Macrothink Institute™

Journal of Education and Training
ISSN 2330-9709
2023, Vol. 10, No. 1

The Role of a Creative Movement / Creative Dance Interventional Program About Social Relationships, Between 5th Grade Students: An Experimental Study

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Received: June 19, 2022 Accepted: August 2, 2022 Published: August 15, 2022

doi:10.5296/jet.v10i1.19982 URL: https://doi.org/10.5296/jet.v10i1.19982

Abstract

Relationships between students in a school setting, constitute a basic influence on group's climate formation and on individual's development. The present experimental study, investigates the role of a creative movement / creative dance program on social relationships, of a 5th grade class' students. Data collected via pre- post structured interviews, followed by sociometric analysis. The results revealed that the impact of creative movement / creative dance on students' relationships was moderate. Nevertheless, it seemed that creative movement / creative dance tended to play a crucial role on the development of students' relationships. More evidence-based approaches are needed in order to develop this hypothesis.

Keywords: social relationships, group cohesion, creative movement, creative dance, education, sociometry, intervention

1. Introduction

1.1 Social Relationships

Social relations could be defined as a continuous series of interactions that have an impact on individuals, concerning emotions and expectations (Rubin et al., 2006). They appear from the very first months of human life, through social interactions when individuals come into contact (Bauminger-Zviely et al., 2020; Hay et al., 2009). This process is intense depending on the sociocultural context in which it takes place (Kuppers & Robertson, 2007; Marich & Howell, 2015). Furthermore, the interaction between peers (children) is valued as a social exchange in which participants act independently, in a way that the behavior of each person is both an answer and a stimulus for each other's behavior (Rubin et al., 2006; Yilmaz & Sicim-Sevim, 2018). Interactions between peers have a number of forms (long or short-term, positive or negative) and variations depending on the context (family or school), their gender characteristics (boy-girl), their dynamics (calm-dynamic) and their emotional state (Amans, 2017; Fabes et al., 2009).

The reason why a child seeks to develop social relationships, reflects on his/her personal needs (Maslow, 1943) and requires social skills to be developed (Bauminger-Zviely et al., 2020). Children need to develop respect for others and their feelings, communication skills, efficiency in joint activities, ability to negotiate, to collaborate, to cultivate empathy, reciprocity, trust and acceptance of individuality (Alqurashi, 2019; East, 2016; Hartup, 2009; Kuppers & Robertson, 2007; O'Neill et al., 2019).

Factors affecting children's social relationships seem to be various and multidimensional. One of them is the interactions that take place during play (Coplan & Arbeau, 2009). Paradoxically, researches report that the role of game is being studied separately from social relations, factor that needs further investigation.

Chan and Mpofu (2001) addressed the benefits of social relations in child's development as an opportunity to cultivate their independence from adult control, experience equivalent relationships with others, develop social status and identity, share experiences and values, exchange emotional support, develop a sense of belonging and receive support for school's requirements.

Reasonably, several quarries arise concerning play and movement activities and their influence on child's development. Does creative movement influence and cultivate the above developmental stages? Should not the role of movement activities within education emphasize on human development and not only on physical skills? Can knowledge be more effective when it arises through play? Can creative movement / creative dance benefit child's social development?

Relevant studies as Lobo and Winsler (2006), Pavlidou et al. (2018) and Tsompanaki and Lykesas (2020) have shown that interventional movement programs have a positive impact on students' social interactions.

1.2 Creative Movement / Creative Dance Within Education

In research, it is observed that the terms "movement" and "dance" are used equally and similarly (Bergstein Dow, 2010; Lobo & Winsler, 2006). When we talk about dance in education, we often refer to creative dance or else, a creative way of approaching movement (Tsompanaki, 2019). Therefore, both terms "creative movement" and "creative dance" can be used equally in the field of education. In the present study, movement and dance through play was used in everyday classes, based on creativity. Henceforth, they are referred to as creative movement / creative dance.

