Corporal expression and group formation: the impact of self-selection vs. randomness
Expresión corporal y formación de grupos: el impacto de la auto elección frente al azar

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Abstract

Introduction: Group work is a fundamental and necessary strategy in the world of work, infiltrating most professional areas, among them Physical Education. Specifically, in the areas of artistic expression, group work plays an important role in the development of its contents.
Objective: The aim of this study was to analyse the perception of Physical Activity and Sport Science students on the management of learning and the development of interpersonal skills through group choreographic work, analysing the differences according to the criteria for the formation of the groups of students (random and self-selected).
Methodology: For this purpose, exploratory research was carried out using quantitative and qualitative methods
Results: The main results showed that members of the self-selected group strengthened interpersonal skills such as group cohesion and communication, while members of the randomly selected group reported improvements in learning management such as adaptability, negotiation and task sharing
Discussion: Based on the proposed objectives, it was confirmed that students' perceptions through group work influence their organizational strategies and the development of their professional skills. The students' perception of group work in artistic-expressive disciplines has been satisfactory in both groups, developing social skills, greater personal involvement in the work, an improvement in the atmosphere of collaboration, improving communication between the members of the group and the responsibility of the students.
Conclusions: In summary, the use of group work strategies, irrespective of the organisation of the groups, increased the social competence and skills of the university students.

Keywords

Communication; decision making; group choreography; initial training; Physical Education.

Resumen

Introducción: el trabajo en grupo es una estrategia fundamental y necesaria en el mundo laboral, estando presente en la mayoría de los ámbitos profesionales, entre ellos la Educación Física. Concretamente, en las áreas de expresión artística, desempeña un papel importante en el desarrollo de sus contenidos.
Objetivo: analizar la percepción del alumnado del grado en Ciencias de la Actividad Física y del Deporte sobre la gestión del aprendizaje y el desarrollo de habilidades interpersonales a través del trabajo coreográfico en grupo, analizando las diferencias en función del criterio de formación de los grupos (aleatoria o autoseleccionada).
Metodología: se llevó a cabo una investigación exploratoria utilizando métodos cuantitativos y cualitativos.
Resultados: los resultados mostraron que los miembros de los grupos autoseleccionados fortalecieron habilidades interpersonales como la cohesión grupal y la comunicación, mientras que los miembros de los grupos asignados aleatoriamente informaron mejoras en la gestión del aprendizaje, como la adaptabilidad, la negociación y el reparto de tareas.
Discusión: la percepción del alumnado respecto al trabajo en grupo influye en sus estrategias organizativas y en el desarrollo de sus competencias profesionales, destacándose el desarrollo de habilidades sociales, una mayor implicación personal en el trabajo, una mejora en el ambiente de colaboración, una mejor comunicación entre los miembros del grupo y un aumento en la responsabilidad del alumnado.
Conclusiones: en resumen, el uso de estrategias de trabajo en grupo, independientemente de la forma de organización de los grupos, incrementó la competencia social y las habilidades del alumnado universitario.

Palabras clave

Comunicación; coreografía grupal; Educación Física; formación inicial; toma de decisiones.

Introduction

Corporal Expression, a discipline that uses the body and movement to connect with internal processes and develop a personal creative language (Harft and Stokoe, 2020; Rojas, 2017), can facilitate the development of the basic competences contained in the educational curriculum (Moreno and Pérez, 2013). Specifically, Corporal Expression and artistic-expressive activities enhance personal skills that are difficult to acquire through other curricular content, such as knowledge of one's own body, acceptance of oneself and others, self-confidence, and communication skills, among others (Cayón et al., 2020; Vega-Ramírez et al., 2022). These skills are considered fundamental for professionals in any field, as they contribute to the proper use of kinesthetic and proxemic components that lead to better body posture, proximity, eye contact and facial expression, which improves communication skills and the effectiveness of message transmission in the professional environment (Cayón et al., 2020; Moreno and Pérez, 2013). Therefore, Corporal Expression not only benefits the field of motor skills but also contributes to the development of competences (Vidaci et al., 2021).

On the other hand, Corporal Expression uses choreography as a methodological tool as part of the students' learning process and can be developed individually or in groups. Choreographies integrate all the knowledge acquired through an aesthetic or intellectual idea or both at the same time and represent the end of a work process (Antolín, 2013). Likewise, subjects with a high content of practical activities, such as physical activities and sports in general, and artistic-expressive activities in particular, contain a high potential for the development of cooperative activities (Fernández-Río and Casey, 2020; Mattsson and Larsson, 2021; Opstoel et al., 2020). However, in physical education classes, learning through cooperative group work was not contemplated until a few years ago, as there was an excessive use of competition to motivate students (Fernández-Río and Casey, 2020). Student interaction is a characteristic of the subject of Physical Education (Barkera et al., 2015) and it is the responsibility of educators to create the necessary circumstances for the integral development of the student (Carriedo et al., 2020; Cryan and Martinek, 2017; Opstoel et al., 2020). The development of personal, social, and professional competences and skills through the peer group is part of everyday life and is constantly implemented throughout our lives as members of social institutions. Therefore, the group strategy is fundamental in the world of work and infiltrates most other professional areas (Robbins et al., 2013; Vega and Ávalos, 2018). In the field of Education and, specifically, within the teaching and learning of Corporal Expression, group work is a strategy that enhances and facilitates the exchange of experiences and knowledge (Völlinger et al., 2018).

