

Evaluation of the integrated program "Pinceladas y Sonidos Peruanos" for the development of creative skills in nursing students

Evaluación del programa integrado "Pinceladas y Sonidos Peruanos" para el desarrollo de habilidades creativas en estudiantes de enfermería

1. Iris Liliana Vásquez Alburqueque
<https://orcid.org/0000-0001-9831-3213>
ialburqueque@unitru.edu.pe
Universidad Nacional de Trujillo. Peru

3. José Wualter Peláez Amado
<https://orcid.org/0000-0002-6639-7237>
jpelaez@unitru.edu.pe
Universidad Nacional de Trujillo. Peru

2. Olga Estela Mendoza León
<https://orcid.org/0000-0003-4934-4800>
omendoza@unitru.edu.pe
Universidad Nacional de Trujillo. Peru

4. Celina Pérez Mena
<https://orcid.org/0000-0002-5888-8714>
c.perez@uct.edu.pe
Universidad Católica de Trujillo. Peru

5. María Elizabeth Reyes González
<https://orcid.org/0009-0004-8795-0371>
m.reyes@uct.edu.pe
Universidad Católica de Trujillo. Peru



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Abstract

The main objectives of this study were to evaluate the level of creativity in third-year technical nursing students at the Sullana Technological Institute in Peru, as well as to analyze the impact of Peruvian music, specifically huaynos and waltzes, as a formative tool in the development of their academic products. The research adopted a quantitative approach with a pre-experimental design, applying pre- and post-tests to measure changes in creativity. A rubric validated by experts was used to evaluate 30 students who participated in the "Pinceladas y Sonidos Peruanos" program, which implemented methodological strategies based on Torrance's templates. Initially, the students showed resistance to the Peruvian music used as background music during their creative activities; however, after a sensitization process that included the progressive introduction of familiar songs, this resistance decreased significantly. The results showed a significant improvement in creative abilities, demonstrating that traditional music can enhance creative development in technical educational contexts.

Keywords: imagination, pedagogical skill, training program.

Resumen

El presente estudio tuvo como objetivo principal evaluar el nivel de creatividad en estudiantes del tercer ciclo de enfermería técnica del Instituto Tecnológico Sullana, en Perú, así como analizar el impacto de la música peruana, específicamente huaynos y valeses, como herramienta formativa durante la elaboración de sus productos académicos. La investigación adoptó un enfoque cuantitativo con diseño preexperimental, aplicando pruebas pre y post test para medir los cambios en la creatividad. Se utilizó una rúbrica validada por expertos para evaluar a 30 estudiantes que participaron en el programa "Pinceladas y Sonidos Peruanos", el cual implementó estrategias metodológicas basadas en las plantillas de Torrance. Al inicio, los estudiantes mostraron rechazo hacia la música peruana empleada como fondo durante sus actividades creativas; sin embargo, tras un proceso de sensibilización que incluyó la introducción progresiva de canciones familiares, esta resistencia disminuyó notablemente. Los resultados evidenciaron una mejora significativa en las capacidades creativas, demostrando que la música tradicional puede potenciar el desarrollo creativo en contextos educativos técnicos.

Palabras clave: imaginación, habilidad pedagógica, programa de formación.

Introduction

In the 21st century, creative skills are indispensable, as contemporary education must adopt an interdisciplinary character in its structure. This necessity arises from the extremely rapid changes experienced by modern society, which demand a greater appropriation of knowledge and the formation of creative individuals capable of adapting easily to any situation. A creative person is distinguished by their ability to consistently solve problems across various domains of life and to make decisions autonomously. This autonomy allows them to develop products or pose questions within a specific field that, although initially perceived as original, eventually gain acceptance within a certain cultural context. In this sense, creativity can be understood as a manifestation of liberating intelligence, in contrast to what might be termed restricted or limited intelligence. Moreover, this capacity is not confined solely to formal work moments but also manifests during leisure time (López, 2017).

Furthermore, modern nursing demands professionals who can adapt quickly, improvise solutions, and think beyond established protocols, especially when facing unconventional clinical situations or limited resources. A nurse with developed creative skills can provide more personalized care, find effective solutions to unforeseen challenges, and actively contribute to the continuous improvement of care processes. Additionally, the creative component in nursing education has a direct impact on preventing burnout and enhancing professional well-being. Programs like "Pinceladas y Sonidos" provide tools for emotional expression and self-regulation, fundamental aspects for managing the stress inherent to this profession. Evaluating the effectiveness of these initiatives not only validates their institutional implementation but also generates scientific evidence about the relationship between creativity and quality of care. In a healthcare context where innovation and the humanization of care are priorities, systematically documenting how these interventions strengthen professional competencies and the well-being of nurses contributes to positively transforming organizational culture and, consequently, the patient experience.

