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Original Article

LA VOZ DEL REHÉN: ADAPTING CREATIVE SUSTAINABLE DEVELOPMENT GOAL-BASED PHYSICAL-ARTISTIC PROJECT DURING COVID PANDEMIC

LA VOZ DEL REHÉN: ADAPTAÇÃO DE UM PROJETO FÍSICO-ARTÍSTICO CRIATIVO BASEADO EM METAS DE DESENVOLVIMENTO SUSTENTÁVEL DURANTE A PANDEMIA DA COVID

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RESUMO

Este artigo avalia os efeitos na criatividade de um programa interdisciplinar físico-artístico e seus efeitos durante o contexto pandêmico. A amostra foi composta por 97 indivíduos - 54 homens e 43 mulheres - com idade média de 21,37±1,56 anos, todos eles cursando o curso de formação de professores de educação primária na Universidade de Zaragoza, na Espanha. Foi um estudo pré-experimental com medidas pré-pós-programa - adaptadas à situação de pandemia, substituindo o conteúdo do acrosport por pular corda, malabarismo e dança aérea -. O instrumento de avaliação de habilidades criativas foi o PIC-A. Foram realizados um teste T de Student e um teste ANOVA para descobrir diferenças significativas no pré-pós em ambos os anos acadêmicos. Os resultados mostraram que: i) os participantes obtiveram melhorias significativas na pontuação total de criatividade em ambos os anos acadêmicos; ii) as adaptações feitas no programa de intervenção durante o ano pandêmico foram eficazes no desenvolvimento da criatividade. Esses estudos confirmam a importância da incorporação de programas interdisciplinares de criatividade no sistema universitário.

Palavras-chave: Professores em serviço, criatividade, Objetivos de Desenvolvimento Sustentável, Educação Física.

ABSTRACT

This article assesses the effects on creativity of an interdisciplinary physicall-artistic programme and their effects during pandemic context. The sample comprised 97 individuals –54 men and 43 women– with an average age of 21.37±1.56, all of whom were studying a Primary Education Teacher Training Degree at Zaragoza University –Spain–. It was a pre-experimental study with measures pre-post programme –adapted to pandemic situation, replacing the acrosport content to skipping rope, juggling and aerial dance–. The creative skills assessment instrument was the PIC-A. A Student's T-test and ANOVA test were performed to discover significant differences in pre-post in both academic years. Results showed that: i) participants obtained significant improvements in total score of creativity in both academic years; ii) the adaptations made to the intervention programme during the pandemic year were effective in developing creativity. These studies confirm the importance of incorporating interdisciplinary creativity programmes into the university system.

Keywords: Pre-service teachers, creativity, Sustainable Development Goals, Physical Education.

Introduction

The importance of giving a place to creativity in the education environment, given the influence it may have on an individual's personal and social development, to achieve effective and high-level learning[1,2] and to aspire to a more advanced and more human society[3].

Creativity has been defined as a higher-order skill –a thinking skill–, which permits generating novel and valuable ideas that include a certain degree of originality and adaptation to reality, respectively[1,4].

Creative thinking processes have been defined by several authors. We will take Guilford's definitions, as they have been more extensively studied and compared at an empirical level, as well as others that we believe are of interest for this study[1]. Guilford[5] proposes divergent production processes as mental operations that make creative or divergent thinking possible, understanding divergent thinking as cognitive processes that have multiple directions and possible solutions, opposed to convergent thinking that goes in one single direction and seeks one single possible solution. The divergent production processes proposed by this author are: fluency, flexibility, originality and elaboration.

Creativity in the university environment can be considered as a cross-cutting competence to be acquired during the training process. This aspect is considered in the European Higher Education Area –EHEA–, driven by the Bologna Process in 1999 –Bologna Declaration–, which includes and proposes the evaluation of general competences in Spanish university study plans, based on –Spanish– Royal Decree 1393/2007[6].

