

Creativity profiles in first-year students of teacher training. An exploratory study

Perfiles creativos en el primer curso de magisterio. Un estudio exploratorio

Perfis criativos no primeiro curso de magistério. Um estudo exploratório

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Abstract

Creativity has become an essential skill in today's society, defined as the capacity of human beings to generate new and valuable ideas that imply a certain degree of originality and adaptation to reality. In addition, creativity is considered a transversal competence in Higher Education, essential to achieve a higher level of learning and the improvement of teaching-learning processes. The objectives of this work are to know the creative characteristics (type and degree of creativity) of the first-year students from Saragossa University of Teaching in Infant and Primary Education and to establish different student profiles. To this end, a simple descriptive, transversal and ex post facto study has been carried out with 110 first-year students in Early childhood and Primary Education, aged 18.19 ± 1.81 . The evaluation of the creative potential has been carried out with the Test of Creative Imagination (PIC). A descriptive, correlational and cluster analysis has been carried out to identify the profiles according to the type of creativity of these students. The results have shown three types of students, with a high degree of creativity, an intermediate one and a low one, in which narrative creativity has a preponderant value in the configuration of these profiles. The conclusions go deeper into the specificity or generality of creativity and its implications in university teacher training.

Keywords: Creativity; Teacher training; Teacher Education; Higher Education; Creative profiles; Test of Creative Imagination (PIC)

Resumen

La creatividad se ha convertido en una habilidad esencial en la sociedad actual, definida como la capacidad del ser humano de generar ideas novedosas y valiosas que implican cierto grado de originalidad y de adecuación a la realidad. Además la creatividad es una competencia transversal en el ámbito de la Educación Superior esencial para lograr un aprendizaje de alto nivel y la mejora de los procesos de enseñanza-aprendizaje. Los objetivos de este trabajo son conocer las características creativas (tipo y grado de creatividad) del alumnado de primer curso de Magisterio en Educación Infantil y Primaria de la Universidad de Zaragoza y establecer distintos perfiles de estudiantes. Para ello, se ha llevado a cabo un estudio descriptivo, transversal simple y ex post facto con 110 estudiantes de primer curso de Magisterio en Educación Infantil y Primaria, de $18,19 \pm 1,81$ años. La evaluación del potencial creativo se ha realizado con la Prueba de Imaginación Creativa

(PIC). Se ha llevado a cabo un análisis descriptivo, correlacional y de clúster para identificar los perfiles en función del tipo de creatividad de dicho alumnado. Los resultados han puesto de manifiesto tres tipos de alumnado, con un grado de creatividad elevado, otro intermedio y otro bajo, en donde la creatividad narrativa tiene un valor preponderante en la configuración de dichos perfiles. Las conclusiones ahondan sobre la especificidad o generalidad de la creatividad y sus implicaciones en la formación del profesorado universitario.

Palabras clave: *Creatividad; Formación del profesorado; Estudios de Magisterio; Educación Superior; Perfiles creativos; Prueba de Imaginación Creativa (PIC)*

Resumo

A criatividade tornou-se uma habilidade essencial na sociedade actual, definida como a capacidade dos seres humanos de gerar ideias novas e valiosas que implicam um certo grau de originalidade e adaptação à realidade, para além de ser uma competência transversal no domínio do Ensino Superior, essencial para alcançar um elevado nível de aprendizagem e a melhora dos processos de ensino-aprendizagem. Os objetivos deste trabalho são conhecer as características criativas (tipo e grau de criatividade) dos estudantes do primeiro ano de Ensino do Ensino Infantil e do Ensino Primário da Universidade de Saragoça e estabelecer diferentes perfis de estudantes. Para este fim, foi realizado um estudo simples descritivo, transversal e ex post facto com 110 estudantes do primeiro ano do Ensino Infantil e Primário, com $18,19 \pm 1,81$ anos de idade. A avaliação do potencial criativo foi realizada com o Teste da Imaginação Criativa (PIC). Foi realizada uma análise descritiva, correlacional e de agrupamento para identificar os perfis de acordo com o tipo de criatividade deste corpo estudantil. Os resultados mostraram três tipos de estudantes, com alto grau de criatividade, intermediário e baixo, onde a criatividade narrativa tem um valor preponderante na configuração destes perfis. As conclusões aprofundam na especificidade ou generalidade da criatividade e as suas implicações na formação de professores universitários.