Regarding theoretical foundations, Guilford (1967) defines creativity as the faculty of generating novel and valuable elements, enabling the brain to find original solutions to various problems. This capacity must be deliberate and goal-oriented, constituting an essential element for enhancing individual intelligence and promoting social advancement, in addition to being a key strategy in natural evolution. Creativity develops progressively and is characterized by attributes such as originality, ideational fluency, mental flexibility, detailed elaboration, contextual adaptability, and practical feasibility for concrete implementation. In this sense, Torrance (1990) notes that there are multiple techniques, programs, and strategies to foster creativity.

Among the highlighted characteristics of creativity are fluency, flexibility, and originality. Fluency, according to Guilford (1967), is the ability to generate numerous ideas quickly, without emphasizing their initial quality. This skill allows for the production of multiple solutions to problems and is linked to brain areas such as the Broca and Wernicke regions. Flexibility, on the other hand, is the ability to navigate between ideas, contexts, and categories, overcoming mental rigidity. It manifests as the ability to modify, reinterpret, and transform original situations, which can be spontaneous (generating a variety of ideas) or adaptive (redefining problems to find solutions). This characteristic enables the approach to situations from multiple perspectives, abandoning established thought patterns to adopt new ones. As for originality, it is defined as the ability to generate novel, different, unique ideas that deviate from normality or conventionality. Its emergence requires breaking with established frameworks, rigid ideas or models, as well as implementing activating ideas, juxtaposing diverse elements, or restructuring assumed models. Originality implies producing infrequent ideas or responses.

Internationally, Japan has prioritized manufacturing, invention, and industrialization, generating wealth from these areas. Creative industries represent approximately 6% of the global Gross Domestic Product (GDP), and in Peru, this sector has significant potential based on its rich history and culture. Flores (2014) notes that traditional education does not respect the uniqueness or autonomy of students, making it urgent to implement programs that foster the development of creative skills.

In Colombia, studies by Marengo (2023) evidence that one of the main difficulties in developing creative skills lies in the disinterest of many university professors in strengthening them, which displaces innovative designs and limits adaptation to the formative needs of professionals. Additionally, Ecuadorian researcher Zambrano notes that when a professor adopts an authoritarian tone and does not open spaces for listening to and proposing ideas from students, the creative role that should be fostered in students is diminished.

In Peru, creative skills are reported to be at low levels, according to Espinoza (2017), which is reflected in students who perform musical instruments without creating new rhythms. When analyzing specific cases, it is observed that students offer unique solutions but lack fluency, flexibility, originality, confidence, and elaboration—fundamental characteristics of creativity according to Guilford (1967). This situation raises concerns within the educational community.

In this context, the identified research problem focuses on Peruvian students in the Nursing Specialty at the "Sullana" Public Technological Higher Education Institute, located at kilometer 6 of the Sullana–Tambo Grande road, in the area known as Cieneguillo Centro, within the Bellavista district, Piura region. In reality, it is observed that creative skills are not fostered, either individually or collectively, in this group.

For example, during the communication module, it became evident that students exhibited fear of expressing themselves and innovating, as well as showing limited ease in using and experimenting with materials. Their interest and capacity to inquire into new discoveries related to academic production in communication were low. Additionally, their ability to seek novel paths leading to the development of imaginative ideas was limited. When asked to demonstrate independence in expressing reflective judgments on various topics covered in the communication syllabus, no satisfactory level of achievement was observed.

This experience allowed for a diagnosis of the students' level of creativity in the communication course. Subsequently, with the authorization of the professor of the artistic culture course, observations were made in the nursing classroom to assess the development of students' creative skills. Findings revealed that their artistic leadership was limited, and ideas for experimenting with novel artistic productions were scarce. The students did not fully trust their potential or their freedom to create; therefore, they resorted to traditional methods for developing their work, without engaging in meaningful creative experiences. Furthermore, facing and resolving difficult situations was not appealing to them.