This work structure essentially consists of a collective designated by a leader or a self-selected group. The basic approach is for a group of learners to work together towards a common goal, where tasks are distributed equitably so that the group evolves towards the previously established goal (Buchs et al., 2015; Pai et al., 2015). In initial training it is common to introduce methodological strategies that require the grouping of students for the improvement and development of certain social and professional competences. Several research studies have supported such strategies, e.g., cooperative learning and the organizational structure for its implementation, reporting improvements in student learning and performance (Buchs et al., 2015; Johnson and Johnson, 2018; Johnson et al., 2014; Supanc et al., 2017; Völlinger et al., 2018). Through the group work structure, students learn how to take responsibility for their own learning and how to take more responsibility for teaching their teammates, who must achieve collective self-efficacy, which highlights that individual actions can be taken to achieve a common goal (Hordvik et al., 2021). This behavior helps to promote social and interpersonal relationships among students, even those of different ages and from different cultural or ethnic backgrounds and social classes (Buchs et al., 2015; Moura et al., 2023).

Teaching strategies for the development of students' skills have gained great importance in recent decades with the strengthening of the European Higher Education Area Framework, therefore, personal, and professional skills and participatory strategies can provide students with greater autonomy encourage decision-making and promote the ability to organize and plan during their learning process, helping students to achieve this goal (Hordvik et al., 2021; Moura et al., 2023).

In the case of expressive-artistic activities and the development of group choreographies, learning in groups means working cooperatively in the search for graphic information (photography and videos),

musical selection and specific themes related to an idea, etc., which leads to the development of professional competences such as communication, problem solving, negotiation and time management (Ávalos et al., 2019; Vega-Ramírez et al., 2022). Buchs et al. (2016) argued that the advantages of group work for students include the development of social relationships, creativity, responsibility, and autonomy, preparing them for professional life. In addition, group work is considered important for students to develop fair working practices, commitment, and respect (Popov et al., 2022).

In this line, already in the 1990s, Katzenbach (1997) established that through group activities in the classroom, the "4Cs" of teamwork (communication, collaboration, cooperation, and commitment) could be enhanced and, consequently, students would be better prepared to deal more effectively with future professional challenges.

One of the pioneering studies in this field was one that analysed the various alternatives for forming study groups and their impact on students' subsequent academic grades (Swanson et al., 1998). This concluded that those who belonged to groups formed by the students themselves obtained better results. However, the study by Farland et al. (2019), which analysed the impact of group formation on team performance and satisfaction, concluded that neither performance nor quality of interaction was affected.

Education has focused on teacher-directed content for decades, but with constructivist learning theory, students are now encouraged to take an active role, with teachers acting as planners and facilitators (Svinicki and Schallert, 2016). Corporal Expression, through its creative processes, enables student autonomy in decision-making during its formative stages where the teacher can monitor progress and provide guidance, when necessary, to help the group to resolve doubts or to raise questions that stimulate learning (Antolín, 2013; Ridocci, 2019; Rojas, 2017). This new modified role of the teacher in the cooperative learning process requires him/her to be a transmitter of information, as well as a guide and facilitator, in the process of cooperative learning (Cronin et al., 2018).

In spite of the numerous advantages and benefits of group work and in this case of choreographic creation, students do not seem to be prepared to tackle this type of methodological strategy, where autonomy, decision-making, teamwork, individual responsibility, among other competencies, are fundamental for the development of the learning process.

It should be noted that research in relation to Physical Education and Sport in the development of social skills (communication, negotiation, and teamwork) mainly considers team sports (Martin et al., 2009; Özkara and Kalkavan, 2021; Harrist and Witt, 2015). However, there is little mention of students' perceptions of how groups are organized, and none in relation to expressive artistic disciplines.

Due to the premises set out above, the purpose of this study was to find out and analyse the perception of Physical Activity and Sport Science (PASS) students on the management of learning and the development of interpersonal competences through group choreographic work, as well as to analyse the differences according to the criteria for the formation of student groups (random and self-selected).

Method

The design of this research was carried out through exploratory research using quantitative and qualitative methods with a non-experimental approach.

Participants

The purposive sample consisted of 81 university students (26 women and 55 men), with a mean age of 20.2, SD 1.9. The participants, distributed in three groups of practical classes (Table 1), belonged to the second year of the bachelor's degree in PASS and were enrolled in the subject of Corporal Expression during the 2022-2023 academic year.

For the development of this study, the students were previously informed, and their informed consent was obtained, following the guidelines for the protection of personal data and the approval of the ethics committee of the University of Alicante (UA-2020-11-22).

Table 1. Distribution of the sample according to gender and practice group.