Within this scenario, a new teaching-learning process paradigm is defended, one that focuses on the students and on the education process rather than on the result[7]. These processes include general competences, also called generic or cross-cutting competences, in the different university degrees, as these must be included in the qualification verification reports through the Spanish National Agency for Quality Assessment –Spanish acronym, ANECA–. These competences are expressed as an element of the curriculum to be considered in order to achieve an optimal development of knowledge, conceived from a multiple perspective –learning to know, learning to do, learning to live together and learning to be– [8].

Despite having observed the importance and need to include creativity as a skill to be developed in the field of university education, given its relevance for learning, no specific methodologies have been implemented in this regard at either a personal or social development level, and of course, its assessment in the different study plans –at least at state level– has not been proposed[2,9].

With regards to the studies conducted on the development of creativity in the higher education research field, the need to expand the implementation of the development of creativity in a more specific manner, and to evaluate the results, has been observed[2,7]. The reason for this is that the majority of studies observed are of an exploratory and descriptive nature, remarking a positive perception by students related to creative methodology, and a possible development of creativity[2,10].

There are other proposals, too, in the university environment related to didactic innovation and research in the classroom, which may be of interest to conceptualise, plan and assess projects and specific proposals[2,11]. Other studies have focused on creative team training. The grounds for these studies, to develop creativity, are not only cognitive factors but also environmental ones[12]. Indeed, from a social-cultural perspective, it cannot be forgotten that learning occurs in the social context, which emphasises group-focused dimensions[13].

In other words, the creative process cannot be separated from its environment[2,14]. More specifically, Fischer et al.[2,15] criticise research studies on creativity that place emphasis on partial approaches, and recommend interdisciplinary designs that understand creativity in its plural context.

One of the features that characterises Spanish physical education is motor efficacy, because sport is the main content designed and implemented, exercising a purely sport-based process in the other contents[15]. Thus, homogeneity, rationalisation, competence, and the transmission of prevailing masculinity are the hegemonic principles of this purely sport-based content[16], relegating the development of creativity to a secondary plane.

Consequently, other contents of Spanish school physical education that disregard competition, such as corporal expression, dance, introjective practices, such as tai chi, yoga, meditation, relaxation, etc., among others, may offset these deficiencies, and thus break away from the hegemonic sport model, and offer a variety of motor experiences[2,17].

In this sense, students show a lack of practice when tackling creation processes, as the fear of the non-existence of a model paralyses the fluency of answers. In fact, to counteract these deficiencies, Giguere[18] defends the need to pose creative group-thinking pedagogical proposals that express the cognitive benefits, such as communicative strategies[19], collaboration ties[20] and co-existence ties[21].

Regarding the studies conducted in this field, experiences with Primary Education

children and other descriptive or experimental style studies have been observed, with positive results in terms of the development of creativity, in the field of corporal expression and motor skills[22]. For example, acrosport[23] and other contents like skipping rope, jugglings and aerial dance are contents within cooperative physical activities that facilitate group creation and lend themselves to be related to expressive and communicative aims.

The pandemic produced by the 2019 coronavirus disease, the SARS- CoV-2 virus (COVID-19) has profoundly affected worldwide the institutions, actors and processes that take place in higher education, with changes whose duration and transcendence are difficult to foresee[24].

Creativity is an effective resource in the face of the traumatic effects arising from the pandemic, since it allows fostering the possibility of sublimating and converting through creative processes the solution of conflicts and vital, social and existential problems before the crisis, such as the one currently experienced with the pandemic produced by the 2019 coronavirus disease, the SARS- CoV-2 virus (COVID-19)[25,26].

Creativity can also be understood as an act of sublimation, which implies a psychic act aimed at the production of cultural and social goods in the service of overcoming internal or traumatic conflicts, which may have arisen in life[27]. In this way, creativity could be granted an important place in university teaching and more specifically, through the field of Physical Education[28].

The aim of this study is to assess if the teaching intervention proposal, based on an acrosport creation process, called 'La voz del rehén', has effects on creativity in participants. To conduct this study, the following objectives were set: i) Analyse the effects of the intervention programme in terms of creativity in both academic years; and ii) Analyse the effect of adapting programme in pandemic situation.

