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The Effect of Creative Movement and Improvised Game (CMIG) Intervention on the Enjoyment

Reppa G.P.[1] & **Theodorakou, K.**[2]

Abstract

Creative teaching is one of the most effective teaching styles. On the other hand free-movement without any guidelines, has been misinterpreted as not usefulness and not effective. Enjoyment/ interest are the main factor of continuing an activity. Physical education is the main subject that can promote regular physical activity. This study examine if a creative intervention on physical education vs a free-movement intervention can affect enjoyment/interest on 4th grade students. The results showedthat both intervention increased enjoyment/ interest.Moreover, the results showed that there was a difference in the effectiveness of the two interventions, with the free-movement intervention being perceived as more enjoyable/interesting than the CMIG intervention, $F(1,128) = 7.63$, $p = 0.00$. This study is suggesting that there is a need forfurther research in the components of the intervention in order to increase enjoyment/ interest. Moreover there are implications for more variables that could be examined.

Keywords: creative movement, free-movement activity, enjoyment, interest, well-being, intrinsic motivation

1. Introduction

Creativity ispart of what makes us human, as are genius, invention, and talent (Sawyer, 2006) and is an important part of the human personality anda pivotal factor of human and social development.Creativity has been defined in various ways throughout history (Runco, 2004).

Paul Torrance, a pioneering creativity researcher for over 60 years, widely considered the "Father of Creativity" and developer of the "Torrance Tests of Creative Thinking", defined creativity as the process of sensing problems or gaps in information, forming ideas of hypotheses, testing and modifying these hypotheses and communicating the results." (Torrance, 1963, 1977).Farid, El-Sharkawy, and Austin (1993) described creativity as the awareness, observation, imagination, conceptualization and rearrangement of existing elements to generate new ideas. Creativity is typically defined as behaviors or thoughts that are both novel/original and adaptive/useful. In a similar vein, Runco (2004), in his literature review on creativity, notes that creativity is usually defined as a combination of originality and appropriateness (or fit); as the development of original ideas that are useful or influential.

Thus education should promote programs that develop creativity. Only an education based on energetic discovery can develop people who are able to discover new things and promote the development of society (Piaget, 1970); hence learning is a procedure of creative invention and discovery.Rogers (1969) believes that one to be consider as an educated person shouldknow how to learn, how to adjust and modify his/her knowledge, and to realize that any knowledge is not certain but provisional, and that the only certainty is the quest for knowledge.

[1] National and Kapodistrian University of Athens, 64thDimitrakopoulou str., Athens 11741. Phone: +30 6937037027., Email: glyreppa@gmail.com
[2] National and Kapodistrian University of Athens. Email: ktheo@phed.uoa.gr

Maslow (1968), in an attempt to define creativity, noticed that there are two types of creativity: the creativity that is connected with a special talent and the creativitythat is connected with self-actualization. Education should be concerned more with the latter one, which is related with the personality more and arises through everyday activities. This type of creativity can be developed in any person, if an appropriate environment is provided. As concerning the first type of creativity, education can offer an appropriate environment so that the person canbe free to develop his or her special talent.

According to Goble (1970), self-actualization is the desire to become more and more what one is, to become everything that one is capable of becoming. For Goldstein (1995), self-actualization is the basic tendency of individuals to grow deeper in complexity and to go beyond themselves. Self-actualization, as stated in Maslow's theory of basic needs, is fundamentally equivalent to the goals for education, learning environments, and creativity, espoused by notable educators and psychologists.

Both Rogers (1995) and Maslow (1971) explicitly tied creativity to self-actualization claiming that creativity is an important part of self-actualization, and suggesting that creativity may be inextricable from psychological health and that the concept of creativeness and the concept of healthy, self-actualizing, fully human person seem to be coming closer and closer together, and may perhaps turn out to be the same thing (Runco, 2004, 2014).

