The Effect 8 Weeks Social Reinforcement on Motor Learning and Its Relationship with Academic Performance

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Abstract

Purpose: The purpose of this study was review the effect 8 weeks social reinforcement on motor learning and its relationship with academic performance in male students Mamasani Noorabad Islamic Azad University.

Materials and Methods: For this purpose 45 male students selected randomly by cluster sampling method in third group (control, physical practice with social reinforcement and physical practice without social reinforcement) . Information instrument measurement consisted Learning test to assess motor learning and lists for great point average of students to evaluation the academic performance. The collected data were analyzed by descriptive statistical method and t test and Pearson correlation coefficient (p≤0.05).

Results: Results of this study indicated 8 weeks training has a positive effect on learning motor of male students. Also no significant relationship between learning motor and academic performance of male students.

Keywords: Social reinforcement, Motor learning, Academic performance, Student.

Introduction

It has been proofed that sport, physical education and generally physical activities are vital and important role for health and buoyancy of all people of society specially adolescents and young persons. So that they induce to improve and rise the physical fitness, motor fitness and health of spirit. Gracious people of society and knowledgeable of pedagogy have understood that educate the responsible and alive citizen is not possible except in schools and universities and also have understood that important portion of this education is mission of physical education and for this reason sport and physical activity are part of academic programs of students and collegians (Rahimi Arsenjany, 2000).

Also physical education by offer methods and plans predicate on right principles such as social reinforcement along with other educational sciences and by recognizing talents has important role in progress of essential abilities of people especially young and adolescent persons. Base on this principle physical activity in schools and universities have special importance and should try in order to extension and expansion of physical activity (Department of Physical Education Girls' Education, 2001).

One of important benefits of physical education in schools and universities is progress the physical fitness for health and buoyancy of students and collegians. Some researchers like Pinkfrew and Krombholz have shown that motor learning and academic performance of students and collegians are affected by various factors such as family, schools, and friends and important than all physical and spiritual health and buoyancy, and can progress this issue by sport and physical activities (Pinkfrew, 2004; Krombholz, 2006).

Today in our society there are negative attitudes about sport, motor and physical activities. Parents and most teachers, lecturers and managers of schools and universities believe that exercises prevent academic achievement and also participate in these activities make physical fatigue and academic slump. So regard to this reality that high percentage of people of our country are engage in academic education, research in academic education and pedagogy is portion of essential needs of our society (Hosseini Ghatreh, 1994).
Importance of present study is because of necessity of exercise and physical activities in schools and universities and their roles in health and motor learning. So purpose of this study was reviewing the effect 8 week's social reinforcement on motor learning and its relationship with academic performance in male student's mamasani Noorabad Islamic Azad University. Hope that results of present study induce to suitable sights about positive effects of exercise and physical activity on physical and mental health of students and collegians and induce help to pedagogy managers, planners and determinants of pedagogy and also parents, teachers and lecturers, to help students and collegians on progression in health and academic performance.

**Materials and Methods**

In present study research method was quasi-experimental to achieve the research objectives, 45 male students selected randomly by cluster sampling moted in third group (control, physical practice with social reinforcement and physical practice without social reinforcement). The population in this study was all students (2500 students) of Islamic Azad University mamasani. Group physical practice with social reinforcement was encouraged when throwing the ball into the basketball hoop. Group physical practice without social reinforcement was no encouraged when throwing the ball into the basketball hoop. From each group was performed after three weeks learning test. Also used of students great point average to assess academic performance. Data were analyze used descriptive such as mean, standard deviation, minimum and maximum and Inferential statistical methods such as t test and Pearson correlation coefficient ($p<0.05$).

**Results**

Based on research hypothesis that show 8 weeks training (without social reinforcement and with social reinforcement ) has a positive effect on learning motor of male students. Also no significant relationship between Learning motor and academic performance of male students. Findings of research are pursuant to below tables.