Movement seems to be a concept inextricably linked to human nature, something that manifests itself naturally and in various ways in childhood. Such a manifestation is found in children's efforts to express themselves (Beardall, 2017; Brinson, 1991; Raptis, 2018; Ünlüer & Zembat, 2019). The importance of movement / dance within education lies on the need to develop self-knowledge and perception in order to make learning more efficient. Movement / dance should be used as a tool to teach all subject matters and not as a lesson. Thus, it should be a teaching approach and not a didactic technique (Tsompanaki, 2009; Brinson, 1991; Kuppers & Robertson, 2007).

Creative movement / creative dance is a field where the expression of thoughts, ideas and emotions find a way out, through the body (Beardall, 2017; Bergstein Dow, 2010; Lykesas, 2017). It is not about memorization of specific dance steps rather, it is about what moves us and what do we want to express through movement (Brinson, 1991; Raptis, 2018). Creative movement / creative dance utilizes simple, everyday movement by giving emphasis on kinetic peculiarity and idiosyncrasy and not on kinetic ability and skills (Bannon & Sanderson, 2000; Beardall, 2017; Laban, 1975; Oliver, 2000; Raptis, 2018; Warburton, 2011). In that way, focus is given on individuals' effort to act on their own, to experiment and make fruitful criticism, developing the spirit of teamwork but also of individual initiative (Paesani, 2020; Raptis, 2018; Shreeves, 1994). Children learn more effectively through their body (Kaufmann & Ellis, 2007).

Incorporating creative movement / creative dance into the learning process, gives opportunities for learning and success to all children, as this is an area that can support diversity both between children's personality and between the ways they learn (Tsompanaki & Lykesas, 2020; Kaufmann & Ellis, 2007; Paesani, 2020). In that way, the learning process becomes more meaningful through creative movement / creative dance. Consequently, it affects children's communication skills (Tsompanaki, 2019; Koff, 2000; Lykesas, 2017), social skills and behaviors (Tsompanaki & Lykesas, 2020; Lobo & Winsler, 2006), as well as interpersonal relationships (Lykesas, 2017; Paesani, 2020). It seems that individual and social development through creative movement / creative dance acts on a recycling way, by giving feedback to each other.

1.3 Creativity Within Greek Curriculum

A factor that acts as a deterrent to children's participation in the learning process is the service of cognitive goals that do not correspond to the reality, capabilities and needs of human

resources in every class, adding up the knowledge-oriented direction of the schools' schedule and curriculum (O'Neill et al., 2019; Raptis, 2018; Sajnani et al., 2020).

Greek curriculum divides creative subjects from cognitive in an uneven way. Subjects related exclusively to the acquisition of knowledge, occupy most of school's everyday life, unlike other subjects that are based in the fields of art or physical cultivation. It is observed that only two of the curriculum's 30 hours within a week, are available for physical movement (Gymnastics) and two for engaging with arts (Music and Visual Arts) (Ministry-of-Education, 2017). Undeniably, creative subjects occupy a small space within curriculum but, most importantly, are not used as a vehicle to approach learning in the core subjects. Moreover, there is a lack of opportunities for children to use their body in a creative way, as sports activities are not associated with developing creativity and imagination (Tsompanaki & Lykesas, 2020; Kaufmann & Ellis, 2007).

Lykesas, Koutsouba & Tyrovola (2009) discuss about impetus of children in forced restriction of creative and original expression within the school environment. Instead, children are called upon to adopt compartment and imitation practices (Kaufmann & Ellis, 2007; Lykesas et al., 2009), in a context of promoting uniformity (Kaufmann & Ellis, 2007). The question that rises is can creative movement / creative dance be incorporated in every subject matter as a vehicle to introduce the subject matter or as a creative approach in teachers' teaching approach? Can in that way other important developmental elements, social in this case, be developed? And if so, would this approach influence consequently the cognitive development of a child? Therefore, a vicious circle is created.