Runco, Ebersole, and Mraz (1990) provided evidence for a significant positive correlation between creativity and self- actualization which conforms to the descriptions given by Maslow (1971) and Rogers (1995), while Pufal-Struzik' (1999) study revealed that gifted young people have a higher sense of realization of inherent potentials than less gifted peers. In accordance with Maslow's (1971) view that creativity and self-actualization are functionally interdependent, with creativity facilitating self-actualization and self-actualization facilitating creativity (Ilinykh, 2014), there is agreement about a synergistic cycle in which, not only learning and creativity are essential to self-actualization, but also self-awareness, intrinsic motivation, and self-actualization are fundamental to learning and creativity as well (Burleson, 2005).

In school environment, physical education can be a creative lesson,if the appropriate factors that promote creativity are included. Such factors are: safe and free environment, without extrinsic judgment of creative accomplishment, an environment that gives choices to the participants and encourage idea generation, creative collaboration, and a tolerance for ambiguity and allowing mistakes, as well. In this environment there is a full understanding of the problems of the creative personand "production" is favored and supported (Sternberg, 2003).

As stated by bibliography in order to physical education to bemore effective should be based, not only on creativity but also on enjoyment. According to many researches, enjoyment is believed to be one of the main factors for participation and continuing participation in physical activities (Nowicki & Nowicki, 2001; Roberts, 1992). Sports enjoyment is defined as the positive affective response to a physical experience, reflecting feelings such as pleasure, preference and fun (Scanlan & Lewthwaite, 1986).

In the theory of self-determination andtheintrinsic motivation, enjoyment and satisfaction are the two main factors that increase intrinsic motivation.

According to this theory, the quality of experience and performance can be very different when one is behaving for intrinsic versus extrinsic motives (Ryan & Deci, 2000). Moreover, intrinsic motivated activities were said to be ones that provided satisfaction of innate psychological needs for competence, autonomy and relatedness (Ryan & Deci, 2000). Most research concludes that the main factor in a person's participation in a physical activity is enjoyment (Canada Fitness Survey, 1983a; Buonamano, Cei, &Missino, 1995; Mason, 1995).

Moreover, peoplewho are not active claimed that they would start a physical activity if it was enjoyable, relaxing, and something that they would learned from (Trigonis, Harahousou, Kabitsis, Tzetzi, & Matsouka, 2002).

Recent research showed that having fun, gaining specific benefits and making social connections with friends positively influenced the intention of after school physical activities on elementary school children (Chen , 2014).

A creative program offers the conditions where the person can operate autonomously, there is energetic discovery, andhelpsthe person to discover the "world" on his or her own. These are also the underlying principles of enjoyment (Saywer, 2006; Simons, Dewitte, & Lens, 2003). According toBailey (2006), contexts that emphasize positive experiences, characterised by enjoyment, diversity and the engagement of all participants significantly influence the character of these physical activities and increase the likelihood of realising the potential benefits of participation. So a creative teaching approach might positively effect students' enjoyment, which in turn can motivate students to continue with aphysical activity.

2. Aims and Hypotheses

The purpose of this study is to examine whether an intervention of Creative Movement and Improvised Game (CMIG ®) and a free-movement intervention could affect the enjoyment/interest of primary students. The hypotheses of this study are that both the CMIG intervention and the free movement intervention wouldaffect the enjoyment/interest of 4th grade school students, but theCMIG intervention would have a greater effect than the free movement intervention. In both interventions students have the opportunity to choose and to move as they wish, which is the major factor that affect the enjoyment. Nevertheless, in CMIG intervention, in contrast of free movement intervention, students have the opportunity to learn and work with concepts of physical exercise (as strength, balance, movement in different levels etc.)

with creative teaching methods, that, according to previous study, (Reppa&Theodorakou, in press) seems to be more interesting for students than learning nothing and just move.