Palavras chave: *Criatividade; Formação de professores; Estudos de formação de professores; Perfis criativos; Ensino superior; Teste da Imaginação Criativa (PIC)*

Translation by **Cristina Pedrazuela**

1. Introduction

Creativity has been defined as the ability of human beings to generate novel and valuable ideas, which involve a certain degree of originality and adaptation to reality (Sternberg & Kaufman, 2010). It has also been defined as a process of elaboration and validation of hypotheses taking into account the sensitivity to problems, gaps and information gaps that leads to formulate conjectures and hypotheses about their solution (Torrance, 1976). Creativity plays an essential role in today's society and in improving the quality of education, because its development and the processes involved encourage a high-level type of learning (Larraz, 2015).

Creativity is, essentially, a combinatorial process, it is the ability to connect learned knowledge to solve and discover problems and generate new ideas, so it tends to be related to problem solving, given that both aspects share many processes (Larraz, 2015; Calavia, Blanco and Casas, 2020). Creativity is associated with the divergent production processes proposed by Guilford (1950, 1968, 1994), which are directed in multiple directions, in contrast to convergent production processes, which are directed in one direction, in a linear and sequential manner. Divergent production processes are as follows:

- a. **Fluency:** ability involved in the generation of a large number of ideas. There are three types of fluency: ideational, associative and expressive;
- b. **Flexibility:** ability involved in generating changes in the kinds of thinking, meaning, interpretation, use of something, understanding or strategy used to perform a task, or in the thinking direction, which may involve a new interpretation of the situation. It defines two types of flexibility: spontaneous and adaptive;
- c. **Originality:** ability to produce unusual, intelligent responses from distant or remote premises, resulting in highly unusual responses;
- d. **Elaboration:** the ability to produce as many steps or details as possible to execute a plan.

The importance of creative processes explains how creative products are generated, given that these processes are at the base and underlie their generation. It is

therefore of interest to identify these processes in order to enhance them, as well as to know how they interact with the social and cultural environment, to do so.

1.2. Creativity at university level

Creativity, within the university environment, is conceived as a transversal or generic competence of a systemic nature (González and Wegenaar, 2006). The transversal competences are skills involved in the generic aspects of knowledge, as well as skills and abilities that any graduate must have before entering the labour market (Sánchez-Elvira, 2008). They are also basic skills for the vital development of people common to different occupations (De Juanas, 2010). Transversal competences are defined and included in university curricula due to the Bologna Process, which proposed a common framework for Higher Education degrees through the European Higher Education Area (EHEA). This framework has been translated at national level in the Royal Decree 1393/2007. The transversal competences are of a non-binding nature and have been included by the National Agency for Quality Assessment (ANECA, 2004) in its White Papers. In this context, the development and acquisition of creative competence as an essential aspect for professional performance is fundamental.

Nowadays, the inclusion of transversal and generic competences in curricula is a slow and meditated process, which can be achieved thanks to the planning of significant activities for their development, as well as the use of suitable procedures for their implementation and assessment (Sánchez-Elvira, López-González & Fernández-Sánchez, 2010). In this way, the studies carried out on creativity in university studies show the need to expand and specifically evaluate its development (De Juanas, 2010).