	Group A	Group B	Group C
Women	11	9	6
Men	17	20	18
Total	28	29	24

Procedure

First, the work to be developed was explained to the students. This had to include the creation of a choreography with a free theme, which had to integrate some basic elements of the activities worked on during the classes: composition (space, role, and time), execution technique and coordination. For this activity, the technique of learning by collective result (Orlick, 1982) was used, with each student contributing his or her effort to the overall result.

Secondly, the students were assigned to different working groups. Of the three practical class groups, group A and B were organized with self-selected groups (one group of five students and eight groups of six members), and group C was organized randomly (two groups of five students and three groups of six members). The groups worked during the class over a period of three weeks with a total of 9 hours, the last day of the activity being for the presentation of the choreographic works.

Following this process, the questionnaire was made available for this research, using the Google Forms form for online completion. Students were informed of the confidentiality and anonymity of their responses.

Instrument

The Questionnaire on the Evaluation of Group Work (Salicetti, 2009), with adjustments to the context of Corporal Expression, was used to collect quantitative and qualitative data. The questionnaire is composed of 10 questions and uses a 5-point Likert scale to record responses (1 = very poor, 2 = poor, 3 = acceptable, 4 = good, 5 = very good). Of the 10 questions, two relate to the preparation of the work and the remaining eight refer to collaborative work among group members. The reliability of the questionnaire was assessed by Cronbach's alpha, with an internal consistency of 0.819.

On the other hand, the questionnaire included an open question where the students were invited to reflect on the evaluation of the strategy developed according to the group formation structure (random and self-selected):

Reflect on what it has meant for you to work in a group during the development of the choreographic activity carried out.

Data analysis

Quantitative data were analysed using descriptive statistics, means, medians, standard deviations, and cross-tabulations in SPSS version 26 for Windows. Mann-Whitney U tests were used for non-normally distributed data.

As for the qualitative analysis, once the open-ended responses were obtained and initially transcribed into a single text, a thorough reading of the content of the responses was carried out and the content was analysed inductively with the intention of finding connections with the purpose of this work. The intention was to examine how university students experienced and perceived the teaching-learning strategy of group work.

This process allowed coding according to the content of the responses and thus finally extracting the main theme of the study based on the students' perceptions of what group work meant to them:

 Theme 1. Group work and the development of interpersonal competences

Category 1. Effective interaction skills.

Category 2. Socio-affective skills.

Category 3. Negotiation skills.

Category 4. Adaptability skills.

Results

The results of the quantitative data expressed as percentages, means and medians are shown below. The most representative qualitative findings are also presented with their corresponding percentages. In addition, some examples of student responses associated with the emerging theme of the research are described.

Quantitative data

The overall results indicated that both self-selected and random groups of students perceived the group work done to be acceptable or good. Table 2 summarizes the average Likert scores for each of the items. The highest rated items referred to group cohesion in terms of work climate, solidarity, coexistence, and socialization (M= 4.35); involvement with the subject and the work project (M= 4.12), which favored mutual help and collaborative work together (M= 4.07); and improving the ability to express oneself both individually and in the group, enabling and favoring communication (M= 3.95). The items with the lowest evaluation values were related to attendance at coordinated tutorials and non-coordinated tutorials (M= 2.80).

Table 2**.** Mean values of the Likert scale for the questionnaire items

Statements related to the effectiveness of group activities	Mean	Median	Standard Deviation
1. The choice of the theme and the level of involvement with the choreographic project.	4.12	4.0	0.783
2. Review of documents, videos and internet articles that have helped the development of the choreographic project.	3.50	4.0	0.968
3. The responsibility and concern of everyone for the quality and rigor in the preparation and presentation of the choreography.	3.96	4.0	0.965
4. Balanced distribution of activities among group members.	3.75	4.0	0.996
5. Personal contribution of each of the group members in the choreographic project.	3.91	4.0	0.841
6. Favored mutual help and a collaborative environment.	4.07	4.0	0.942
7. The cohesion of the group in terms of environmental solidarity, coexistence, and socialization.	4.35	5.0	0.875
8. Improvement of the capacity for personal and group expression, enabling and promoting communication.	3.95	4.0	0.807
9. Work time on site: Number of group and supervision meetings with the teacher for the development of the choreographic project.	3.75	4.0	0.823
10. Attendance at your arranged and non-arranged tutorials.	2.80	3.0	1.689

There were some significant differences between the randomly organized and self-selected groups according to the answers to the questionnaire (Table 3). The results obtained showed differences in item 2 (Review of documents, videos and that help the development of the choreographic project) (p < 0.003), in item 4 (balanced distribution of work) (p < 0.001), in item 7 (group cohesion in terms of climate, supportive attitude) (p < 0. 001), in item 8 (capacity for personal and group expression) (p < 0.001), and in item 10 (attendance at arranged tutoring and non-arranged tutoring) (p < 0.001).

Table 3. Comparison of responses between participants in self-selected and randomly selected groups.