3. Methodology

3.1 Participants

This study is a semi-experimental research as there are only two interventions without control group. In this study 130, 4th gradestudents (56 boys; 43.1% and 74 girls; 56.9%. Mean age: 9.64, SD: 0.40) participated,fromthree primary schools of municipality of Athens.Their ethnicity was: 109 participants were Greek (83.8%) and 21were of other Caucasian ethnicities (16,2%). Moreover, 95 (73%) participants participated in after-school organized physical activity and 35 (27%) did not participate in any after-school physical activity. The sample was separated in two groups, the CMIG group = 61 students (boys: 22, girls: 39), and the free-movement group = 69 students (boys: 34, girls: 35).

3.2 Measures

The students' enjoyment was measured using a self- reported questionnaire, the "Intrinsic Motivation Inventory" (IMI). This inventory was initially constructed to be employed in a variety of settings and its use in the sport and exercise settings hasbecome increasingly popular (McAuley, Duncan, & Tammen, 1989). It consists of 45 items and it can be divided in seven subsections (Ryan, 2001). Each item is rated on the Likert scale of 1 (strongly disagree) – 7 (strongly agree). An advantage of this scale is that it can be modified to fit specific requirements of testing in different situations, as the test has been especially written to be easily adapted to a variety of settings(Cuddihy, Corbin, & Dale, 2002).

Inthepresentstudy,theinterest/ enjoymentsubscalewasused. This subscale consists of five items. Each item was rated on ascale between 1 (strongly disagree) – 5 (strongly agree). The questionnaire that was used was from the modified IMI versionfor theGreek population by Digelidis & Papaioannou(1999).

The reliability of the scale was analysed with the use ofCronbach'salpha coefficient (0.75), which is statistically significant. The reliability and validity for the shorter version of the test weretested in the study by Cuddihy et al. (2002). Their results showed that the short version of theIMI is reliable and valid.

3.3 Procedure

Fourteen (14) lessons of CMIG were taught to theexperimental group, while at the same time, the free-movement group did free movement activities or games by themselves, without any guideline by the teacher. A physical educator, trained in creative gymnastics, taught all the CMIG group and she was present in allthelessons ofthefree-movement group.The educatorwas blind to the hypothesis of the study. More details about the training of the teacher could be found in Reppa and Theodorakou (in press).

Permission from the Ministry of Education of Greece, from principal, physical educator of each schoolwas given, and parents also provided their written permission. Moreover, the students/participants were free to leave the research whenever they wanted.

Thestudents completed the questionnairebeforeandafter the intervention, as an essay. The researcher read aloudthe first question (item) to the entire class and everybody answered the question, simultaneously. Then the entire class moved together to the next question (item). The participants were informed about the purpose of the study and the anonymity of their answers.

3.4 The CMIG Intervention

The CMIG intervention consisted of gymnastic activities, creative movement, and theatrical - movement games. All activities were taught in a creative way, based on the combination of four teaching styles of Mosston& Ashworth, (2002), see Reppa and Theodorakou (in press).

3.5 Statistical Analysis

A multiple ANOVA with a Bonferroni correction was used for the results, with SPSS 20. The level of significance was a=0.05.

4. Results

A Multiple ANOVA was conducted to assess the impact of two different interventions (CMIG intervention, Free-movement intervention) on participants' scores of Enjoyment/Interest, across two time periods (pre-intervention, and post-intervention).There was a significant interaction between program type and time, Wilks' Lambda = 0.84, F (1,128) = 23.04, p = 0.00. There was a substantial main effect for time, Wilks' Lambda = 0.96, F (1,128) = 5.28, p = 0.02, with both groups showing an increase in enjoyment/interest across thetwo time periods (table 1). The main effect was significant F (1,128) = 7.63, p = 0.00, (table 1) suggesting that there was a difference in the effectiveness of the two interventions, with the free-movement intervention being perceived as moreenjoyable/interestingthan the CMIG intervention (figure 1).