Most studies on creativity in the university environment show a positive perception of creative methodology by students, as well as a positive, albeit uneven, development of creativity (Esteve, 2008; Cabrera & Herrán, 2015; Hong, Part & Rowell, 2017; Raso & Aranda, 2019). On the other hand, there is also little development of creativity, given that traditional teaching and learning models still persist (Esteve, 2008; Elisondo, Donolo & Rinaudo, 2008). Therefore, there is an insistence

on the need to promote educational measures and processes that involve teachers in the development of their students' creative thinking, based on teaching methods that allow them to generate knowledge and respond to social, scientific and technological problems (Ríos-Figueroa & Bravo, 2017; Zambrano, 2019).

1.3. Creativity in initial teacher training

In all age groups there is a tendency for creativity to decline, which seems to be evident in childhood. The scientific literature shows the existence of a significant decline in creativity indicators as age advances, an issue also related to entry into formal education (Perkins, 1993; Sastre and Pascual, 2013; Torrance, 1966). In this regard, Kim (2011) observed a decline in creativity for the first time in decades across all ages in the United States. This decline was evident in childhood, leading to a decline in imagination, verbal expression, synthesising information, motivation to elaborate ideas and details and grasp the essence of problems, as well as less curiosity and openness to new experiences. The potential consequences of this trend are far-reaching, because creativity is vital in all aspects of our lives (Runco, 2007).

Furthermore, there is a window of opportunity in teacher education, as studies in neuroscience (Kleibecker, De Dreu & Crone, 2013), training programmes (Stevenson et al., 2014) and reviews on age and creativity (González, Arias-Castro & López-Fernández, 2019), provide that the average of core creativity skills, such as flexibility, is increasing with age and will allow for learning and exploratory behaviour. Similarly, it has been observed that the enhancement of divergent thinking increases with age if intervened through socio-cultural (educational) interactions and the natural development of cognitive functions (Krumm, Filippetti and Aranguren, 2015). Therefore, this vital formative stage is key in learning, since the consolidation of cognitive functions occurs continuously (Kleibecker et al., 2016), although their organisation and maturation conditions the performance levels of creative tasks. In short, if these conditions are met, the generation of creative ideas could improve with age (Stevenson et al., 2014).

In relation to initial teacher education, creativity has been considered as one of the three systemic competences best valued by students (ANECA White Pa-

pers, 2004). However, it is observed that the organisation for the development of creative thinking in future teachers is not sufficiently supported by education professionals, nor are the didactic conditions to address this challenge (Borodina, Sibgatullina & Gizatullina, 2019).

Research on the promotion of creativity in teaching by means of a specific proposal has demonstrated its effective development (Bai et al., 2020; Garaigordobil & Berrueco, 2011; Larraz, Antoñanzas & Cuevas, 2020; Yates & Twigg, 2017, 2019). In addition, having experienced these specific training programmes, students' incorrect beliefs about the conception of creativity and its development can be modified (Jiménez & Muñoz, 2012). In a case study, it became clear that the skills that early childhood and primary school teachers need to master in creative practice are multilevel, and encompass three dimensions: personal qualities, didactic processes and personal ethics (Grainger, Gouch & Lambirth, 2005).

In this regard, a systematic review of 210 studies on education and educational policy suggests that teachers' skills, attitudes, willingness to act as role models, awareness of students' needs, flexible structuring of scheduling and certain types of classroom interaction, are central to the teaching of creativity. This review underlines the importance of educational culture in supporting or impeding creativity, where it is necessary to generate conceptions of creativity and for teachers to develop their own creativity, working constructively with a mentor, as well as the importance of action research and reflection on their own educational praxis (Davies et al., 2014). It is further suggested that for the formation of a high level of creative thinking in Higher Education, specific and intentional actions are required (Borodina et al., 2019).

On the other hand, a significant relationship has been shown to exist between innovative schools and highly creative teachers (Yüner & Özdemir, 2020). Therefore, the creative environment and climate of an educational institution directly influences the creative capacity of its teachers (Craft, Jeffrey & Liebling, 2001; Menchén, 2003). Thus, in order to achieve the development of creativity in the university environment, the teaching staff must be provided with creative strategies to apply in the teaching-learning processes. Furthermore, the university should adopt an active and strategically cre-

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ative role (Ríos and Figueroa, 2017; De la Torre and Violant, 2002). The importance of the first teacher training courses is essential to imprint efforts and establish a baseline of creativity for its further enhancement during university-level studies.