Items	Self-selected groups			Randomly selected groups			U	P	ES
	Median	Mean	Standard Deviation	Median	Mean	Standard Deviation			
Item 1	4.0	4.24	0.656	4.0	4. 05	0. 805	-1.284	.202	.15
Item 2	3.0	3.12	1.131	4.0	3. 76	0. 864	3.234	.003*	-.30
Item3	4.0	3.91	1.055	4.0	4. 01	0. 910	0.495	.622	-.05
Item 4	4.0	3.24	1.428	4.0	4. 09	0. 899	3.723	.001*	-.33
Item 5	4.0	3.79	0.824	4.0	3. 94	0. 824	0.732	.466	-.09
Item 6	4.0	4.24	0.790	4.0	3. 98	0. 880	-1.613	.110	.1
Item 7	5.0	4.67	0.612	4.0	4. 14	0. 835	-3.515	.001*	.34
Item 8	4.0	4.29	0.060	4.0	3. 72	0. 882	-3.816	.001*	.41
Item 9	4.0	3.69	0.811	4.0	3. 79	0. 822	0.656	.513	-.06
Item 10	2.0	2.14	0.608	3.0	3. 35	1.328	4.999	.001*	-.50

Qualitative data

The analysis of the qualitative data showed that the results were in line with the quantitative results. Four categories were identified that reflected the students' differentiated assessment of the impact of the choreographic group work on learning management. The cross-cutting theme of the categories was group work and the development of interpersonal competences. The theme explains that, depending on the organisation of the groups (self-selected or random), the students perceived the functioning of the group members differently.

Students who worked in self-selected groups in their evaluations mainly emphasised aspects associated with the emotions generated, while students who worked in randomly selected groups pointed more strongly to aspects related to the development of negotiation and planning skills.

Category 1. Effective interaction skills

In this first category two codes have been highlighted: communication and participation. In communication, students reflected that the strategy fostered good communication by expressing personal views and listening to the opinions of their peers in order to reach agreements, which favoured the processes of information exchange between individuals and the group in general.

In terms of participation, the students reflected that their peers were actively involved in the group activities with interest in contributing ideas to the work to be done. In this sense, the participants indicated that each member had the opportunity to contribute significantly and that the assignment of tasks among the group members was equitable, thus giving the opportunity for all participants to collaborate in the development of the tasks.

Category 2. Socio-affective skills

In the second category related to the effects and feelings aspects we find 3 codes: positive emotions, group cohesion and pleasant atmosphere.

Positive emotions referred to the enjoyment of the activity and establishing emotional ties with colleagues, strengthening relationships. These positive emotions are feelings and emotional states that contribute to the well-being, motivation and effectiveness of team members while they collaborate on joint tasks and projects, thus promoting a good work environment.

Regarding group cohesion, the students valued that the strategy has strengthened the commitment of the group members to the work to be done, cooperating with each other and helping each other. This group cohesion is a measure of the unity, cooperation and sense of belonging that exists within a group, therefore, it is crucial for the success of any group, since it influences the motivation, performance and satisfaction of its members. members.

The students mentioned that the activities were developed in a pleasant environment, where they felt comfortable, with common objectives, where everyone's contributions were valued, facilitating motivation.

Category 3. Negotiation skills

In this category, two codes emerged: decision-making and conflict resolution.

In decision-making, students reflected that they could select an option from among several possible alternatives. This included the development of active listening, identification of the problem, analysis of relevant information, evaluation of the available options, and choosing the best alternative.

In conflicts resolution, students mentioned the ability they had to address and resolve conflicts or differences of opinion effectively and constructively. This involves actively listening, empathizing with the perspectives of others, seeking mutually beneficial solutions, and maintaining open and respectful communication.

Category 4. Adaptability

This category comprises two codes: adaptability to work and new learning. In adaptability to work, students reported that they adapted to new working methods and adjusted their working style to align with different techniques. They were also able to change their approach and adapt to new situations and

demands without significant resistance. Adaptability is a key skill in today's professional environment, where changes can be rapid and frequent due to technological advances, market changes, and other external influences.

Table 4 shows the categories, and their respective codes found in the analysis of the results. It can be observed that students from self-selected groups refer more frequently to categories 1 and 2, while students from randomly organized groups refer more frequently to categories 3 and 4. On the other hand, Table 5 shows the different codes and the evidence of the citations made by the students.

Table 4. Comparison of responses between participants in self-selected and randomly selected groups.

Category	Code	Self-selected Groups		Ramdom Groups	
		AF	% AF	AF	%AF
1. Effective interaction skills.	1.1 Communication	24	34,28	7	11,86
	1.2 Participation	14	20,00	3	5,08
2. Socio-affective skills.	2.1 Positive emotions	15	21.42	1	1,69
	2.2 Group cohesion	8	11,42	5	8,47
	2.3 Pleasant atmosphere	3	4,28	1	1,69
3. Negotiation skills.	3.1 Decision-making	3	4,28	9	15,25
	3.2 Conflict resolution	1	1,42	20	33,8
4. Adaptability.	4.1Adaptability to work	0	0,00	7	11,86
	4.2 New learning	2	2,85	6	10,1
Total		70	100	59	100

AF: Absolute Frequency

Table 5. Exemplification of the main responses according to the emerging codes.