Table 1: Results for Interaction of Time* Group and Main Effect of Time and Group

Effect		Value	F	Sig.
Time	Wilks' Lambda	0.84	23.04	0.00*
Time * Group	Wilks' Lambda	0.96	5.28	0.02*
Group			7.63	0.00*

Alpha coefficient = 0.05

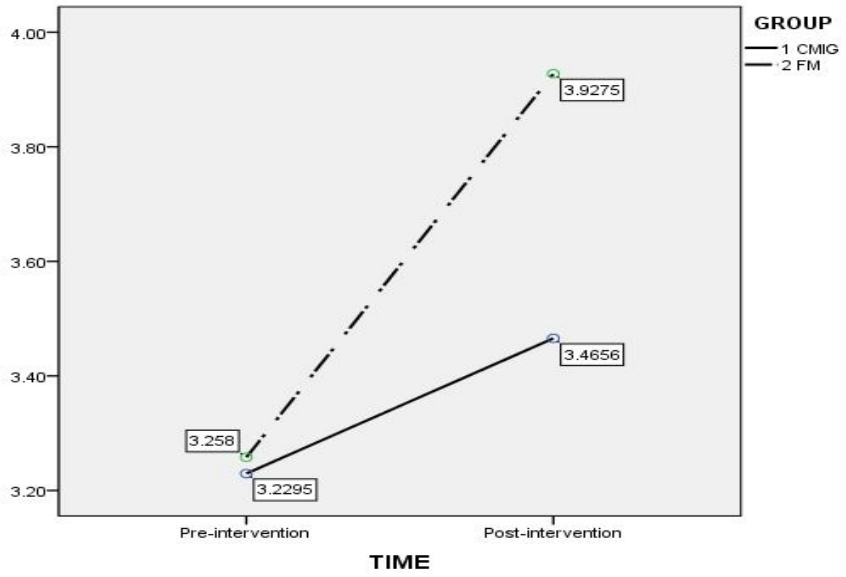

Figure 1: Diagram of the Interaction of Time and Group

The Bonferroni correction showed that in the experimental group the enjoyment/interest didnot significantly increase ($p>0.05$) between the first measurement ($M_{CMIG1}= 3.23 \pm 0.76$) andthe second one ($M_{CMIG2} = 3.54 \pm 0.70$), Wilks' Lambda = 0.97, F (1,128) = 2.95, p= 0.08. The enjoyment/interest of the control group significantlyincreased ($p<0.05$) from the first measurement ($M_{FM1}= 3.26 \pm 0.75$) to the second one ($M_{FM2}= 3.93 \pm 0.72$), Wilks' Lambda = 0.82, F (1,128) =26.83, p = 0.00 (table 2).

Table 2: Results within Groups from Bonferroni Correction

	N	First measurement	Second measurement	F	Sig.
CMIG group	61	3.23 ± 0.76	3.54 ± 0.70	2.95	0.08
Free movement group	69	3.26 ± 0.75	3.93 ± 0.72	26.83	0.00*

5. Discussion

Enjoyment and interest are important variables for intrinsic motivation, which is very important for the participation in an activity. Deci& Ryan (1985) mentioned that intrinsicmotivation is, actually, defined by enjoyment/ interest. Many of the variables that increase enjoyment/interest are the same that increase creativity. The CMIG intervention had all the variables that increase not only creativity but also enjoyment/interest, which are mentioned to bibliography.

In detail, the environment was work - oriented, the student had the freedom to choose and he/she was relying on his/her strengths and abilities in order to solve the problems (that were given by the teacher). Moreover, there was no sense of competition and there was always an aura of success and discovery, variables that might be responsible for increasing enjoyment, according to bibliography (Biddle, Chatzisarantis, & Spay, 2003; Csikzentmihalyi, 2008; Digelidis & Papaioannou, 2002; Reppa, 2007; Soini, 2006).