Regarding the Greek reality, there is limited research on the effects of interventional, experimental programs, which contain the art of dance within school curriculum.

1.4 Aim of the Study

The purpose of this research was to investigate the role of a creative movement / creative dance program in the development of 5th grade students' relationships, in a primary school setting. The focus was on the acceptance of individuality and coherence. The aims were:

- Determine if the application of the program has an effect in the improvement of students' acceptance of others.
- Examine if the application of the program affects the removal of possible rejection of some students.
- Examine if the implementation of the program affects the improvement of the cohesion of the group.

2. Methodology

2.1 Sample

The sample consisted of a group of 5th grade students, in a primary school of Athens, Greece. This consisted of 25 students (8 girls, 17 boys) that were 10 to 11 years old.

2.2 Research Design

Initially, a research team was formed, which included the classroom teacher. This research team undertook the design and conduction of the entire research, following specific steps which are briefly mentioned below:

1. An initial (pre) measurement was carried out on students
2. The intervention program was designed and applied
3. A (post) -measurement was applied to all students
4. A statistical analysis of data was made and therefore, the results emerged

This research was an experimental study, of a pre-post format, approximately a quasi-experiment, and specifically a pre-experimental research project, which included a team and pre-post testing (pre-experimental design: the one-group pre-test − post-test) (Cohen et al., 2018; Robson & McCartan, 2016). It was a natural experimental approach, as it took place in a school setting, where isolation and variable control were not absolute (Cohen et al., 2018). This gave the advantage of greater reactivity and generalizability of its results in real educational contexts (Robson & McCartan, 2016). In addition, the validity of such approaches was considered significant because the research sample was not subject to the sensation of observation by a researcher (Robson & McCartan, 2016).

2.3 Data Collection

The method of sociometry was used to collect data. This method has been used over the years, since Moreno introduced it (1934). It provides the ability to measure relationships and the acceptance or rejection between peers (Sopa & Pomohaci, 2018; Van Den Berg & Cillessen, 2012), while it reaches conclusions about group cohesion (Sopa & Pomohaci, 2018). As a method, it is widely used in educational research (Tsompanaki & Lykesas, 2020; Avramidis et al., 2017; Chan & Mpofu, 2001; Hendrickx et al., 2017; Hughes & Im, 2016; Johnson & Ironsmith, 1994).

For this research, the method of sociometry offered convenience (Evans, 1963), simplicity (Hymel, 1983) and immediacy in its implementation (Van Den Berg & Cillessen, 2012), as well as it gave the ability to implement it easily within the school curriculum (Blyth, 1960). In addition, it provided information from within, i.e. from the children themselves (D. R. Forsyth, 2010; Hymel, 1983), providing in that way important information on how the group was formed (Evans, 1963).

More specifically, a peer nomination procedure (Coie et al., 1982) was used, contributing in data collection over a short period of time (Van Den Berg & Cillessen, 2012). Those peer

reports from sociometric interviews are among the most suitable ways to draw conclusions (Cillessen & Bukowski, 2018).

In particular, structured interviews were conducted before and after the implementation of the program (pre post), face to face, by the classroom teacher, as an informal, relaxed and friendly approach, ideal for teachers conducting research on their own class (Blyth, 1960). Children were asked to name which of their classmates they preferred and which they did not (positive and negative nomination questions), regarding three criteria that were clearly stated (Moreno, 1934): the criterion of collaboration, play and friendship. For the first two criteria, positive and negative nominations were collected, from which acceptance and rejection scores were calculated. For the third criterion, there were only acceptance nominations. For each question, children were permitted to make as many nominations as they wished (Evans, 1963; Moreno, 1934). Specifically, the following five (predefined) questions were asked in exactly the same way and in exactly the same order, to all participants of this research (Mittenfelner Carl & Ravitch, 2018; Robson & McCartan, 2016) thus, saving valuable time and offering ease in data analysis (Davies, 2006).