Code	Citation
Communication	"It has meant raising the level of communication by sharing different points of view, listening to other ideas from other classmates makes you grow in thinking and different perspectives on the same topic" (Student 20).
Participation	"It has meant fun, cohesion, and collaboration between the members, and each one, at least in our group, has contributed something, so the works come out more fluid" (Student 57).
Positive emotions	"It has meant enjoying exercising the activities in a great work environment, fun, but doing the exercises" (Student 35).
Group cohesion	"It has brought me greater group cohesion, greater teamwork, cooperation between everyone, and, above all, fun and enthusiasm" (Student 71).
Pleasant atmosphere	"The work environment has always been very good; We all made the effort to do this work with good results. At the end of the exam, we were satisfied after the work was done" (Student 12).
Decision-marking	"Meet classmates with those with whom we did not have much contact, listen to other opinions, rate them and make a decision. Develop new skills and communication skills. Preparation for the future" (Student 22).
Conflict resolution	"I would like to highlight the ease of carrying out a good project and increasing mutual trust between colleagues to let us know things that some of us, did not agree on. Furthermore, it increased our self-esteem and decreased our shyness" (Student 67).
Adaptability to work	"Working in a group has meant a series of positive things: sociability, camaraderie, mutual support, between us, sharing ideas and, above all, getting to know new ways of working from my colleagues" (Student 3). "I have learned to work differently as I always have to adapt to the group's work style. Finally, it has also brought effort and sacrifice. Like the personal satisfaction of a job well done" (Student 2).
New learning	"As always, it is an opportunity to learn from others, to improve social relationships, to increase personal security and confidence, and to facilitate efficiency in achieving the proposed objectives and goals" (Student 78).

Discussion

The aim of this study was to find out and analyse the perception of PASS students on the management of learning and the development of interpersonal competences through group choreographic work, as well as to analyse the differences according to the criteria for the formation of student groups (random and self-selected).

In this study, we found that group work in artistic-expressive activities has fostered professional skills in PASS students, both in learning management and interpersonal skills such as communication and problem-solving, problems, negotiation, the development of social relationships, and creativity. Studies by Dyson et al. (2021), and Popov et al. (2022), argued that cooperative and collaborative group work prepares students for both professional and personal life. Numerous studies show a positive relationship between young people's participation in physical sport activities and the development of social skills such as respect, empathy, cooperation, and teamwork (Hemphill et al., 2015; Opstoel et al., 2020).

Based on the quantitative and qualitative results, we found that students in general perceived group work as an enriching experience. Group members were concerned about doing a good choreographic work through personal contribution and mutual support, strengthening communication, socio-emotional, negotiation, and adaptability skills, and their answers to open questions coincided with other studies that also used group work to develop some skills such as communication, active listening, decision making, among others (Hemphill et al., 2015; Johnson et al., 2014; Jurkowski and Häanze, 2015; Hordvik et al., 2021; Moura et al., 2023; Supanc et al., 2017; Völlinger et al., 2018).

By segregating the sample according to how the groups were selected (random or self-selected), some significant differences were found in the cohesion of the groups in terms of working atmosphere, group solidarity, socialisation and in the ability to improve both individual and group expression. The findings of the present study showed that communication improved more among the self-selected groups. In this sense, one of the competences that body language seeks to develop is related to knowing the gestural value of the body as a means of communication and as an artistic and creative tool (Antolín, 2013). This competence is essential in all aspects of life (professional and personal), where effective communication can improve collaboration, productivity, and the work environment. On the other hand, when working with like-minded peers, it is possible to create a better learning and communication environment (Shilcutt and Oliver, 2023). A pleasant environment is essential to foster positive relationships and maintain the motivation of group members, which favors collaboration and commitment to the objective of the task. Along these lines, other studies using group work in physical education have highlighted the improvement of group cohesion and cooperation, as well as individual responsibility (Luptáková and Antala, 2017), regardless of the organization of the groups.

In terms of the balanced sharing of artistic-expressive activities among group members for choreographic creation and preparation (reviewing documents, videos, and the internet, and attending tutoring), the randomly grouped participants gave significantly higher values than those in the self-selected groups. This may be explained by the absence of previous links between group members, which means that there could be greater interdependence between students, providing greater benefits and ensuring that everyone is active (Johnson and Johnson, 2018; Johnson et al., 2014).

On the other hand, this may be related to group goals and individual student responsibility, which fosters effective cooperative learning (Pai et al., 2015; Slavin, 1996). In the same vein, a study by Martin et al. (2009), noted that students think that cooperative group work with people who do not know each other prepares them well for future life, as they must learn to communicate, listen, and come to agreements with different people who have different backgrounds. This skill is fundamental in different areas, from the personal to the professional, since valuing the contributions of others refers to an act of recognizing, evaluating, and appreciating the contributions made by the other members of the group within a certain context.

