The results of our research suggest that the implemented tool was able to address this need. Likewise, Espinoza & Campuzano (2019), point out that the training of basic and secondary education teachers through skills seeks to mobilize knowledge towards action, which enables learning, teaching, and assessment to have meaning for students, teachers, educational institutions, and society. The findings obtained in this study support this approach. Hence, it is vital to design and implement teacher training strategies that focus on the development of specific pedagogical skills adapted to the needs of the educational context.

The Table 3 shows that in the pre-test, 79.2% of the Basic Education students at UTEQ had a medium level for competency in methodology, while 16.7% had a high level and 4.2% had a low level. However, after the intervention, 100% of the students achieved a high level of this competency, showing a significant improvement.

Table 3. Levels of the dimension competency in methodology.

Level	Pre-test		Post-test	
	F	%	F	%
High	4	16.7	50	100
Medium	19	79.2	0	0
Low	1	4.2	0	0
Total	50	100	50	100

Source: Own elaboration

Therefore, these results indicate that the implemented tool was effective in developing competence in methodology among future teachers. Thus, it coincides with the findings of Fernández-Sosa & Carrizales-Garabito (2024), who found that skills related to teaching/learning strategies in teachers were mediocre, so they recommended a didactic approach that strengthened them. Furthermore, The The authors Cancán & Capcha (2021), found a positive and significant correlation between learning standards and metacognitive strategies in secondary education students, which supports the importance of developing methodology competence in future teachers.

Additionally, Albarrán & Díaz (2021), corroborated that the application of active intervention methodologies, such as problem-based learning, projects, and case studies, favored the development of critical thinking skills in university students, compared to expository methodology. This suggests that the development of methodology competency in the training process of Basic Education teachers can have a positive impact on the learning of their future students.

In relation to competency in selecting and using didactic and technological resources, the results in the pre-test showed that 83.3% of the Basic Education students at UTEQ had a medium level of this competency, while 12.5% reached a high level and 4.2% had a low level. However, after the intervention, 100% of the students achieved a high level Table 4, constituting a significant improvement.

Table 4. Levels of the dimension of competency in selecting and using didactic and technological resources.

Level	Pre-test		Post-test	
	F	%	F	%
High	3	12.5	50	100
Medium	20	83.3	0	0
Low	1	4.2	0	0
Total	50	100	50	100

Source: Own elaboration

In fact, these results revealed that the tool based on learning standards had a favorable influence on the development of future teachers' competence in the selection and use of didactic and technological resources. This is in line with Espinoza-Freire (2020), who points out that Basic Education teachers need to develop the ability to use technology efficiently in the design, management, and planning of learning environments.

The findings emphasize the importance of developing teachers' ability to select and use didactic and technological resources in teacher training. This supports the suggestion by Guizado et al. (2019), to incorporate in the curricula of future teachers new profiles linked to the integration and mastery of ICT, as well as its use in an educational environment.

The data presented in Table 5 expose a significant improvement in the dimension of competency in learning assessment. In the pre-test, 79.2% of the students had a medium level of learning assessment competence, while 16.7% had a high level, and 4.2% a low level. However, after the intervention, 100% of the students achieved a high level in this dimension.

Table 5. Levels of the dimension competency in learning assessment.

Level	Pre-test		Post-test	
	F	%	F	%
High	4	16.7	50	100

Medium	19	79.2	0	0
Low	1	4.2	0	0
Total	50	100	50	100

Source: Own elaboration

These results indicate that the implemented tool was effective in developing future teachers' competence in learning assessment. This is in line with Garza (2023), who states that the new ways of evaluating learning using the competency-based approach with the implementation of ICT have generated important changes in the teaching and learning process. Assessment is no longer considered a process in order to receive a grade at the end of learning but is an integrated part of the learning process and its learning standards.

In addition, Garza (2023), mentions that the "new culture of assessment" acquires greater strength by considering assessment as part of the process and not as an act independent of learning. The results obtained in our study are linked to this vision because a significant improvement in learning assessment was achieved. Hence, it is vital to use new didactic strategies and techniques, such as evaluation rubrics and the e-portfolio, to explore the impact on performance and satisfaction in student learning outcomes.

To determine the type of statistical test to be used in the data analysis, the Kolmogorov-Smirnov and Shapiro-Wilk normality tests were performed, the results of which are presented in Table 6.

Table 6. Normality test.

Variable	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	gl	Sig.	Statistic	gl	Sig.
Pedagogical skills beforehand	0.220	50	0.000	0.919	50	0.002
Pedagogical skills afterward	0.111	50	0.172	0.952	50	0.040

Fuente: a. Lilliefors significance correction

The results of the Kolmogorov-Smirnov test show that the data for the variable Pedagogical skills beforehand have a non-normal distribution, with a significance value of 0.000 ($p<0.05$). In contrast, the data for the variable Pedagogical skills afterward do have a normal distribution, with a significance value of 0.172 ($p>0.05$). These results are corroborated by the Shapiro-Wilk test, where the variable Pedagogical skills beforehand has a significance value of 0.002 ($p<0.05$), indicating a non-normal distribution, while the same variable has a significance value of 0.040 ($p<0.05$), also suggesting a non-normal distribution. Since the data of at least one of the variables do not present a normal distribution, non-parametric tests were used for the statistical analysis of the results. **Inferential Analysis**

Hi: The tool based on learning standards influences the development of pedagogical skills in the training of Basic Education teachers at UTEQ in 2023.