In response to this issue, a program was implemented that combined art with elements of Peruvian culture through "Pinceladas y Sonidos Peruanos." This program developed class sessions focused on enhancing dimensions such as flexibility, fluency, originality, and elaboration of thought, aiming to create artistic products in each session. To evaluate these productions, Torrance templates were used, allowing for the measurement of participants' creativity levels.

The purpose of this research was to demonstrate whether the art program "Pinceladas y Sonidos Peruanos" influences the development of creativity in the artistic culture course for third-semester nursing students at the "Sullana" Public Technological Higher Education Institute. Additionally, it sought to measure the level of the creative dimensions of students before and after the application of the program, as well as to compare the results obtained in pre- and post-test assessments.

The confirmed hypotheses indicated that the art program "Pinceladas y Sonidos Peruanos" significantly influences the development of creativity among third-cycle nursing students at this institute. Furthermore, it was found that approximately 75% of students exhibited a low level of creative development in the artistic culture course before the program's implementation.

Methodology

According to Hernández et al. (2010), the research was classified as pre-experimental due to a minimum degree of control, applying pre-test and post-test assessments to a single group.

The study design is represented as follows:

- G O1 X O2
- G: group of third-semester students
- O1: pre-test
- X: art program "Pinceladas y Sonidos Peruanos" (treatment)
- O2: post-test

The study units underwent a pre-test before the implementation of the stimulus, followed by the administration of the proposed program. Finally, a post-test was conducted to evaluate the program's impact.

The study population comprised 30 technical nursing students in their third semester at the Sullana Technological Institute, with 13.3% being male and 86.7% female.

A non-probability intentional sampling method was used, working with the entire cohort of third-semester technical nursing students, i.e., $n = 30$ students. A rubric was employed as an instrument for data collection, which enabled the gathering of research results. As noted by Pérez et al. (2015), this rubric was used to verify the students' level of creativity. Its validity level was calculated at $1733.24/20 = 86.662$, a value that, according to Torrance (1970), places the instrument within the accepted category, thus considering it validated.

For statistical analysis, the Student's t-test for related samples was applied to compare and determine if there was a significant difference in the mean of the population before and after the intervention.

Results

Objective 1:

To determine the level of creativity dimensions in third-semester nursing students in the artistic culture course before implementing the "Pinceladas y Sonidos Peruanos" art program.

Table 1

Level of creativity dimensions of third-semester nursing students in the pre-test

DIMENSIONS	Very Low (Level 1)		Low (Level 2)		High (Level 3)	
	Nº	%	Nº	%	Nº	%
Fluency	11	36.7%	14	46.7%	5	16.7%
Flexibility	11	36.7%	14	46.7%	5	16.7%
Originality	10	33.3%	14	46.7%	6	20%
Elaboration	11	36.7%	15	50%	4	13.3%

Table 1 shows the levels of the creativity variable in the students obtained in the pre-test. In the fluency dimension, the majority of students were at a low level (46.7%), with 36.7% at a very low level and only 16.7% at a high level.

Similarly, in the flexibility dimension, 46.7% of students were at a low level, 36.7% at a very low level, and only 16.7% achieved a high level. For originality, the trend also concentrated at the low level (46.7%), followed by 33.3% at the very low level and 20% at the high level.

Lastly, in the elaboration dimension, the highest percentage (50%) corresponded to the low level, while 36.7% were at the very low level and only 13.3% reached the high level.

Objective 2:

To evaluate the level of creativity dimensions in third-semester nursing students in the artistic culture course after the application of the "Pinceladas y Sonidos Peruanos" art program.

Table 2

Level of creativity dimensions of third-semester nursing students in the post-test

DIMENSIONS	Very Low (Level 1)		Low (Level 2)		High (Level 3)		Very High (Level 4)	
	Nº	%	Nº	%	Nº	%	Nº	%
Fluency	0	0	0	0	7	23.3%	23	76.5%
Flexibility	1	3.3%	0	0	3	10%	26	86.7%
Originality	10	33.3%	14	46.7%	6	20%	0	0
Elaboration	11	36.7%	15	50%	4	13.3%	0	0

Table 2 indicates that in the fluency dimension, the majority of students are at very high levels (76.5%) and high levels (23.3%) in the post-test. Similarly, in the flexibility dimension, the trend is concentrated at very high (86.7%) and high (10%) levels. These results suggest that the didactic strategies implemented in the program have positively strengthened indicators of formal richness and complexity within the fluency dimension, as well as movement and thematic richness in the flexibility dimension.