Methods

Sample

The target population of this research study were 117 fourth-year students from the area of Physical Education of the Primary Education Teacher Training Degree from the Education Faculty of Zaragoza University –Spain–.

The sample selected was non-randomised and intentional, comprising 97 participants – 54 men and 43 women- with an average age of 21.37±1.56.

There were two sample selection criteria: degree of participation in the practical sessions, and completion of the creativity test. The degree of participation refers to attendance to more than 80% of the 15 two-hour practical sessions of the five physical education subjects: Collaboration-opposition Physical Activities –AFCO–, Individual Physical Activities –AFI–, Collaborative Physical Activities –AFCOL–, Physical Activities in the Natural Environment –AFMN–, and Artistic Expression Physical Activities –AFAE–. Completion of the creativity test refers to participation in the pre-test and the post-test. Eight students were excluded due to not satisfying the criterion of degree of participation, and 12 students due to not completing the pre-test or the post-test. This design discarded the idea of incorporating a control group, since, there are some ethical perspectives that discourage its use due to the ethical shortcomings of quasi-experimental designs[29], in which, dispensing the experience of a physical-artistic-expressive interdisciplinary project to a given group of participants, is unfair and inequitable.

Students were split into working groups, to carry out an interdisciplinary group creation project. In the academic year 2019/2020 they were grouped into seven creative teams –44 participants– and in the academic year 2020/2021 they were grouped into eight creative teams

–53 participants–. The students had been involved with the contents of Physical Education in the previous year –a compulsory third-year subject called Physical Education in Primary Education– however, they did not work on any component of creativity from this subject.

Instruments

The Prueba de Imaginación Creativa para Adultos –PIC-A– [Creative Imagination Test for Adults][30] was used as the creative skills assessment instrument. This is a standardised instrument designed to assess creativity in adults aged 18 to 75, which has been validated with the Spanish population[30,31].

This test comprises four sub-tests. The first three evaluate narrative creativity, and the fourth, graphic creativity. To evaluate narrative creativity, in the first three sub-tests, participants are asked to write all the possible ideas that may occur to them regarding a specific creative task: a) in the first, a black and white image appears and they have to imagine everything that might be occurring in the scene; b) the second consists of thinking of possible uses for a rubber tube; c) in the third, an absurd hypothesis is proposed, i.e., what would happen if people never stopped growing? Graphic creativity is assessed in the fourth subtest, in which four incomplete drawings are proposed. Participants must complete them in the most original manner possible, and also add an interesting title for each one.

The PIC-A based on Guilford[5] theory proposed four divergent thinking processes as: i) fluency: the skill related to the production of a large number of ideas; ii) flexibility: the skill entailed by a change with respect to the types of thinking, a change in meaning, of interpretation or use of something, a change in the way of understanding a task, or in the strategy used to carry it out, or a change in the direction of thought, which might mean a new interpretation of the situation; iii) originality: skill of producing unusual, intelligent responses, based on distant or remote principles; iv) elaboration: skill of producing the largest number of steps or details possible to execute a plan.

In addition, the PIC-A assesses other variables as fantasy for narrative creativity and special details, and the title for graphic creativity. The sum of the scores of fantasy, fluency, flexibility, and narrative originality permit obtaining a score for narrative creativity. Graphic originality, elaboration, special details, and title are assessed in the fourth subtest, that provides the score for graphic creativity. The sum of the score of narrative and graphic creativity permits obtaining a general creativity score.

Procedures

The procedure has involved applying a group creation programme to develop creative skills. The design is pre-experimental with no control group, with measures before and after the intervention programme.

Based on these elements, our intervention proposal focused on future Physical Education teachers, in order to develop a cross-cutting competence –creativity–, necessary to catalyse the shift towards a more sustainable society. In our case, we used creation processes to act as leverage for a transformation process, addressing it from an experiential and constructive pedagogical approach, with different active methodologies. The sustainable development goals –SDG– were established as the driving thread for the creation process, and as the core of the programme, to tackle the contents of the three subjects involved in the project.