Ho: The tool based on learning standards does not influence the development of pedagogical skills in the training of Basic Education teachers at UTEQ in 2023.

Table 7. Means comparison for pedagogical skills.Single sample statistics

	N	Mean	Standard deviation	Standard error
Pedagogical skills beforehand	24	1.88	0.338	0.069
Pedagogical skills afterward	24	1.00	0.000	0.000

Source: Authors' own (based on Nogueira et al., 2018; Goig, 2017; Díaz et al., 2021; Infante et al., 2022).

Table 8. Test statistics for pedagogical skills.

Test Statistics a	
	Pedagogical skills beforehand – Pedagogical skills afterward
Z	-4.500b
Asymptotic sig. (bilateral)	0.000
a. Wilcoxon signed-rank test	
b. based on positive ranges	

Source: Authors' own (based on Nogueira et al., 2018; Goig, 2017; Díaz, et al. 2021; Infante et al., 2022).

In Table 7, the data show that pedagogical skills (planning, methodology, selection and use of resources, and learning assessment) based on compliance with learning standards are high. This agrees with Espinoza-Freire (2020), who stresses that teachers must be very knowledgeable about the subjects they teach, have a wide repertoire of pedagogical strategies, be able to work in a team, and acquire technological skills and use them efficiently.

Furthermore, the results presented in Table 8, indicate that the tool based on learning standards had a significant impact on the trainee teachers' development of pedagogical skills. This outcome is aligned with the results obtained by Roca-Piloso & Alonso-Betancourt (2020), who affirmed that the potential of the knowledge learned by Basic Education teachers during their initial training can be developed based on the basic and specific skills established in the graduate profile of this profession. Along the same line, Venegas et al. (2022), determined that a tool based on Kaizen theory strengthens pedagogical skills in its dimensions of didactic, productive, interactive, research, and management competence in History and Geography teachers in Guayaquil.

On the other hand, Játiva et al. (2021), point out that in teacher training, work placements are vital so that the students can put into practice what they have learned in the classroom and develop their pedagogical skills. In addition, Luna (2021), deems pedagogical skills to be very important since the teacher must be polite, motivated, flexible, and able to cultivate the skills of students and other teachers. In this regard, Espinoza-Freire (2021), asserts that Basic Education teacher training responds to basic and specific skills of professional development, and teachers must have pedagogical, research, technological, and formative evaluation skills that allow them to develop learners' cognitive, procedural, and behavioral abilities.

Likewise, Guizado et al. (2019), suggest incorporating new profiles into teacher training that are linked to the integration, mastery, and use of ICT in education, which modern society calls for. Along these lines, we agree with Fernández-Sosa & Carrizales-Garabito (2024), who emphasize the importance of implementing tools for a pedagogical skills development program for teachers in order to improve the professional training of students. The above is aligned with the tool based on learning standards that proved to be effective in the development of pedagogical skills in Basic Education teacher training at UTEQ in 2023.

Table 9. Means comparison for competency in planning. Single sample statistics

Variable	N	Media	Standard deviation	Standard error
Competency in planning beforehand	24	1.58	0.584	0.119
Competency in planning afterward	24	1.00	0.000	0.000

Source: Own elaboration

Table 10. Test statistics for competency in planning.

Test statistics [a]	
	Pedagogical skills beforehand – Pedagogical skills afterward
Z	-3.500b
Asymptotic sig. (bilateral)	0.000
a. Wilcoxon signed-rank test	
b. based on positive ranges	

Source: Own elaboration

Table 9 displays a significant improvement in the planning competency levels of the prospective Basic Education teachers. In the pre-test, the mean was 1.58, with a standard deviation of 0.584 and a standard error of 0.119. In contrast, after the intervention, the mean increased to 1.00, with a standard deviation of 0.000 and a standard error of 0.000. The results of the Wilcoxon test, presented in Table 10, indicate that the difference between the means before and after is significant ($Z = -3.500$, $p = 0.000$), demonstrating that the tool based on learning standards was effective in this aspect. upskill

These findings are in agreement with Espín & Juanes (2021), who point out the need for studies into pedagogical skills training from different perspectives in order to provide applicability to different situations. The results of our research suggest that the implemented tool managed to address this need, as well as supporting the idea that upskilling Basic and Secondary Education teachers allows learning to be meaningful for students, as raised by Espinoza & Campuzano (2019).

Table 11. Means comparison for competency in methodology.Single sample statistics

Variable	N	Mean	Standard deviation	Standard error
Competency in methodology beforehand	24	1.87	0.448	0.092
Competency in methodology afterward	24	1.00	0.000	0.000

Source: Own elaboration

Table 12. Test Statistics for competency in methodology.