Conversely, in the originality dimension, 46.7% (14 students) remain at a low level, 33.3% (10 students) at a very low level, and only 20% reach a high level of creativity. Likewise, in the elaboration dimension, most (50%) are at a low level, followed by 36.7% at a very low level and 13.3% at a high level.

Unlike fluency and flexibility, the results in originality and elaboration show a negative trend, indicating that participating students still maintain stereotypical frameworks in the graphic expression indicators that comprise these two dimensions. According to Verde (2014), this situation results from an excessively encyclopedic and rigid education in Peru, alongside a teaching attitude that limits students and instills fear of making mistakes.

Objective 3:

To compare the results obtained by third-semester nursing students in the artistic culture course before and after applying the “Pinceladas y Sonidos Peruanos” art program, by comparing pre-test and post-test data.

Table 3

Comparison of results obtained in pre-test and post-test

DIMENSIONS		Very Low (Level 1)		Low (Level 2)		High (Level 3)		Very High (Level 4)	
		Nº	%	Nº	%	Nº	%	Nº	%
Fluency	PRE:	11	36.7	14	46.7	5	16.7	0	0
	POS:	0	0	0	0	7	23.3	23	76.5
Flexibility	PRE:	11	36.7	14	46.7	5	16.7	0	0
	POS:	1	3.3	0	0	3	10	26	86.7
Originality	PRE:	10	33.3	14	46.7	6	20	0	0
	POS:	10	33.3	14	46.7	6	20	0	0
Elaboration	PRE:	11	36.7	15	50	4	13.3	0	0
	POS:	11	36.7	15	50	4	13.3	0	0
Creativity variable	PRE:	4	13.3	21	70	5	16.7	0	0
	POS:	0	0	16	53.3	14	46.7	0	0

Table 3 presents the results obtained by third-semester nursing students in the artistic culture course, both in the pre-test and post-test.

In the fluency dimension, it is evident that in the post-test, the majority of students achieved very high levels (76.5%), in contrast to the pre-test, where the highest percentage was at the low level (46.7%).

Similarly, in the flexibility dimension, the trend in the post-test concentrated at the very high level (86.7%), whereas in the pre-test, the predominant percentage corresponded to the low level.

Conversely, in the dimensions of originality and elaboration, the maximum values remain at the low level for both the pre-test and post-test, indicating no significant advances in these areas.

Finally, when comparing the overall results of the creativity variable, it is observed that in the post-test, 46.7% of students are at a high level, in contrast to 16.7% recorded in the pre-test. Furthermore, the percentage of students at the low level decreased from 70% in the pre-test to 53.3% in the post-test. Therefore, it can be deduced that, in general terms, the “Pinceladas y Sonidos Peruanos” program has contributed to quantitatively improving the creativity levels of the participating students.

Discussion

Creativity manifests in humans through their highest and most complex potentials and abilities. According to Esquivias (2004), it is defined as the capacity to transform ourselves by recognizing our possibilities to create and solve problems, fostering the generation of novel interactions (Elisondo, 2005).

Regarding the analysis of the results for the first objective, which evaluates the level of creativity dimensions in third-semester nursing students in the artistic culture course before implementing the “Pinceladas y Sonidos Peruanos” art program, pre-test results indicate that 70% of students are at a low level of creativity, as well as in their specific dimensions. These findings contradict the expectation that nursing students would develop creativity through the artistic culture course, as there was a evident disinterest in Peruvian music. In contrast, Aranguren (2013) states that creativity linked to emotion, although complex, is fundamental for creation, since even when we classify emotions by their hedonic tone and level of activation, they influence the creative process.

On the other hand, concerning the creativity dimensions after applying the “Pinceladas y Sonidos Peruanos” art program, which corresponds to the second objective, the study reports significant increases in fluency and flexibility, reaching very high levels (Table 2). These results reflect the positive effects of the program. Specifically, fluency reached 76.5%, aligning with emphasis made by Galton (1983, cited in Medina et al., 2019) on its importance in creativity, as it facilitates the spontaneous emergence of ideas in students. Regarding flexibility, which reached 86.7%, it can be inferred that students, after the program, are capable of offering varied responses, modifying and shaping ideas, overcoming their own rigidities, and approaching problems from different perspectives. In this sense, post-test results align with UNESCO's experience titled “Innovation and Creativity in Higher Education,” which, according to Prado (2016), underscores the importance of strengthening creativity through appropriate tools and procedures. They also coincide with the World Declaration on Higher Education in the 21st Century: Vision and Action (UNESCO, Paris, 1998), emphasizing the need to foster creativity in higher education to meet social demands, promote solidarity and equality, and place students at the center of the educational process, facilitating their integration into the global knowledge society.