1. Which children do you prefer to work with?
2. Which children you do not prefer to work with?
3. Which children do you prefer to play with?
4. Which children you do not prefer to play with?
5. Which children are your best friends?

2.4 Intervention Program (Structure and Content)

The program lasted 8 weeks and included a total of 24 activities, which took place during school hours and in school's settings. A program design was created taking into account dance elements and the interactions between students, as well as 5th grade's curriculum (Pedagogical Institute, 2003).

Before the program started, multiple games and exercises were used so as to familiarize children with movement activities and with each other. As the intervention program started, in each activity, children were divided into groups through random division games, which aimed to avoid competition between them. Afterward, students were given the necessary information for the implementation of each activity, in a comprehensive way and without any directional tendency. The activities mainly focused on collaboration and cooperation between them. In essence, students were asked to collaborate, using improvisation on various elements drawn from the curriculum, such as Natural Sciences and History.

In this context, it became clear to students that there was no right and wrong in the choices of movements or the way of moving. Students were encouraged to express themselves and move freely, playing with the dynamics and qualities of movement, in a collaborative atmosphere. They were then given some time to reconcile with their groups and decide how to shape their actions. The finalized formed activities or dance compositions of each group were then

presented. A relevant discussion followed in order to allow critical and analytical feedback to emerge.

2.5 Data Analysis

Regarding the first aim of this study, the sum of acceptance nomination scores (i.e for all participants) was calculated, before and after the intervention: a) for each one of the three criteria and b) for the three criteria collectively. Accordingly, for the second aim, the sum of rejection nomination scores (i.e for all participants) was calculated, before and after the intervention: a) for the criteria of collaboration and play and b) for these two criteria collectively. The test for the statistically significant difference between the values of the program, before and after the intervention, was performed with the Paired Samples t-test.

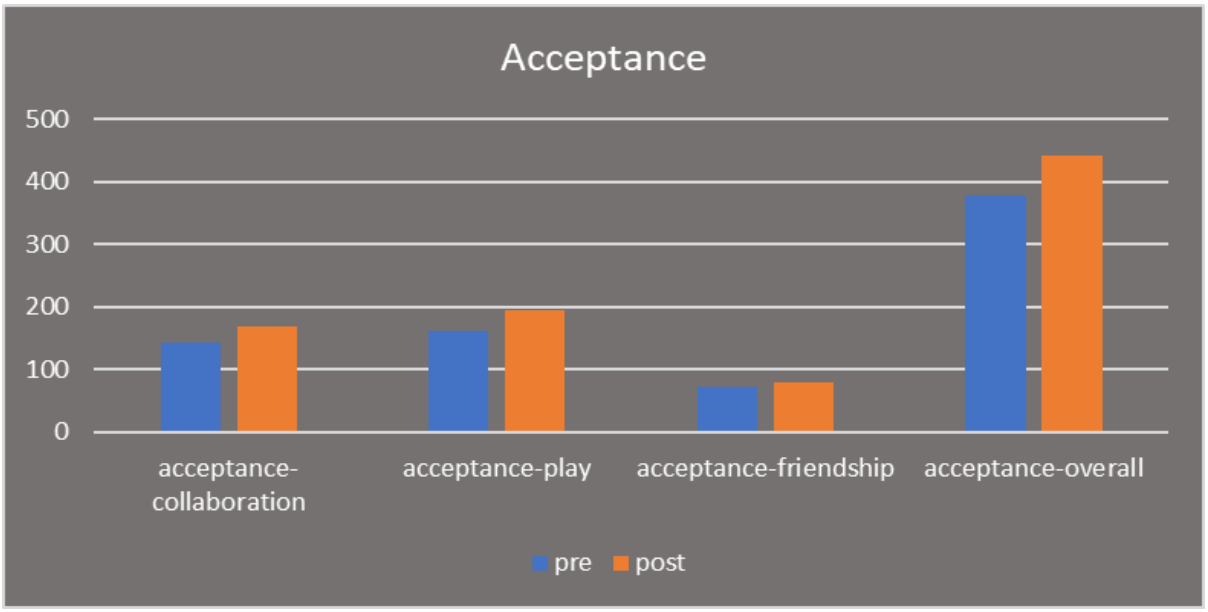
Regarding the third aim of this study, a specific mathematical formula was used to calculate the coherence index. The formula derived from the quotient of the set of the mutual acceptance nominations noted, to the whole maximum number of mutual acceptance nominations, that is $\frac{mutual\ acceptance\ nominations}{mutual\ acceptance\ nominations\ \ max.}$.