**Table 1: Paired t-test results for comparison motor learning in group without social reinforcement**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Average</th>
<th>SD</th>
<th>Mean difference</th>
<th>d</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor learning</td>
<td>Pretest</td>
<td>1.96</td>
<td>1.46</td>
<td>-4.12</td>
<td>14</td>
<td>-4.82</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>6.08</td>
<td>2.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regard to table 1, we can conclude that 8 weeks physical practice without social reinforcement has a positive effect on learning motor of students ($t=-4.82, p=0.0001$).

**Table 2: Paired t-test results for comparison motor learning in group with social reinforcement**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Average</th>
<th>SD</th>
<th>Mean difference</th>
<th>d</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor learning</td>
<td>Pretest</td>
<td>2.12</td>
<td>1.30</td>
<td>-3.64</td>
<td>14</td>
<td>-4.99</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>Posttest</td>
<td>5.76</td>
<td>1.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regard to table 2, we can conclude that 8 weeks physical practice with social reinforcement has a positive effect on learning motor of students ($t=-4.99, p=0.0001$).

**Table 3: Independent sample t-test results to compare the mean difference in group without social reinforcement and control**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>Average</th>
<th>SD</th>
<th>d</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor learning</td>
<td>Experiment</td>
<td>15</td>
<td>-1.66</td>
<td>4.74</td>
<td>13</td>
<td>-0.048</td>
<td>0.962</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>-1.62</td>
<td>3.57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regard to table 3, we can based on the means difference conclude that motor learning in groups without social reinforcement and control no significant differences in students ($t=-0.048, p=0.962$). Also the results indicate that the eight-week training program without social reinforcement was not significantly increased on learning motor of students.
Table 4: Independent sample t-test results to compare the mean difference in group with social reinforcement and control

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>Average</th>
<th>SD</th>
<th>d</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor learning</td>
<td>Experiment control</td>
<td>15</td>
<td>-3.36</td>
<td>3.06</td>
<td>13</td>
<td>-2.61</td>
<td>0.010</td>
</tr>
</tbody>
</table>

Regard to table 4, we can based on the means difference conclude that motor learning in groups with social reinforcement and control significant differences in students (t=-2.61, p=0.010). Also the results indicate that the eight-week training program with social reinforcement increased learning motor in students.

Table 5: Pearson correlation coefficient between motor learning and academic performance of students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable</th>
<th>Group</th>
<th>Statistical indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor learning</td>
<td>academic performance</td>
<td>All Students</td>
<td>r</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-0.14</td>
</tr>
</tbody>
</table>

Regard to table 5. We can conclude that no significant relationship between learning motor and academic performance of students (r=-0.14, p=0.094). Also the increase or decrease in academic performance were not associated with changes in motor learning.

Discussion and Conclusion

Results of this study indicated that 8 weeks training (without social reinforcement and with social reinforcement) has a positive effect on learning motor of male students. So findings of present study are not in parallel with findings of studies Stephens and Laura (2002) and James (2005). Also findings of present study showed that there is no statistically significant relationship between learning motor and academic performance in students. Review the research literature showed that in last decade progression of health by motor and physical activity, exercises and play game examined in wide range.

Although some researchers have reported positive relationship between learning motor and academic performance (Kim, 2003; Kristi and Pearce, 2005) and some of other researchers have not reported significant relationship between these two variables (Fengs, 2005-2006; Dawn, 2006). These different results and ideas can be due to different reasons such as work status, statistical population, sampling, age range, different affective factors on academic performance, motor activity and physical fitness and also limitations that each researcher have had in their research. The results of present study are in parallel with results of studies Linder (2002) and Dawn (2006).

These researchers have shown that there is no significant relationship between motor activity with academic performance. Also findings of present study are not in parallel with findings of studies Field (2002) and James (2005). These researchers shown that there is significant relationship between motor activities and mental activities. Perhaps this difference between results of present study with noted researches can be due to work status and high age range of subjects and quality of definition of academic performance of collegians, different situations of take score to lessons in university and limitations which are due to sport equipment and facility. In the end we can be concluded that feedback and reinforcement (reward) can be an important factor in motor learning of students.

References