The script of the intervention was as follows: everything began in September with the SDG mission, a simulation of a kidnapping lasting for several weeks –120 days– enacted against the World Factory of Unsustainability, an intervention proposal based on the series, 'La Casa de Papel'. Two mysterious women, known as The Teachers, were planning the greatest attack in history. To carry out the ambitious plan, they recruited a team of students, who had nothing to lose and who had certain skills, which they would gradually discover as the mission

took place. The goal was to enter the factory and design 24 billion sheets to create their own Agenda 2030 and think about the SDG.

The group creation process was organised around four phases[32], based on the problem-solving process: Phase I: Brainstorming; Phase II: Composition; Phase III: Final touches; and Phase IV: Final sample. In this process, each group created their creative project.

The physical-artistic project for 2019/20 was based on acrosport, a physical education content based on the composition of static group figures at several levels. The following year, however, this content had to be eliminated due to the pandemic, as it requires interpersonal contact in which small working groups are exceeded. Acrosport was replaced by individual and skipping rope, gymnastic skills, juggling and aerial dance, content that avoids such interpersonal contact and is based on contact with objects.

Specifically, the collaboration activity block of the AFCO subject, together with the creation process of the AFAE subject, were the ones that provided students with the training activities to carry out this group creation project. The AFI subject provided the more technical part of individual work during the creation process. At the same time, with the groups now created, the students assumed the responsibility to plan, develop and assess their learnings - group creations, which enabled them to follow a personal rhythm –autonomous work– during the four months the creation process lasted until the day of the show. This autonomous work was developed outside the hours of the three subjects involved in the programme, but with spaces/facilities and material provided by the teachers involved.

Through the different activities proposed, work has been carried out, among other elements, on the divergent production processes, i.e., fluency, flexibility, originality, and elaboration. This was done by means of different creative strategies, activating analogical processes, i.e., based on the partial or total similarity to the problem; antithetic processes, i.e., the problem was solved contrary to how it had been until then; and random processes, i.e., the problem was solved by exploring a concept area with no apparent relationship to the problem, resorting to random estimations for its solution, including ludic, perceptive, emotive and experiential aspects[1]. These strategies included, among others: the use of metaphors through the driving thread of a story; brainstorming; exploration; combination and selection of ideas; synectics; visualisation; and dramatization.

Chart 1 sets out the description of each one of the phases linked to the strategies and creative techniques developed, and the divergent production processes, or creativity components assessed in the PIC-A test.

PHASE	ACTIVITITES	STRATEGIES AND CREATIVE TECHNIQUES	CREATIVITY COMPONENTS
Phase I: brainstorming	Brainstorming: Each person proposes one or several topics they want to work on. Choice of topic: the proposal that interests us the most is selected. What topic do we want to represent? What do we want to transmit?	Brainstorming	Fluency Flexibility Originality

	Research: Search for documentation on chosen topic: music, films, books, etc. Experienced emotions: Personal investigation into the emotional reaction generated by the selected topic. Spontaneous actions: Individual and group improvisations and explorations are carried out depending on emotions experienced.	Exploration and creative investigation Individual and group improvisations	
Phase II: compositi on	Proposal selection: Select the improvisations liked by the group, and pool practical proposals of all group members Composition: Execute it based on a thread, and describe what occurs in each part: beginning, crux and denouement. Role assignment: roles are assigned to each member of the group.	Idea combination and selection Synectics: Metaphor as thread Synectics: Personal analogy	Originality Fluency Flexibility Elaboration
Phase III: final touch	Recording: a first recording of the proposal is made Final touch: Errors are identified, and solutions are proposed in terms of: Gesture codes: facial expressions, trunk, and limb Proxemics: Heights -high, medium, and low-, directions and orientation to audience. Time codes: Combination of silences and accents. Participant coordination: Choreographies.	Visualisation Combination and selection of ideas Dramatization	Flexibility Elaboration
Phase IV: final sample	Preparations: Prior preparation of necessary resources Dramatization: the creation is presented to the audience	Visualization Dramatization	Originality Flexibility Elaboration

Chart 1. Phases of the group creation process and creativity components
Source: Authors

The sessions of the 'La voz del rehén 'programme were based on a problem-solving group creation process to abandon the "factory of unsustainability", generating its own Agenda 2030, i.e., the "Agenda of challenges", through acrosport. Different sessions were established in this intervention that dealt with aspects such as the initial proposal of the problem, or its discovery, and its approach through the SDG, and the group creation.