The number of mutual acceptance nominations was calculated using a sociomatrix (Blyth, 1960; Evans, 1963; E. Forsyth & Katz, 1946), a term by which a cross-tabulation table of the acceptance and rejection nominations for each person is described. The maximum number of mutual acceptance nominations within a group, where N is the number of individuals of the group, is calculated using the quotient $\frac{N\ (N-1)}{2}$ (D. R. Forsyth, 2010).

Therefore, the mathematical formula for calculating the cohesion index is as follows: $\frac{mutual\ acceptance\ nominations}{\frac{N(N-1)}{2}}$ or $\frac{2 \cdot mutual\ acceptance\ nominations}{N(N-1)}$ (Hu, 2018). The specific mathematical formula did not allow statistical correlations to be carried out so as to determine whether there was a statistically significant difference between the cohesion index before and after intervention.

3. Results

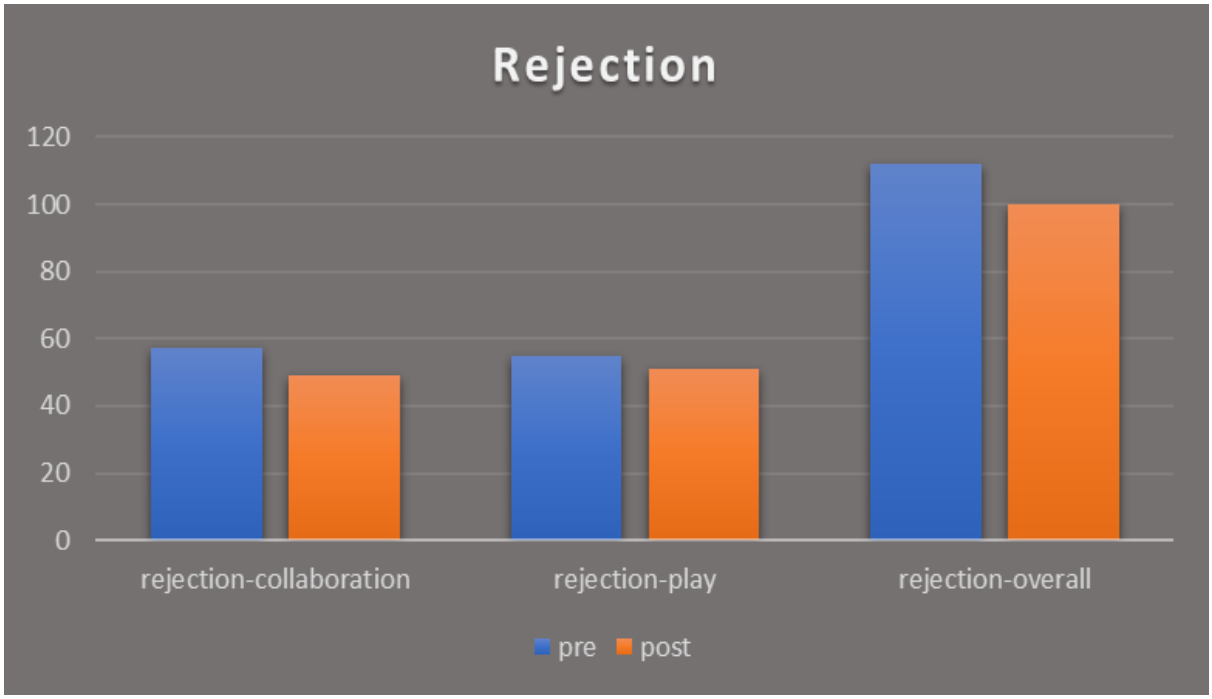
The results of this research study were interesting and are presented below.