The study carried out by Ávalos et al. (2019) on group work and the acquisition of gymnastic competences in baccalaureate students confirms that the self-chosen group organizational aspect improves their social relationship in the group and cognitive competences with respect to decision-making practice. In relation to the experiences that emerge from collaborative learning experiences, students describe them positively, affirming that companionship is developed and that this affects performance, improving affective-social competence and cognitive competence. The only limiting element was the dependence on the group to reach agreements, fostering students' critical thinking, decision-making skills, and group cohesion.

Likewise, in the present study the reflections of the students in the groups randomly assigned by the teacher indicated that the work was a personal and team challenge. In addition, it offered them an opportunity to meet and interact with colleagues with whom they would not otherwise have socialized. Buchs et al. (2015) argued that adopting teaching methods in which students are autonomous and responsible for their own learning leads to greater participation and engagement.

On the other hand, Supanc et al. (2017) found that cooperative work leads to improved student engagement. Along the same lines, Ávalos et al. (2019), state that collaborative work reinforces learning in that it creates distributed knowledge in the group produced through the interrelationships of its members. Some approaches to the methodology applied in the expressive arts field coincide in fostering students'

ability to learn by themselves, as well as in teamwork, emphasising social values such as collaboration, participation, and integration (Bähr, 2010; Fernández-Río and Casey, 2020).

According to Van der Laan and Smith (2007), group formation is done with the aim of establishing reasonable groups, including members with differentiated competences, and with different cultural backgrounds. In general, this study concluded that the results of group projects were better among students in self-selected groups than in groups formed by other methods.

A study by Hilton and Philips (2010) investigated the effects of group selection using the different training criteria mentioned above, and the characteristics of the students involved. They analysed both qualitative aspects, from within the groups through work diaries, and quantitative aspects, collected from students' opinions through surveys. This study concludes that the behavior of the group members, measured in terms of acceptance of the chosen members, degree of participation, etc., is influenced by the criteria followed by the instructor when setting up the groups. However, they also conclude that the training criterion used does not influence the group results, as all groups have similar experiences and results. This mutual learning process is essential in educational and professional environments, since today's environments are dynamic and changing, where the ability to adapt and continually learn is crucial.

Mushtaq et al. (2012) or Hassaskhah and Mozaffari (2015) points out that the components of the groups formed by self-choice shows greater satisfaction than the members of the groups formed by any of the other methods. This satisfaction shows by self-chosen groups involves the development of attitudinal aspects, communication between group members, as well as others associated with social relations and interactions.

Along the same lines, work by Herrero-González et al. (2021) indicates that learners can improve their ability to communicate well by carrying out activities that require social interaction. Through groups such as pairs or small groups, tasks can be designed to allow learners to practise communication skills such as listening and providing feedback. Therefore, the context generated in Physical Education could improve students' ability to communicate and cooperate in groups (Dyson et al., 2021).

One of the limitations encountered in the present study was the specificity of the expressive-artistic activities of a single university. It is considered that it would be interesting to address cooperative group work in other fields of education and to compare the acquisition of competences between other courses, degrees, and universities.

As a future line of research, the aim is to further explore the potential of the different methodological tools of the expressive artistic disciplines. The use of these tools will allow the development of students' professional competences, with the aim of establishing work strategies that enrich the promotion of skills such as communication or social interaction.

Conclusions

Based on the proposed objectives, it is concluded that the students' perception of group work in artistic-expressive disciplines has been satisfactory in general in both groups, developing social skills, greater personal involvement in the work, an improvement in the atmosphere of collaboration, improving communication between the members of the group and the responsibility of the students.

As for the differences found, the self-selected member groups reinforced interpersonal skills such as group cohesion and communication, while the randomly selected member groups reported improvements in learning management such as adaptability, negotiation, and task sharing, among others.

In summary, the use of group work strategies, regardless of the organization of the groups, increased the competences and social skills of university students through expressive-artistic content. Along these lines, it would be interesting for teachers to use group work during the teaching-learning processes in its two aspects of selection of its members, as both have proved valuable for the integral development of future sports physical activity professionals.

Financing

References

Antolín, L. (2013). *Expresión corporal: Fundamentos motri*ces. Universitat de València.

Ávalos, M. A., Martínez, M. A., & Merma-Molina, G. (2019). Implementación y evaluación de una estrategia gimnástica colaborativa. *Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte 19*(76), 579–598. https://doi.org/10.15366/rimcafd2019.76.001

Bähr, I. (2010). Experiencia práctica y resultados empíricos sobre el aprendizaje cooperativo en gimnasia. In C. Velázquez (Ed.), *Aprendizaje cooperativo en Educación Física: Fundamentos y aplicaciones prácticas* (pp. 149–164). Inde.

Barker, D., Quennerstedtb, M., & Annerstedta, C. (2015). Learning through group work in Physical Education: A symbolic interactionist approach. *Sport, Education and Society, 20*(5), 604–623. https://doi.org/10.1080/13573322.2014.962493.