Some activities were carried out such as: design of a mission to address the problem of unsustainability; visualisation of the collective change –we+idea+action=change–; creation of

a newspaper where the roles and identities in the group creation were discovered; audio recording; inclusion of visual, musical and tactile elements, with different objects to represent attitudes, values, places, moments, etc.; inclusion of messages from the exterior to view the problems in another way; introduction of characters with the collaboration of former students from the Physical Education speciality, and students from other faculties; viewing videos to think and carry out small alternative actions; creation of a 'La voz del rehén 'box to leave messages –by the students– during the mission; conception through drawing about the problem-solving; visits to the exterior of the Education Faculty to observe another reality, and collaboration with schools and their contexts; visit to a Group Resource Centre of a village; conception and antithesis to solve the problem through collective awareness.

PHASE	SESSION	AFCO	AFI	AFAE
PHASE I: BRAINSTORMING	1	Project explanation		Lack of inhibition – tasks with low emotional commitment level
	2	Working group configuration		Lack of inhibition – tasks with low emotional commitment level
	3	Possible project ideas: SDG theme	Gymnastic skills (forward roll, backward roll, side roll; juggling, etc.)	Lack of inhibition – tasks with low emotional commitment level
	4	Unsustainability museum: represent different situations with the body (positions in pairs or small groups, static and dynamic)		Control of tone and proprioception
	5	Ludic situations to develop motor skills (balancing, turns, jumps, swings, coordination) and creativity		Control of tone and proprioception
PHASE II. COMPOSITOIN	6	Final theme (SDG) and message to be transmitted with the show: identify situations within the performance, characters or roles, music, etc.		
	7	Acrosport figures Acrosport pyramids		
	8	Transitions (gymnastic skills, choreographies, etc.)		Choreography elaboration
	9	Help		Gesture and time codes, and proxemics
	10	Spatial management and how to use it		Stage entries and exits
	11	Stage entries and exits	Phase II Activities	
	12			
PHASE III: FINAL TOUCHES	13	Prepare resources for the performance	Recording to carry out final touches	
	14	Go over less consolidated parts		Final touches after viewing the recording
	15	General rehearsal	General rehearsal	General rehearsal

AFCO: Inter-individual collaboration and opposition physical activities; AFI: Individual physical activities; AFAE: Artistic expression physical activities

Chart 2. Contribution of each subject according to creation phases
Source: Authors

Ethical considerations: Two members of the research group were female teachers of one of the subjects involved, and therefore, the teacher-student influence must be taken into account. This relationship also entailed a thorough knowledge of the creation process, facilitating the solutions to any problems that might arise in the research[33].

Participants received information about the objective of the research, and they also gave their consent and voluntarily participated in the test.

Statistical analysis

A descriptive analysis was conducted for sex and age variables. Furthermore, a Student's t-test dependent samples analysis was conducted to verify if there had been significant improvements in the participants 'creative skills following the group creation process, for both the 2019-2020 and 2021-2022 academic years.

A one-way ANOVA was conducted to analyze differences between academic years before the creation process. In addition, a one-way ANOVA was also performed to test whether there were significant differences between the change in scores for the 2019-2020 and 2021-2022 academic years.

Results

Descriptive results show similar characteristics in sex and age for both academic year (i.e., 2019-2020: M=21,48, SD=1,69 age old and 50,0% girls; 2020-2021: M=21,64; SD=3,25 age old and 43, 6% girls).

As observed in Table 1, there are significant differences between pre- and post-programme in the total scores of total creativity –i.e., narrative creativity + graphic creativity)– in both academic years.