Additionally, these results align with the thesis conducted by Almestar (2008), titled “Multimedia Technology and Its Influence on Creativity and Innovation in the Specialty of Plastic Arts in Third-Year Secondary Students in Ventanilla-Callao,” which also found positive effects of multimedia technology on artistic education. Almestar highlights that creativity is essential in the humanistic profile of students and that factors such as habits, beliefs, skills, and social environment influence its strengthening.

However, regarding the dimensions of originality and elaboration, final results show that most students remain at a low level, indicating that the program did not significantly develop these dimensions. This contradicts the theoretical contributions of Espriu (2005) and Flores (2006), who emphasize originality as the ability to generate novel, unique, and unconventional ideas—skills that every student should possess. Regarding elaboration, Flores (2006) notes that it is crucial for students to develop and refine an original idea or production, achieving levels of complexity and detail.

These results also contrast with the research carried out by Almestar (2010), which demonstrated that the experimental use of multimedia technology in the classroom allowed for the development of originality and innovation, turning the educational space into a place of creation, experimentation, and fascinating discovery.

Finally, the analysis of the third objective, which compared results obtained before and after applying the “Pinceladas y Sonidos Peruanos” program, reveals significant quantitative advances in the creative development of students. This conclusion aligns with the stance of Verde (2014), who states that educators must help eradicate the rigidity and traditionalism of the Peruvian educational system. Moreover, the results support the perspective of Torre (2005), emphasizing the social and educational impact of creativity and the need to commit to its development in personal, group, and institutional contexts.

The study also reaffirms the perspective of Pacheco (2003) and other authors such as Richards, Kinney, Bennett & Mertz (1988) and Riple (1989), who propose investigating not only highly creative individuals but also ordinary people, exploring how to enhance their creativity through artistic programs. Verde (2014) adds that fostering creative activity is crucial for emotional expression and management, as it promotes mental growth and offers opportunities to experiment with new ideas and ways of thinking and solving problems.

Conclusions

Before implementing the program, nursing students predominantly exhibited low and very low levels in creativity dimensions: fluency (83.4%), elaboration (86.7%), flexibility (46.7%), and originality (46.7%). The general creativity variable was at a low level (70%), confirming the hypothesis that less than 75% of students displayed

low creative development. These results highlight the limited effectiveness of the artistic culture course in stimulating this capacity.

Subsequently, after the program's implementation, a significant increase was observed in the dimensions of fluency and flexibility, reaching high and very high levels, at 100% and 96.7%, respectively. However, the dimensions of originality (46.7%) and elaboration (50%) remained at low levels. Although overall creativity improved, 53.3% of students still remained at a low level. These findings demonstrate the program's effectiveness and its benefits for the creative development of students, supporting the idea of Verde (2014) that creative activity is fundamental for emotional expression and innovation.

The study also reinforces the need to transform rigid and traditional educational practices. Comparing pre-test and post-test results, fluency and flexibility showed notable increases, reaching very high levels (76.5% and 86.7%, respectively), while originality and elaboration did not register significant progress. The general creativity variable indicated a positive trend, with 46.7% of students at a high level.

Finally, inferential analyses revealed statistical significance only in the dimensions of fluency and flexibility. The "Pinceladas y Sonidos Peruanos" program significantly influenced the development of overall creativity ($p = 0.000 < 0.05$) when comparing entry and exit tests. Therefore, it concludes that this program provided new opportunities for the comprehensive development of students.

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AUTHORSHIP CONTRIBUTION:

1. Conceptualization: Iris Liliana Vásquez Alburqueque
2. Data curation: María Elizabeth Reyes González
3. Formal analysis: José Wualter Peláez Amado
4. Funding acquisition: autofinanciado por los investigadores
5. Research: Iris Liliana Vásquez Alburqueque
6. Methodology: Celina Pérez Mena
7. Project management: Iris Liliana Vásquez Alburqueque
8. Resources: Celina Pérez Mena
9. Software: María Elizabeth Reyes González
10. Supervision: José Wualter Peláez Amado
11. Validation: Iris Liliana Vásquez Alburqueque
12. Visualization: María Elizabeth Reyes González
13. Writing – original draft: Olga Mendoza León
14. Writing – proofreading and editing: Olga Mendoza León