Buchs, C., Gilles I., Antonietti, J. P., & Butera, F. (2015). Why students need to be prepared to cooperate: A cooperative nudge in statistics learning at university. *Educational Psychology: An International Journal of Experimental, 36*(5), 956–974. https://doi.org/10.1080/01443410.2015.1075963

Carriedo, A., Méndez-Giménez, A., Fernández-Río, J., & Cecchini, J. A. (2020). Nuevas posibilidades y recursos para la enseñanza de la expresión corporal en educación física: Internet y los retos virales (New ways and resources for teaching body expression in physical education: Internet and viral challenges). *Retos*, *37*, 722–730. https://doi.org/10.47197/retos.v37i37.69147

Cronin, L. D., Allen, J., Mulvenna, C., & Russell, P. (2018). An investigation of the relationships between the teaching climate, students' perceived life skills development and well-being within Physical Education. *Physical Education and Sport Pedagogy, 23*(2), 181–196. https://doi.org/10.1080/17408989.2017.1371684

Cryan, M., & Martinek, T. (2017). Youth sport development through soccer: An evaluation of an after-school program using the TPSR model. *The Physical Educator, 74*(1), 127–149. https://doi.org/10.18666/TPE-2017-V74-I1-6901

Dyson, B., Howley, D., & Shen, Y. (2021). Being a team, working together, and being kind: Primary students´ perspectives of cooperative learning´s contribution to their social and emotional learning. *Physical Education and Sport Pedagogy, 26*(2), 137–154. https://doi.org/10.1080/17408989.2020.1779683

Farland, M. Z., Feng, X., Behar-Horenstein, L. S., & Beck, D. E. (2019). Impact of team formation method on student team performance across multiple courses incorporating team-based learning. *American Journal of Pharmaceutical Education, 83*(6), 7030. https://doi.org/10.5688/ajpe7030.

Fernández-Río, J., & Casey, A. (2020). Sport education as a cooperative learning endeavour. *Physical Education and Sport Pedagogy*, *26*(4), 375–387. https://doi.org/10.1080/17408989.2020.1810220

Harf, R., & Stokoe, P. (2020). *La expresión corporal en el jardín de infantes*. Noveduc.

Harrist, C. J., & Witt, P. A. (2015). Calling the Screens: Self-Reported developmental outcomes in competitive basketball. *Journal of Adolescent Research, 30*(6), 751–778. https://doi.org/10.1177/0743558414561293

Hassaskhah, J., & Mozaffari, H. (2015). The impact of group formation method (student-selected vs. teacher-assigned) on group dynamics and group outcome in EFL creative writing. *Journal of Language Teaching and Research*, *6*(1), 147–156. https://doi.org/ 10.17507/jltr.0601.18

Hemphill, M. A., Templin, T. J., & Wright, P. M. (2015). Implementation and outcomes of a responsibility-based continuing professional development protocol in Physical Education. *Sport, Education and Society*, *20*(3), 398–419. https://doi.org/ 10.1080/13573322.2012.761966

Herrero-González, D., Manrique, J. C., & López-Pastor, V. M. (2021). Incidencia de la formación inicial y permanente del profesorado en la aplicación de la evaluación formativa y compartida en Educación Física (Incidence of Pre-service and In-service Teacher Education in the application of Formative and Shared Assessment. *Retos*, *41*, 533–543. https://doi.org/10.47197/retos.v0i41.86090

Hilton, S., & F. Philips, F. (2010). Instructor-assigned and student-selected Groups: A view from inside. *Issues in Accounting Education, 25*(1), 15–33.

Hordvik, M., Haugen, A. L., Engebretsen, B., Møller, L., & Fletcher, T. (2021). A collaborative approach to teaching about teaching using models-based practice: Developing coherence in one PETE module. *Physical Education and Sport Pedagogy, 26*(5), 433–447. https://doi.org/10.1080/17408989.2020.1812558

Johnson, D. W., & Johnson, R. T. (2018). Cooperative learning: The foundation for active learning. *Active learning—Beyond the Future*, 59–71. http://dx.doi.org/10.5772/intechopen.81086

Johnson, D., Johnson, R., & Smith, K. (2014). Cooperative learning: Improving university instruction by basing practice on validated theory. *Journal on Excellence in College Teaching*, *25*(3/4), 85–118.

Jurkowski, S., & Hänze, M. (2015). How to increase the benefits of cooperation: Effects of training in transactive communication on cooperative learning. *British Journal of Educational Psychology, 85*, 357–371. https://doi.org/10.1111/bjep.12077

Katzenbach, J. R. (1997). The myth of top management teams. *Harvard Business Review, 75*(6), 82–92.

