INTRODUCTION

Proposing to carry out motor activities in primary school through production and productive teaching styles [1] encourages interaction among motor, cognitive and socio-emotional functions in children [2]. A style of teaching is necessary to distinguish the actions and decisions of teachers, the actions and decisions in relation to pupils’ learning objectives, the proposed motor activity and context [1,3]. Mosston & Ashworth [1] drew up the spectrum of teaching styles which is a integrator model in which the student moves from a situation of total dependence on the teacher to a total autonomy of their own learning.

The need for a teacher to use a variety of teaching styles stems from the understanding that (a) student population is diverse, (b) physical education involves objectives from the psychomotor, cognitive, and social learning domains, and (c) subject matter and context at times dictate the employment of a specific approach to instruction [1,2,3]. Teaching styles have to do with the «how» and «why» of delivering content, not the «what» [2]. The learning of motor competences requires the interaction between teaching styles reproduction and styles of production [4]. Motor learning in children, is significantly influenced by the ways in which children make positive or negative experiences during the educational process [5]. Vary teaching styles, particularly styles of production, can help develop self-perception of motor competences and increase the physical activity levels during physical education classes in primary school.

The aim of this study is to compare the motor performance levels, physical self-efficacy and physical activity levels of children, who took part in motor activity programs characterized by different teaching styles.

Participants

Participants (66 children; tab.1) have been divided into two groups: GC (M n = 14; age: M ± ds = 9.44 ± 0.62; F: 18; age: M ± ds = 9.43 ± 0.76) and GS (M: n
= 14; age: M ± ds = 8.86 ± 0.66; F: n= 20; age 9.55 ± 0.60), attending a primary school participating in the national experimental project «Alfabetizzazione motoria» [Coni-Miur], in Apulia region.

<table>
<thead>
<tr>
<th>Gender</th>
<th>EG (N=)</th>
<th>Age (years M ±DS)</th>
<th>CG (N=)</th>
<th>Age (years M ±DS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>14</td>
<td>8.86 ± 0.66</td>
<td>14</td>
<td>9.44 ± 0.62</td>
</tr>
<tr>
<td>F</td>
<td>20</td>
<td>9.55 ± 0.60</td>
<td>18</td>
<td>9.43 ± 0.76</td>
</tr>
<tr>
<td>Tot</td>
<td>34</td>
<td></td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>

Methods

GS children attended 24 lessons, where motor activities prevailed (more than 50% of the lesson) through production styles. The motor activities of the experimental group have been proposed, mainly through the teaching styles of production: Guided discovery; Divergent discovery; Learner-designed individual program. Operational areas: activities with tools, group games, drama activities.

All the participants carried out motor tests: standing long jump, 1kg medicine-ball throw; basketball throw; 20m sprint from a standing position; 20-m dribbling [6]; and the self report Physical activity questionnaire for older children (PAQ_C) to assess the levels of physical activity within the last week [7] and the perceived physical ability scale for children (PPAS_C) to estimate the self-efficacy perceived [8]. Data were compared at the beginning and at the ending of the program (T0 vs T1).

Data analysis

Apart from the descriptive statistics (M ± DS), Student’s T Test was carried out, in order to highlight the significant differences within the group. The significativity index was set to p < .05. ANOVA 2 (sex) x 2 (T0 vs T1) x 2 (GS vs GC) highlighted considerable differences in the following tests (tab.2,3):

GS males; 20m speed (p = 0.003); 20-m dribbling (p = 0.008); PAQ_C (p = 0.000); PPAS_C (p = 0.005); GS females; 20m speed (p = 0.000); standing long jump (p = 0.004); 20m dribbling (p = 0.04); PAQ_C (p=0.001); PPAS_C (p = 0.01).
### Tab. 2
**Measures**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Group</th>
<th>SLJ (cm)</th>
<th>MBT kg1 (m)</th>
<th>BT (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TO</td>
<td>T1</td>
<td>TO</td>
</tr>
<tr>
<td>Male</td>
<td>EG</td>
<td>1.14±0.22</td>
<td>1.14±0.20</td>
<td>3.89±0.65</td>
</tr>
<tr>
<td></td>
<td>CG</td>
<td>1.29±0.32</td>
<td>1.28±0.33</td>
<td>4.34±1.09</td>
</tr>
<tr>
<td>Female</td>
<td>EG</td>
<td>1.02±0.19</td>
<td>1.10±0.20</td>
<td>3.77±0.44</td>
</tr>
<tr>
<td></td>
<td>CG</td>
<td>1.07±0.23</td>
<td>1.15±0.21</td>
<td>3.57±0.76</td>
</tr>
</tbody>
</table>

SLJ: standing long jump; MBT kg1: 1kg medicine-ball throw; BT: basketball throw.