The aims of this study are to find out the creative characteristics (type and degree of creativity) of first-year students in the first year of the Teacher Training Course in Early Childhood and Primary Education, and to establish different student profiles. For this purpose, a descriptive, simple cross-sectional and ex post facto study has been carried out with first year students of Teacher Training in Early Childhood and Primary Education at the University of Zaragoza. The assessment of creative potential was carried out with the Creative Imagination Test (PIC, by its Spanish initials). A descriptive, correlational and cluster analysis was carried out to identify the profiles according to the type of creativity of the students.

2. Material and Methods

2.1. Participants

The selected sample consisted of students of the Bachelor's Degree in Early Childhood Education and the Bachelor's Degree in Primary Education at the University of Zaragoza. The selection criterion was intentional and non-random. The sample consisted of 110 participants with a mean age of 18.19 ± 1.81 years, of whom 96 were female (87.3%) and 14 were male (12.7%). The students of Teacher Training in Early Childhood Education are 80 participants (71.5% of the sample), of which 5 are male (6.3%) and 75 are female (93.7%), and the students of Teacher Training in Primary Education are 30 participants (26.8% of the sample), of which 9 are male (30%) and 21 are female (70%) (Table 1).

	Participants	N (%)
Group	Total	110 (100%)
	E. Childhood	80 (71.5%)
	Primary Ed.	30 (26.8%)
Gender	Man	14 (12.7%)
	Woman	96 (87.3%)

	Participants	N (%)
Age	17	12 (10.7%)
	18	86 (76.8%)
	19	9 (8%)
	>19	3 (2.7%)
	Mean	18.19 (\pm 1.81)

Table 1: Socio-demographic variables.

2.2. Instruments

The assessment instrument to evaluate creativity was the Creative Imagination Test (PIC), in its version for Adults (PIC-A) (Artola, Barraca, Mosteiro et al., 2012) from 18 to 75 years of age and in its version for Youngsters (PIC-J) (Artola, Barraca, Martín et al., 2008) from 12 to 18 years of age. The PIC is a standardised instrument designed to assess creativity in adults and young people, respectively, and it also assesses different facets of creativity (fluency, flexibility, originality, elaboration, title and special details) in its narrative aspect (fluency, flexibility and originality) and its graphic aspect (originality, elaboration, title and special details), through divergent thinking tasks in which creativity is stimulated.

The test consists of four tasks presented as games: 1) an ambiguous image is shown and ideas about what could be happening in that scene have to be written down; 2) ideas for new uses of an object (a rubber tube) are encouraged; 3) an impossible situation is posed and its consequences are asked (What would happen if the floor became elastic?) 4) four vignettes with incomplete drawings are shown and the drawing has to be finished in an original way, adding a title.

With this test, a score is obtained in each of these facets:

- **Narrative Creativity:** composed of the sum of the scores of the component variables (fluency, flexibility and originality),
- **Graphic Creativity:** composed of the sum of the scores of the component variables (originality, elaboration, special details and title).

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- Overall Creativity: composed of the sum of the scores obtained in narrative creativity and graphic creativity.

2.3. Procedure

A descriptive, simple cross-sectional and ex post facto design was used through a selective (correlational) and quantitative methodology. Specifically, creativity was assessed in first-year students of the Teacher Training Course in Early Childhood and Primary Education. The students were given specific instructions on how to answer the creativity test. The test lasted 50 minutes. Once the test was completed, the copies were collected and corrected for later analysis.

2.4. Data analysis

A statistical analysis was carried out of the direct scores on the different variables that make up creativity: narrative creativity (fluency, flexibility, originality), graphic creativity (originality, elaboration, title and special details) and general creativity (narrative and graphic creativity). For the statistical analysis, the SPSS-26 programme was used. The statistics used were descriptive tests, a Pearson correlation and a cluster analysis.