Table 1. Differences pre-post in creativity for both the 2019-2020 and 2020-2021academic year.

	2019-2020 (*n*=44)				**2020-2021 (*n*=53)**			
Narrative creativity	M	ST	t	*p*	M	ST	t	*p*
Pre	110.55	28.18	-6.15	.000	89.13	30.33	-10.08	.000
Post	139.77	31.92			127.21	34.76		
Graphic creativity								
Pre	11.52	4.03	-2.14	.038	10.94	4.75	.876	.385
Post	13.09	4.21			10.38	3.65		
General creativity								
Pre	122.07	29.35	-6.474	.000	100.08	32.33	-9.49	.000
Post	152.86	32.97			137.58	35.57		

Source: Authors.

The significant differences encountered in both academic years in fantasy ($p<.05$) must be pointed out in each one of the scales (2019-2020: DM=4.86, SD=9.22; 2020-2021: DM=6.73, SD=6.92). Narrative creativity sub-tests –fluency (2019-2020: DM=12.54, SD=14.33; 2020-2021: DM=7.66, SD=11.09), flexibility (2019-2020: DM=5.00, SD=6.60; 2020-2021: DM=5.15, SD=7.44), and narrative originality (2019-2020: DM=11.68, SD=15.30; 2020-2021: DM=7.70, SD=11.67) –, also obtained significant improvements ($p<.05$) in both

academic years. Graphic creativity sub-tests – graphic originality, elaboration, special details, and title– did not obtain significant differences (p>.05) in both academic years.

The change in graphic creativity scores is significantly different between academic years (F=4.80 (1); p=0.31) (Table IV). The 2019-2020 academic year saw a descriptive increase in graphic creativity (MD=1.57; SD=4.86), however the 2020-2021 academic year saw a descriptive decrease (MD=-.57; SD=4.70) in graphic creativity scores. There are no significant differences between the changes in narrative creativity and total creativity scores (p>.05) between academic years.

Table 2. Differences between academic years before the creation process.

	2019-2020 (*n*=44)		2020-2021 (*n*=53)			
	M	**ST**	**M**	**ST**	**F**	***p***
Narrative creativity	110.55	28.18	89.13	30.33	12.77	.001
Graphic creativity	11.52	4.03	10.94	4.75	.410	.524
General creativity	122.07	29.35	100.08	32.33	12.09	.001

Source: Authors.

Discussion

Related with first aim, results show there were positive significant effects in creativity in both academic years, also in pandemic situation with adapting programme. However, related with second aim, there were significant differences in graphic creativity change between academic years. In addition, 2019-2020 academic year had significant higher scores in narrative creativity before intervention programme than 2021-2022 students. Therefore, there was not differences between years in changes in that score could show the positive effects of the programme in creativity.

This objective into account, it could be affirmed that the changes may be due to the effects of the educational intervention proposal on the creative processes and group creation. These same results have been shown in previous studies in the educational field[10] and in the teaching degree. Along this question some authors maintain that, to develop creativity, problem-solving proposals must be designed, simulating the search for novel results[1,4]. Because of this, the interdisciplinary programme described in this article was based on the group creation process of an acrosport or skipping rope project based on investigation-based teaching.,

In addition, each one of the four creation process phases were distinguished by the use of divergent production components –see table II in the Method section–, such as fluency, flexibility, originality, and elaboration[5]. For example, in the first creation process phase, fluency was extremely useful to transmit a high number of possible ideas to execute the project, all of which were related to one of the 17 SDGs. Elaboration and originality were prevalent in phase II because it was necessary to formulate steps to carry out the proposal, as well as unusual responses. Likewise, flexibility was the main skill used to be able to apply the relevant modifications in phase III, after conducting the analysis based on the viewing of the proposal. This could also explain the positive results obtained.

The interdisciplinary programme designed has been based on a group creation process, because research has verified that the development of creativity requires cognitive and environmental factors, which must include creative training in groups, permitting the improvement of the creative processes and imagination[12]. That is, it cannot be forgotten that learning occurs in a social context, so creativity must include group-focused dimensions[2,13]. In

other words, the creative process cannot be separated from its environment[2,14], and it must integrate interdisciplinary designs outside partial and biased approaches[22].