### Tab. 3
**Measures**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Group</th>
<th>PAL</th>
<th>PPAS_C</th>
<th>20m DB (sec)</th>
<th>20m (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TO</td>
<td>T1</td>
<td>TO</td>
<td>T1</td>
</tr>
<tr>
<td>Male</td>
<td>EG</td>
<td>2.77 ± 0.79</td>
<td>3.55 ± 0.65</td>
<td>14.93 ± 1.33</td>
<td>16.57 ± 1.26</td>
</tr>
<tr>
<td></td>
<td>CG</td>
<td>3.06 ± 0.48</td>
<td>2.98 ± 0.49</td>
<td>14.71 ± 1.14</td>
<td>14.79 ± 1.05</td>
</tr>
<tr>
<td>Female</td>
<td>EG</td>
<td>3.02 ± 0.59</td>
<td>2.35 ± 0.65</td>
<td>14.2 ± 1.66</td>
<td>15.3 ± 1.66</td>
</tr>
<tr>
<td></td>
<td>CG</td>
<td>2.71 ± 0.59</td>
<td>2.86 ± 0.65</td>
<td>14.61 ± 1.65</td>
<td>15.17 ± 1.66</td>
</tr>
</tbody>
</table>

PAL : Physical activity level; PPAS_C: Perceived physical ability scale for children; 20m S: 20m DB dribbling basket; 20m : 20m speed.

**CONCLUSION**

Proposing to carry out physical activities mainly through teaching styles of production encourages the development of motor coordination, the acquiring of a wide range of motor abilities and the self-efficacy perceived [1].

The study showed an improvement (EG T0 vs T1) in motor coordination test and in self-reports of physical self-efficacy and physical activity levels. In the study, motor tasks mainly unstructured led to dominant effects on motor coordination and physical self-efficacy.
Styles of teaching variables and personalized motors tasks mediate the learning of motor skills and the development of psycho-emotional factors [1,2]. Physical education in schools encourage the motor learning and development of physical self-efficacy, through a circular process that takes a significant predictive value.

The didactics interventions should be offered to children through teaching styles (reproduction and production styles) to promote different ways of learning, the development of motor abilities, increase the level of physical self-efficacy, intrinsic motivation and the habit of moving in the ages later.

In the motor activities of children's the beliefs of self-efficacy are fundamental: affect motivation, the choice of tasks and increase through successful motor experiences [9,10]. The choice and variation of teaching styles is crucial to propose positive motor experiences. Harter [5] showed that when the child receives positive reinforcement, increases intrinsic motivation, following the perception of competence. The motivation is less if attempts are limited or in the child were reinforced feelings of dependence on adults. Studies have shown that the influence of physical activity on self-concept is mediated by the type of activity (positive effects associated with aerobic activity, muscle strength, dance) and the teacher behaviors that lead to changes in the behavior of children to increase physical activity habitual [11]. Other studies have evaluated the relationships between perceived physical self-efficacy, levels of habitual physical activity and motor development [12,13], and have showed positive correlations between levels of physical activity and physical self-perceptions, regardless of gender [14].

Derri & Pachta [15], compared the effects of a physical activity program in motor learning of children of primary school, 6 to 7 years, using two different teaching styles (command and guided discovery). The study showed that both groups have improved the results but the group has used the style of guided discovery has achieved better results in motor learning. Studies on the development of motor coordination of children through the styles of production, are reduced [16]. According Byra & Garn (2002) physical education contributes significantly to the physical, cognitive and social development of children. Each style of teaching, in fact, involved in various ways the physical domain, cognitive, social of the person [17]. Primary school is a privileged context structured to oppose to sedentariness, to foster the increase in daily levels of physical activities of children and to favor the acquisition of motor competences [18].
REFERENCES