3. Results

The results of the descriptive test scores (table 2), correlations (table 3) and cluster analysis (table 4) are shown below.

According to the descriptive statistics (table 2), the mean score for creativity was 96.04 points for general creativity, 86.53 points for narrative creativity and 9.44 points for graphic creativity. In narrative creativity, the average score for fluency was 41.55 points, for flexibility 26.42 points and for narrative originality 18.56 points. In graphic creativity, the average score for originality is 3.81 points, for elaboration 1.87 points, for special details 1.91 points and for title 1.85 points.

	Variable	Minimum	Maximum	Mean	Typ. dev.
Narrative Creativity	Fluency	11	83	41,55	14,63
	Flexibility	6	49	26,42	10,07
	Originality	3	45	18,56	8,85
	Narrative Cr.	20	177	86,53	30,33
Graphic Creativity	Originality	0	8	3,81	1,74
	Elaboration	0	7	1,87	1,76
	Special Details	0	8	1,91	1,72
	Title	0	7	1,85	1,83
	Graphic Cr.	2	18	9,44	3,42
General Creativity	General Cr.	22	188	96,04	31,01

Table 2: Descriptive statistics.

The relationships found between the different variables of general, narrative and graphic creativity (table 3) obtained from Pearson's correlations are presented below. At first, we can see an absence of significant relationship between narrative and graphic creativity ($r_{xy} = .173$), which could imply significantly different aspects of creativity. In turn, the relationship between general, narrative and graphic creativity also shows differences. A significant relationship is observed between general and narrative creativity ($r_{xy} = .994^{**}$) close to 1, and higher than the one found between general and graphic creativity ($r_{xy} = .279^{**}$). This issue is also observed with the variables that make up both aspects of creativity. For example, general creativity correlates positively and significantly with all the variables of narrative creativity (Fluency: $r_{xy} = .943^{**}$; Flexibility: $r_{xy} = .903^{**}$; Originality: $r_{xy} = .819^{**}$) but with the variables of graphic creativity, it shows a positive and significant relationship only with elaboration ($r_{xy} = .231^*$) and with title ($r_{xy} = .315^{**}$).

With respect to the relationship between narrative and graphic creativity, a weak positive relationship is observed ($r_{xy} = .173$). Between graphic creativity and the variables that make up narrative creativity, a positive and significant relationship is observed with flexibility ($r_{xy} = .223^*$) and narrative originality ($r_{xy} = .211^*$). Between narrative creativity and the variables of graphic creativity, a significant

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and positive relationship is only observed with the title ($r_{xy} = .274^{**}$). On the other hand, a positive and significant relationship is also observed between certain graphic and narrative creativity variables such as title and fluency ($r_{xy} = .238^{**}$); title and flexibility ($r_{xy} = .416^{**}$), as well as elaboration and flexibility ($r_{xy} = .269^{**}$).

	Narrative Creativity					Graphic Creativity				General Cr.
	Fluency	Flex.	Orig.	Narr. Cr.	Orig.	Elab.	Spe. Det.	Title	Graphic Cr.	General Cr.
Fluency	1	,831 ^{**}	,686 ^{**}	,959 ^{**}	-0,039	0,064	-0,127	,238 [*]	0,076	,943 ^{**}
Flex.		1	,579 ^{**}	,902 ^{**}	-0,112	,269 ^{**}	-0,16	,416 ^{**}	,223 [*]	,903 ^{**}
Orig.			1	,815 ^{**}	0,037	0,179	0,123	0,072	,211 [*]	,819 ^{**}
Narrative Cr.				1	-0,045	0,172	-0,078	,274 ^{**}	0,173	,994 ^{**}
Orig.					1	-0,172	,257 ^{**}	-,248 ^{**}	,417 ^{**}	0,003
Elab.						1	-0,034	,324 ^{**}	,583 ^{**}	,231 [*]
Spe. Det.							1	-,243 [*]	,487 ^{**}	-0,021
Title								1	,452 ^{**}	,315 ^{**}
Graphic Cr.									1	,279 ^{**}
General Cr.										1

Table 3: Correlations between creativity components.