Along the same line, Giguere[18] defends the idea of creative group-thinking pedagogical proposals to counteract the lack of creative culture. According to Bannerman[19], group-thinking reports cognitive benefits such as communication strategies, collaboration ties [20] and co-existence ties[21].

Acrosport –content incorporated in the pre-pandemic year–, and the other content incorporated in the pandemic year –skipping rope, jugglings and aerial dance– are part of the Physical Education curriculum in Spain and that requires an interdisciplinary approach, as it is the result of combining technical and artistic elements. Therefore, it is an appropriate content for project-based learning, which favours the acquisition of specific and cross-cutting competences[23]. In the specific cases of the proposal presented in this study, it is an interdisciplinary project that encompasses some subjects of the physical education specialty of primary education teacher training. Further, these contents have an artistic component because it develops the senses, perception, creativity and communication, offsetting the deficiencies of purely sport-based physical education[2,15,16], which is based on the result and effectiveness, and thus breaking away from the hegemonic sports model[2,17].

Despite being in a pandemic context, we can affirm that the adaptations made since the introduction of skipping rope have been suitable. The adaptations made to restrict physical contact did not lead to interpersonal changes and therefore did not affect the creative process of group creation. Creative processes can be worked on in terms of the possibility of generating novel and valuable ideas[34]. Thus, group exchange has not been affected, despite the influence of the pandemic. In the same way that creativity has been proven to be resilient and protective of mental health in times of pandemic[25,26].

In relation to the second objective and taking into account graphic creativity, an improvement has been observed in the first year with respect to the second. Far from increasing the scores, in the second year of intervention, these have decreased. The creative processes at a graphic level where creativity has a higher level of specificity[35], may have been affected by the moment that was experienced after COVID-19. As a proposal for the future, we could focus on improving the creative processes related to graphic creativity, generating more aspects of creation linked to images and visual aspects, such as the creation of story boards, mind maps, videos or elements that allow the word to be linked to the image. Including visual methodologies such as photovoice[36] could provide a quality leap in terms of graphic creativity.

Conclusions

From the results obtained from the research it can be concluded that creativity increases significantly after the implementation of the creative teaching project 'La voz del rehén 'during two academic years. In addition, the proposed adaptation of the intervention programme 'La voz del rehén 'has been positive and has achieved real results after its implementation in the development of creativity. The adaptations have helped teachers and students to reinvent themselves based on the problems generated by the pandemic. This has favoured the development of divergent thinking, which has been positive both on a personal and professional level, in order to deal with the situation that was being experienced at the time.

The absence of plastic actions in the creation process of the interdisciplinary project was one of the main limitations of the study, an issue that has been verified by the non-significant improvements in the scales of graphic creativity, i.e., graphical originality + elaboration + special details + title. An additional limitation is lack of control group. However, its progressive

elimination is a new trend in educational research. Consequently, and forward-looking, the creation process will have to include actions linked to graphic creativity, such as, for instance, phase II of the composition being carried out with a graphic script –story board– instead of a narrative explanation, as occurs in this programme. For the future is proposed to: i) increase the interdisciplinary nature of the project, including other subjects from other specialities, i.e., Music Education, Plastic Education, etc.; ii) design a longitudinal study to be able to establish causal relations during a greater change process.

Education, the teaching and learning styles, must be transformed towards creative education. Students valued the change in style and vision of their initial training, moving towards a reflective dedication on their own education, the global society, and the need to constantly re-invent ourselves as people. To achieve this, the Education Faculties have the capacity to act as levers of change or multiplying engines, because, through our main activity, i.e., teaching, the teachers of the future are trained, and new knowledge, values and methodologies that generate solutions to the problems faced by today's society, are transferred. That is why the mission of creativity and SGD continues, because a lot still has to be done to change the world. So, this programme will continue allowing the Physical Education speciality, the Faculty of Education, to play a crucial role as a driving engine for social and educational transformation.

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