Test Statistics a	
	Pedagogical skills beforehand – Pedagogical skills afterward
Z	-4.379b
Asymptotic sig. (bilateral)	0.000

a. Wilcoxon signed-rank test

b. based on positive ranges

Source: Own elaboration

Table 11 shows a significant improvement in the methodology competency levels of the future Basic Education teachers. In the pre-test, the mean was 1.87, with a standard deviation of 0.448 and a standard error of 0.092. After the intervention, the mean increased to 1.00, with a standard deviation of 0.000 and a standard error of 0.000. The results of the Wilcoxon test, presented in Table 12, indicate that the difference between the means before and after is significant ($Z = -4.379$, $p = 0.000$). This suggests that the tool was effective for the development of methodology competence in future teachers.

These findings are aligned with the aforementioned results obtained by Venegas et al. (2022), who found that a tool based on Kaizen theory strengthens pedagogical skills.

Table 13. Means comparison for competency in the selection and use of didactic and technological resources. Single sample statistics

Variable	N	Mean	Standard deviation	Standard error
Competency in the selection and use of resources beforehand	24	1.92	0.408	0.083
Competency in the selection and use of resources afterward	24	1.00	0.000	0.000

Source: Own elaboration

Table 14. Test Statistics for competency in the selection and use of didactic and technological resources.Test Statistics [a]

Variable	Competency in the selection and use of resources beforehand – Competency in the selection and use of resources afterward
Z	-4.491b
Asymptotic sig. (bilateral)	0.000

a. Wilcoxon signed-rank test

b. based on positive ranges

Source: Own elaboration

The data presented in Table 13 show a significant improvement in the levels of competency in the selection and use of didactic and technological resources among the future Basic Education teachers. In the pre-test, the mean was 1.92, with a standard deviation of 0.408 and a standard error of 0.083. After the intervention, the mean increased to 1.00, with a standard deviation of 0.000 and a standard error of 0.000. The results of the Wilcoxon test, presented in Table 14, indicate that the difference between the means before and after is significant ($Z = -4.491$, $p = 0.000$). This suggests that the implemented tool was effective in strengthening this competency in future teachers.

These results are in line with what was stated by Guizado et al. (2019); and Roca-Piloso & Alonso-Betancourt (2020), who accentuate that during the training process, basic and professional skills can be developed, in which teachers acquire technological skills that they can use efficiently in the current educational context.

Table 15. Means comparison for competency in learning assessment.Single sample statistics

Variable	N	Mean	Standard deviation	Standard error
Competency in learning assessment beforehand	24	1.87	0.092	0.448
Competency in learning assessment afterward	24	1.00	0.000	0.000

Source: Own elaboration

Table 16. Test Statistics for competency in learning assessment.Test Statistics [a]

	Competency in learning assessment beforehand – Competency in learning assessment afterward
Z	-4.379b
Asymptotic sig. (bilateral)	0.000

a. Wilcoxon signed-rank test

b. based on positive ranges

Source: Own elaboration

Table 15 presents data that show a significant improvement in the levels of competency in learning assessment among future Basic Education teachers. In the pre-test, the mean of this competence was 1.87, with a standard deviation of 0.448 and a standard error of 0.092. Following the intervention, the mean increased to 1.00, with a standard deviation of 0.000 and a standard error of 0.000. The results of the Wilcoxon test, shown in Table 16, demonstrate that the difference between the means before and after is significant (Z = -4.379, p = 0.000). This implies that the tool based on learning standards was effective for this competency.

These findings agree with approaches that associate the training of future Basic Education teachers with skills and the graduate profile, whereby learning assessment based on learning standards requires teachers in training to have a deep methodological understanding of the teaching-learning process, which goes beyond an independent act to become an integral part of the process (Játiva et al., 2021; Venegas et al., 2022; Garza, 2023).

CONCLUSIONS

The results of this research show that the tool based on learning standards had a positive and significant influence on the development of pedagogical skills of future basic education teachers at UTEQ. Specifically:

Once the tool was applied, 100% of the participants reached a high level in the evaluated pedagogical skills, highlighting the importance of implementing innovative strategies in teacher training that allow the development of solid skills adapted to the current context.

In terms of competency in planning, 100% of the future teachers reached a high level after the intervention, which highlights the need to design and implement teacher training strategies focused on the development of this competency.

100% of the participants also achieved a high level of competency in methodology, evidencing the effectiveness of the tool and the importance of continuing to strengthen this area in teacher training.

Competency in the selection and use of didactic and technological resources also showed a significant improvement, with 100% of the prospective teachers reaching a high level. This underlines the relevance of including the efficient use of technologies in teacher training strategies.

In learning assessment, 100% of the participants once again reached a high level, highlighting the need to adopt a comprehensive view of assessment in teacher training.

The research hypothesis is supported by the results obtained, which show that the tool based on learning standards has a positive and significant influence on the development of future Basic Education teachers' pedagogical skills.

These results are aligned with previous studies that have investigated the development of pedagogical skills in teacher training, highlighting the importance of implementing tools based on learning standards to strengthen these skills.

Future studies should investigate the long-term impact of these strategies on teachers' performance and satisfaction, as well as on their students' learning outcomes.

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