^{**}. Correlation is significant at the 0.01 level (bilateral); ^{*}. Correlation is significant at the 0.05 level (bilateral).

Table 4 shows the results of the cluster analysis carried out. An analysis was carried out on the basis of three levels or degrees of creativity development and three groups were obtained: a first group with a moderate or intermediate level of creativity (N=48), a second group with a high level of creativity (N=29) and a third group with a low level of creativity (N=33).

The first group presents intermediate values in general creativity (97 points), in narrative creativity (88 points) and in graphic creativity (9 points), this group represents approximately half of the sample (43%); the second group presents high values in

general creativity (135 points), in narrative creativity (124 points) and slightly above average values in graphic creativity (11 points), this group represents a little more than a quarter of the sample (26.%); and the third group, with low values in general creativity (60 points), in narrative creativity (51 points) and intermediate values in graphic creativity (9 points), this group represents almost a third of the sample (30%).

The differences found between the different profiles are marked by the scores obtained in narrative creativity and its component variables, given that the scores in graphic creativity hardly discriminate between the different groups, as they have the same values in the three groups, except for the title variable, which varies very slightly between them (group 1 = 2 points; group 2 = 3 points and group 3 = 1 point).

	Component	Group 1	Group 2	Group 3
	Gender	Woman	Woman	Woman
Narrative Creativity	Fluency	42	59	25
	Flexibility	27	38	16
	Originality	19	27	10
	Narrative	88	124	51
Graphic Creativity	Originality	4	4	4
	Elaboration	2	2	2
	Special Details	2	2	2
	Title	2	3	1
	Graph	9	11	9
General Creativity	General	97	135	60
Number of cases	N	48	29	33
Percentage	%	43,63%	26,36%	30%

Table 4: Student profiles according to the degree of creativity.

4. Discussion

It can be affirmed that the objectives of the research have been achieved, which were to find out the creative characteristics of the first year students of Teacher Training in Early Childhood and Primary Education at the University of Zaragoza, and to establish different profiles according to the type and degree of creativity.

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In relation to the type and degree of creativity and the profile of teacher training students, three groups of students were observed: those with an intermediate level of creativity (43 %), those with a high level of creativity (26 %), and those with a low level of creativity (30%).

Moreover, the differences found between the different creativity scores could be determined by the scores obtained in narrative creativity to the detriment of graphic creativity, which hardly varies in one group with respect to the other and remains more or less stable (9 -11 points). Thus, narrative creativity scores appear to be more predictive in determining overall creativity scores. This could be represented by the absence of a significant relationship between narrative and graphic creativity ($r_{xy} = .173$) and by the high significant correlation between general and narrative creativity ($r_{xy}=.994^{**}$) as opposed to general creativity with graphic creativity ($r_{xy}=.279^{**}$).

These findings represent differential aspects of the creativity present in the students assessed, which also coincides with recent literature on this topic. In the results of a study carried out by Fink and collaborators (2019), it is observed that narrative creativity could be more predictive when assessing creativity than graphic creativity, with these scores being definitive in obtaining high creativity scores. These authors conclude that verbal creativity could have a general, broad-spectrum domain aspect as opposed to figurative creativity, which is more specific to a domain of knowledge. The same conclusions were also reached by Tsai (2014) who considers that verbal and graphic creativity could be understood as two different constructs. In other studies, it is found that narrative and graphic creativity could involve differential traits and aptitudes in social skills or self-concept and this could be due to the complexity of the creative construct and its assessment (Garaigordobil, 1997; Ruiz-Melero, 2017).