Graph 1. Acceptance nominations

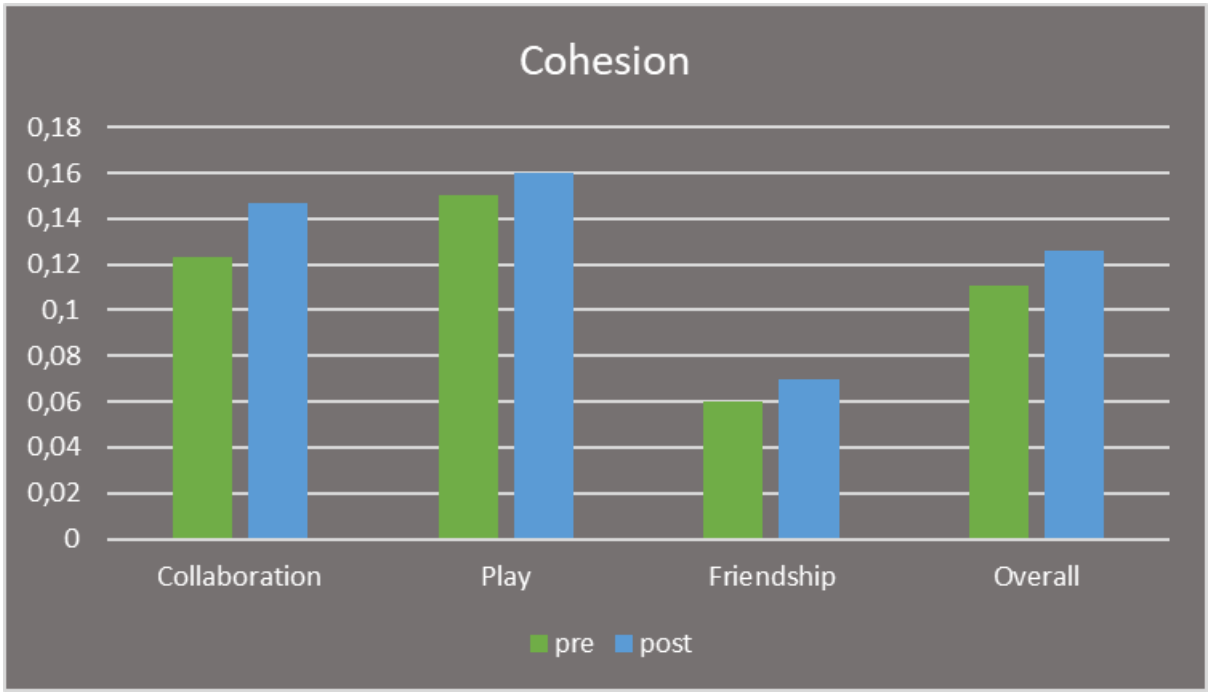
Graph 1 depicts the acceptance nominations that were gathered for all participants, before and after the intervention, concerning each criterion separately (collaboration, play, friendship) as well as in their entirety (overall). In all three criteria (and consequently in the whole), there was an increase in the acceptance nominations that occurred, with the largest being observed in the criterion of cooperation and the smallest in the criterion of friendship.