The results of the present study confirm the above statements as the scores of enjoyment/interest of CMIG group are higher in the post-intervention measurement than the pre-intervnetion measurement.

Although the results arenot statistically significant (at the level of a=0.05), it seems there is a trend (at the level of a=0.10), if we follow Shadish, Cook, & Cambell(2001, p.491) according to who "studies don't have to use strict values of alpha, only the statistical tradition arguments for the statistical significant a= 0.05".

It is worth to mention that the amount of lessons (14 lessons), that permitted by the Greek Ministry of Education, couldn't allow the examination of other factors that might effect the relationship between creativity and enjoyment/interest. One of the main questions that occured is whetherthe amount of the lessonswould change the current results. For example, there was not enough time for a middle-intervention measurement, in order to examine if the 14 consecutive lessons wereenough, for increasing enjoyment/interest. Students mighthavefelt tired by this new way of thinking and teaching (creative one). A previous study showed that 4th gradestudents that had attended five CMIG lessonshad increased their ejoyment/interest (Reppa, 2010).So, there is a question whether the fourteenconsecutive CMIGlessons were too many to keep enjoyment/interest atincreased levels.On the other hand, the number of lessons might have been too small in order forstudents to develop creative thinking skills.In general, creative intervention has been shown to increase enjoyment/interest (Dineen & Niu, 2008), but further research should be done on this field.

The fact that the free-movement group showed increase in enjoyment/ interest could be explained as the free activities provided a sense of relief, allowing the students to relax from the stress that they felt from the other school subjects (Papaioannou, Theodorakis, & Goudas, 1999). This parameter is reinforced in the case of physical education, as this subject was taughtduring the last hours of the school-day,when students are too tired and stressed.

This could be one of the explanations why results showed that the free-movement group, although did not have all the variables that increase enjoyment/ interest (for exable: there was the presence of competition and there were not many succesuful experiences), presented better scores on enjoyment/interest than theCMIG group. As in this study the lessons were held during the last hours of the school day, the students could havebeen tired from the other subjects. The students from the CMIG group had to keep on the mental effort, in order to think creativily, which could have been a restrictive factor. On the other hand, the free-movement group did not have to continue the mental effort, they just played.

Therefore, it is worth to research the role of the hour that physical education is taught during the curriculum in relationship to enjoyment and creativity.

The difference between the groups could, also, be interpreted by the fact that the CMIG group had to develop a different way of thinking, a creative one (which need a divergent thinking). As, in this study, this variable (divergent thinking) was not examined. It is imposible to know the alertness of the students in such a way, once most of the modules were taught with direct teaching methods and they did not allow the development of a creative thinking. Certainly, the issueof the "fouth grade slump in creativity"should also be considered, which is a reduction in original thinking in fourth-grade children when compared with younger and older children (Russ & Fiorelli, 2010). Thisphenomenonwasone of thereasonswhythe 4thgradewaschoosenfor this study.

6. Conclusion

Creativity is one of the main factors that should be developed through education in order to help students to become people that can rely on their abilities.Enjoyment/interest is one of the main motivating factors for physical activity. This study showed that a creative intervention (CMIG) could promote enjoyment/interest in physical education. Research have shown that classroom environment influence many psychological outcomes of students (Anderman, 2002; Walker & Plomin , 2006).

This intervention could be a useful tool on physical educators' hands, in order to promote physical activity and develop children's creativity and enjoyment/interest.

This study, also, showed that there is a special need forfree-movement activities during physical education curriculum. There are implications for further research on the relationship between the school curriculum and the effectiveness of physical education programs (creative and free-movement activities). Moreover, there is a need of further research examining these interventions withmore variables, such as gender, age and participation or not in a structured physical activity after school.

Compliance with Ethical Standards

Permission from the Ministry of Education of Greece, from principal, physical educator of each school was given, and parents also provided their written permission. Moreover, the students/participants were free to leave the research whenever they wanted.

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