Luptáková, G., & Antala, B. (2017). Collaborative learning with application of screen-based technology in Physical Education. *Montenegrin Journal of Sports Science and Medicine*, *6*(2), 49–56. https://doi.org/10.26773/mjssm.2017.09.007

Martin C., Trudel, P., & Forneris, T. (2009). High school athletes' perspectives on support, communication, negotiation and life skill development. *Qualitative Research in Sport and Exercise, 1*(1), 72–88. https://doi.org/10.1080/19398440802673275

Moura, A., MacPhail, A., Graça, A., & Bautista, P. (2023). Encouraging students to co-construct and co- and self-regulate their learning within a cooperative learning environment in Physical Education. *Journal of Teaching in Physical Education, 43*(4), 1–10. https://doi.org/10.1123/jtpe.2022-0104

Cuéllar Moreno, M. J., & Pestano Pérez, M. A. (2013). Formación del Profesorado en Expresión Corporal: planes de estudio y Educación Física (Training teacher in Body Expression: study program and Physical Education). *Retos*, *24*, 123–128. https://doi.org/10.47197/retos.v0i24.34542

Mushtaq, R., Murteza, G., Rashid, S., & Khalid, A. (2012). The influence of group selection method on grades, performance, and group outcome. *Journal of Basic and Applied Scientific Research*, *2*, 7003–7008.

Opstoel, K., Chapelle, L., Prins, F. J., De Meester, A., Haerens, L., van Tartwijk, J., & De Martelaer, K. (2020). Personal and social development in Physical Education and sports: A review study. *European Physical Education Review, 26*(4), 797–813. https://doi.org/ 10.1177/1356336X19882054

Orlick, T. (1982). *The second cooperative sports and games book*. Pantheon.

Özkara, A. B., & Kalkavan, A. (2021). Role of motor skills in Physical Education predisposition and Social Competence. *South African Journal for Research in Sport, Physical Education and Recreation, 43*(1), 97–112.

Pai, H., Sears, D., & Maeda, Y. (2015). Effects of small group learning on transfer: A meta-analysis. *Educational Psychology Review*, *27*, 79–102. https://doi.org/ 10.1007/s10648-014-9260-8

Popov, V., Brinkman, D., Fortuin, K., Lie R., & Li, Y. (2022). Challenges home and international students face in group work at a Dutch university. *European Journal of Engineering Education, 47*(4), 664–678. https://doi.org/10.1080/03043797.2022.2044762

Ridocci, M. (2019). *Creatividad corporal: Composiciones basadas en trabajos de investigación*. Alfa Institut.

Robbins, S., Judge, T. A., Millett, B., & Boyle, M. (2013). *Organisational behaviour*. Pearson Higher Education AU.

Rojas, P. (2017). *Técnicas de Expresión Corporal*. Wanceulen Editorial.

Salicetti, A. (2009). *Valoración de diferentes opciones y estrategias metodológicas empleadas en la formación de maestros especialistas en Educación Física*. Doctoral Thesis. University of Granada, Spain.

Shilcutt, J. B., & Oliver, K. L. (2023). Getting 'More and More Comfortable': Using an activist approach in a Dance PE content course. *Physical Education and Sport Pedagogy*, *28*(4), 321–334. https://doi.org/10.1080/17408989.2021.1990247

Slavin, R. (1996). Research on cooperative learning and achievement: What we know, what we need to know. *Contemporary Educational Psychology, 21*, 43–69.

Supanc, M., Völlinger M., & Brunstein, J. (2017). High-structure versus low-structure cooperative learning in introductory Psychology classes for student teachers: Effects on conceptual knowledge, self-perceived competence, and subjective task values. *Learning and Instruction, 50*, 75–84. https://doi.org/10.1016/j.learninstruc.2017.03.006

Svinicki M. D., & Schallert, D. L. (2016). Learning through group work in the college classroom: Evaluating the evidence from an instructional goal perspective. In L. W. Perna (Ed.), *Higher Education: Handbook of Theory and Research* (pp. 513–558). Springer International Publishing.

Swanson, Z. L., Gross, N. J., & Kramer, T. (1998). Alternative models of study group formation and student examination performance. *The Accounting Educators' Journal* (10), 1–11 Retrieved from https://www.aejournal.com/ojs/index.php/aej/article/view/3

Van der Laan Smith, J., & Spindle, R. M. (2007). The impact of group formation in a cooperative learning environment. *Journal of Accounting Education* (25), 153–167. https://doi.org/10.1016/j.jaccedu.2007.09.002

Vega, L., & Ávalos, M. A. (2018). Estrategias de trabajo grupal: ¿Grupos al azar o grupos auto elegidos? In R. Roig-Vila (Ed.), *El Compromiso académico y social a través de la investigación e innovación educativas en la Enseñanza Superior* (pp. 487–494). Octaedro.

Vega-Ramírez, L., Vidaci, A., & Hederich-Martínez, C. (2022). The effect of group work on expressive-artistic activities for the emotional regulation of university students. *Education Sciences, 12*(11), 777. https://doi.org/10.3390/educsci12110777

Vidaci, A., Vega-Ramírez, L., & Cortell-Tormo, J. M. (2021). Development of creative intelligence in Physical Education and Sports Science students through Body Expression. *International Journal of Environmental Research and Public Health, 18*(10), 5406. https://doi.org/10.3390/ijerph18105406

Völlinger, V., Supanc, M., & Brunstein, J. (2018). Examining between-group and within-group effects of a peer-assisted reading strategies intervention. *Psychology in the Schools*, *55*(5), 573–589. https://doi.org/10.1002/PITS.22121

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