Concerning collaboration and play, there was a statistical significance between the acceptance nominations, before and after the intervention. The Paired Sample t-test (see Table 1, 2, 3 in Appendix) showed that there is a statistically significant difference between acceptance-collaboration pre and acceptance-collaboration post (t = -3,569 , df =24 , Sig.=0,002), where Mean acceptance-collaboration pre=5,68 < Mean acceptance-collaboration post=6,72. Moreover, there was a statistically significant difference between acceptance-play pre and acceptance-play post (t = -3,091 , df =24 , Sig.=0,005), where Mean acceptance-play pre=6,52 < Mean acceptance-collaboration post=7,76. There is also a statistically significant difference between acceptance-overall pre and acceptance-overall post (t=-4,226 , df=24, Sig.=0,00), with Mean acceptance-overall pre=15,12 < Mean acceptance-overall post=17,68. In the case of friendship, there is no statistically significant difference. Nevertheless, Mean acceptance-friendship pre was 2,92 whereas Mean acceptance-friendship post was 3,2, fact that shows an increase of 0,28. In addition, the following observation was made regarding acceptance in the criterion of friendship: before the intervention, two of the students were not named by one of their classmates, so they collected zero number of acceptances. But after the intervention it was found that this had changed, as both of these students were chosen by some of their classmates.



Graph 2. Rejection nominations

Graph 2, shows the rejection nominations that were gathered for all participants, before and after the intervention. This concerned each criterion separately, (collaboration, play) as well as their entirety (overall). For both criteria (collaboration and play) there was a decrease in rejection nominations (after the intervention), with the largest being observed in the collaboration criterion. As a result, there is a decrease in all of them (overall). From the Paired Sample t-test (see Table 4, 5, 6 in Appendix) no statistically significant difference occurs in either of the three cases. This is likely due to the small number of subjects who participated in the study. However, it is observed that in all three cases there is a decrease of rejection nominations. Specifically, it appears that between rejection-collaboration pre and post, there was a decrease of 0,32, between rejection-play pre and post there was a decrease of 0,16 and between rejection-overall pre and post there was a decrease of 0,48.



Graph 3. Group cohesion

Graph 3 shows that the cohesion indicators that were calculated, before and after the intervention, concerning each criterion separately (collaboration, play, friendship), as well as in their entirety (overall). In all cases, there was an increase in the cohesion indicators, with the highest being observed in the collaboration criterion (19,51%) and the lowest in the criteria of game and friendship (same increase, 6,7%). Concerning the overall criteria, there was an increase of 13,51%.

4. Discussion

This study investigated the impact of an interventional creative movement / creative dance program, on the relationships between children in 5th grade of a primary school, in Greece. Structured interviews were used to collect data and sociometry was used to process them. A statistical check was also carried out where possible. Through the analysis of the interviews, it was observed that in general, the interventional creative movement / creative dance program had a positive influence on the relations between students thus, it cultivated social development among participants (Hartshorn et al., 2001; Lobo & Winsler, 2006; Simpson Steele et al., 2016; Yazıcı, 2017).

With regard to the first objective, there was a significant increase in acceptance among pupils as the pre- and post-intervention measurements showed a statistically significant difference between them. An important finding was the change of two students' image, regarding the criterion of friendship. While they initially gathered zero numbers of acceptances, after the intervention their integration into the group has been strengthened.

Concerning the second objective, there has been a slight decrease in rejection phenomena. Although the pre and post-intervention measurements did not show a statistically significant difference between them, it was very promising that there was a decrease in rejection

nominations given by the students.

With regard to the third objective, there has been an improvement in the cohesion of the student group. In particular, the calculation made through mathematical formula showed an increase in the cohesion index after intervention, but no statistical significance check could have been carried out.

This positive effect was interpreted by two other elements. The first element was the interaction between those involved in creative dance activities (Ørbæk & Engelsrud, 2020) that is fundamental for social development (Hay et al., 2009; Rubin et al., 2006). Interventions involving creative movement / creative dance have been identified as having a positive effect on the social development of participants (Bergstein Dow, 2010; Çetin & Erdem Çevikbaş, 2020; Thom, 2010) and the findings of this research enhanced this approach. The second element was art, as a building block of creative movement / creative dance. This claim was reinforced by the fact that other interventional programs which have used various forms of art as an educational approach, have worked positively in terms of social relations between participants. Some of these programs included elements of theatre, such as dramatic play or drama activities (Beadle-Brown et al., 2018; Ceylan et al., 2019; Maroudas, 2012; Papadopoulou et al., 2017; Vitsou & Kamaretsou, 2020), music (Konstantinidou, 2017) and other art forms (Müller et al., 2018; Nevanen et al., 2014).