The possible specificity of creativity has been studied as a function of evolutionary development and age (Bernal et al., 2017) given that, depending on the experience and knowledge acquired, certain facets of creativity can be exercised, or others that could determine the existence of different creative profiles. In this sense, hybrid models recognise a certain specificity and a certain generality of the creative phenomenon (Ruiz-Melero, 2017).

Regarding to this specificity, the type of creativity exhibited may also differ with respect to professional performance. For example, journalists and lawyers score higher on fluency and doctors on originality (Stevenson et al., 2014), revealing that, for young adults, the social and educational context plays a key role in the development of creativity.

This last aspect refers to the assessment of creativity, where some authors favour assessing creativity through content-specific measures and models (Sak and Ayas, 2013). In this regard, it has been pointed out that it would perhaps be more useful to know whether people who have received creative training in a specific domain can transfer and apply what they have learned to other domains than to focus on measuring creativity (Bernal et al., 2017). According to the above, the most important thing would be to take into account the characteristics and conditions of the teaching and learning processes so that they don't become hindering, and allow enhancing the creative development that naturally arises in the classroom, taking into account the contextual nature of the same (Romo, 2003). Some authors propose evaluating the creative process according to the dimensions of novelty and appropriateness, from a perspective of its micro-development in the here and now, combining verbal and non-verbal criteria in the activities that are developed, promoted and evaluated (Kupers, Van Dijk & Lehmann-Wermser, 2018). Finally, the methodological proposal of complex designs for its development is advocated (Glăveanu et al., 2019) and to consider the assessment of creativity from a multiple perspective (Santaella, 2006; Perry & Karpova, 2017).

This study, having been carried out in the first year of a degree course for future teachers, yields encouraging results, given that half of the students have an intermediate level of creativity and approximately a quarter have a high level. Difficulties can be seen in the almost one third of the sample studied, who have a low level of creativity. This can be transformed if efforts are made to improve the processes and their creative potential (Bai et al., 2020; Garaigordobil & Berruero, 2011; Larraz, Antoñanzas & Cuevas, 2020; Yates & Twigg, 2017, 2019).

Therefore, in order to achieve greater creative performance, teachers should be involved, generating educational policies that improve the creative potential

of students, promoting teacher training processes in creativity, as mentioned at the beginning of this study (Borodina et al., 2019; Davies et al., 2014; Larraz, Antoñanzas and Salavera, 2019; Ríos-Figueroa and Bravo, 2017; Zambrano, 2019).

The limitations of the study are due to its own characteristics: it is a descriptive study carried out at a specific moment in time, so the results cannot be extrapolated, or causal relationships extracted from them. On the other hand, the sample selection is based on the first year of teaching studies and, although it is a limited sample, it is sufficiently representative for the purposes of this study.

5. Conclusions

On the basis of the results obtained in this study, the following conclusions can be drawn:

- There are three types of student profiles according to the type and degree of creativity presented: 1) Students with an intermediate level of creativity (43%), 2) Students with a high level of creativity (26%); 3) Students with a low level of creativity (30%).
- In order to explain the overall creativity scores, it seems that the narrative creativity scores are determinant, beyond the graphic creativity score. These issues could be related to the specificity of creativity in different domains of knowledge.
- For young adults at university, the social and educational context plays a fundamental role in the development of creativity. Therefore, the implementation of creative methodologies in the university classroom, planned with complex designs, is advocated.

In this way, it is encouraged to generate a research focus to understand how creativity can be developed during the course of university studies and, specifically, in teacher training, delving into the different facets of creativity, including narrative or verbal creativity and graphic or figurative creativity, in order to stimulate the creative potential of students. The ultimate aim is to transfer the knowledge from one context to another, i.e., in the different subjects of the degree

in the different courses, in the academic and professional practices and, finally, in their future professional work. In addition, emphasis is placed on the crucial role of teachers in enhancing the creative potential and performance of students, with teacher training in creative tasks and processes being essential.

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