This research revealed that through creative movement / creative dance, students explored new ways of communication and interaction (Hay et al., 2009). Movement was a vehicle for experimentation (Lightfoot et al., 2013) and students used their body in order to express in highly differentiated ways (Gardner, 2011). This practical experience altered the team dynamic (O'Neil, et al., 2019; Sajnani, et al., 2020).

Another aspect of human brain activity is to reproduce experiences in a creative way, so as to generate new elements that will be channeled into the future (Vygotsky, 2004) and that was noticeable in the findings of this research. Creativity directed students into finding their way to interact (Brinson, 1991) and provided them with valuable resources to live in a complex and demanding social environment (Fisher, 2004), where individuality is important. Both art-based education (Nevanen et al., 2014) and established educational programs that aim at developing children's creative capacity (Beghetto, 2010) contribute to the development of these skills. The findings of this research were analogous. This highlights the catalytic contribution that a creative movement / creative dance program can make to the development of relationships between classmates. The research showed the importance for both research and implementation of dance or other art forms in a creative way and through educational interventions since, analogous approaches can contribute to the cultivation of social relations between classmates (García Bacete et al., 2019; Lobo & Winsler, 2006; Simpson Steele et al., 2016).

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Appendix

Table 1. Paired Samples Statistics (Acceptance)

Criteria		Mean	N	Std. Deviation	Std. Error Mean
collaboration	pre	5,6800	25	1,84210	,36842
	post	6,7200	25	1,79165	,35833
play	pre	6,5200	25	2,70986	,54197
	post	7,7600	25	1,80924	,36185
friendship	pre	2,9200	25	1,86905	,37381
	post	3,2000	25	1,50000	,30000
overall	pre	15,1200	25	5,81893	1,16379
	post	17,6800	25	4,22019	,84404

Table 2. Paired Samples Correlations (Acceptance)

Criteria	N	Correlation	Sig.
collaboration pre & post	25	,679	,000
play pre & post	25	,672	,000
friendship pre & post	25	,779	,000
overall pre & post	25	,865	,000

Table 3. Paired Samples Test - Paired Differences (Acceptance)

Paired Samples Test - Paired Differences (Acceptance)

Criteria	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
collaboration pre - post	-1,04000	1,45717	,29143	-1,64149	-,43851	-3,569	24	,002
play pre - post	-1,24000	2,00582	,40116	-2,06796	-,41204	-3,091	24	,005
friendship pre - post	-,28000	1,17331	,23466	-,76432	,20432	-1,193	24	,244
overall pre - post	-2,56000	3,02875	,60575	-3,81021	-1,30979	-4,226	24	,000

Table 4. Paired Samples Statistics (Rejection)

Criteria		Mean	N	Std. Deviation	Std. Error Mean
collaboration	pre	2,2800	25	2,50865	,50173
	post	1,9600	25	2,35372	,47074
play	pre	2,2000	25	1,87083	,37417
	post	2,0400	25	2,11108	,42222
overall	pre	4,4800	25	4,27317	,85463
	post	4,0000	25	4,37798	,87560

Table 5. Paired Samples Correlations (Rejection)

Criteria		N	Correlation	Sig.
collaboration	pre & post	25	,933	,000
play	pre & post	25	,926	,000
overall	pre & post	25	,944	,000

Table 6. Paired Samples Test - Paired Differences (Rejection)

Criteria		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
collaboration	pre post	-,32000	,90000	,18000	-,05150	,69150	1,778	24	,088
play	pre post	-,16000	,80000	,16000	-,17022	,49022	1,000	24	,327
overall	pre prost	-,48000	1,44684	,28937	-,11722	1,07722	1,659	24	,110