IMPACT ON THE ELECTIVE MODULE ON A LEVEL OF THEORETICAL KNOWLEDGE OF SPORTS AND PHYSICAL EDUCATION CLASSES

(Preliminary communication)

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Abstract
The research was carried out at the Faculty of Education in Jagodina and it was of longitudinal experimental character. Only fourth year students, course – teacher, were included in the sample. At the beginning of the school year, students chose an elective subject or a module to study in the first and second semester. According to the program for the fourth year, course - teacher, elective subjects, or modules are Sports and recreational activities 1 and 2 and Terminology in physical culture. Fifty two students chose those elective subjects and they were the experimental group and, there were 50 students in the control group who had regular classes in physical education classes in the subject Teaching Methods in Physical Education. The sample of variables that were used in the study were: the variable space of theoretical level of knowledge about physical education. Theoretical knowledge defines the specific knowledge test designed for this study. The test consists of twenty questions drafted to cover the complex area of general knowledge about physical education and physical exercise.

Keywords: experimental group, control group, specific knowledge test, factor analysis, principal components analysis, percentage,

INTRODUCTION
Physical education, as planned and designed educational area, with clearly defined goals starts in institutionalized education in Serbia in pre-school upbringing and ends usually in secondary schools. In the lower grades of elementary school physical education is implemented as a class activity, and in the fourth grade in most schools as school subject. From the fifth to the eighth grade, physical education is subject. There are two compulsory classes of physical education in high schools. Effects of physical education are reflected in a positive impact on growth and development, as well as an increase of physical education

Students in addition to the basic teaching methods in physical education, have elective subject at all courses at The Faculty of Education in Jagodina, course – teacher. They have optional elementary games and skiing in the first year, the other elementary games and swimming on the second year, sports- recreational classes and basics anthropomotorics 1 and 2 on the third year and on the fourth - sports activities 1 and 2 and terminology in physical culture. The undergraduate curriculum of the Faculty of Education in Jagodina, course- teacher, by its conception should accomplish the following tasks:

1. Theoretical and practical preparation of their future teachers for achievement of goals and tasks of all courses and educational areas established curriculum for the elementary grades.
2. To give the teacher a thorough, broad and modern education and training and skill to successfully perform the role of teachers in today’s elementary school.
3. To train teachers for continued innovation in teaching.
4. To monitor and research scientifically as part of their activities, and propose to modernize the concept of primary education and has been studying the introduction and advancement of contemporary forms, methods and tools in the field of teaching and learning, as well as other school and extracurricular activities.

The topic of research are the elements of physical education subjects followed through teaching elective module, which includes theoretical knowledge in the field of physical education and physical activity.

The aim is to explore what the effects of optional module on theoretical knowledge of students are compared to students who did not have this optional module.
METHODS

The research was conducted at the Faculty of Education in Jagodina. The study included 104 students in the fourth year of undergraduate studies, divided into two subgroups and a group of 50 students, who had only regular classes of teaching methodology in physical education (control group), and a group of 52 students who had additional elective module (experimental group).

Optional module included the following subjects: sports and recreational activities 1 and 2 and terminology of physical education. They have classes of elective module, two times a week, and it included individual and team sports, which are implemented in the lower grades, as well as general knowledge about terminology and physical education. Theoretical knowledge defines the specific knowledge test designed for this study. The test consists of twenty questions drafted to cover the complex area of general knowledge about physical education and physical exercise.

The tasks were defined in the form of questions with alternative answers of different difficulties. Maximum score of test points was 100. Each student is determined by the number of points for each question and the total score.

Factor analysis by using principal components analysis is applied for rough estimation of the factor validity of the applied instrument (knowledge test), with Warimax solution of the main components.

Nine of the extracted factors are relatively, steadily sated. Thus, a number of factors obtained from twenty variables indicate the relative independent issues, and the good validity. The test can be applied as a tool for determining the general knowledge about physical education and exercise. All twenty questions are grouped into three areas: knowledge of physical education, knowledge of team sports and knowledge of the individual sports. Knowledge of physical education has five modes: unsatisfactory, satisfactory, good, very good or excellent. Knowledge of team sports has four modes: unsatisfactory, satisfactory, good and very good. Knowledge of individual sports has five modes: unsatisfactory, satisfactory, good, very good or excellent.

RESULTS

The analysis that follows considers significant difference between and within the level of knowledge of examinees about physical education and exercises on the initial and final assessment.

Based on the parameters, we can see that unsatisfactory and good knowledge of the physical education classes most represented in the experimental group. In the control group of examinees is the most frequent unsatisfactory and very good knowledge. Excellent

### Table 1. Numerical (n) and percentage (%) representation of grade-level theoretical knowledge of the experimental and control group on physical education

<table>
<thead>
<tr>
<th>Groups</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Experimental</td>
<td>12</td>
<td>23.08</td>
<td>10</td>
<td>19.23</td>
<td>12</td>
</tr>
<tr>
<td>Control</td>
<td>15</td>
<td>30.00</td>
<td>8</td>
<td>16.00</td>
<td>8</td>
</tr>
</tbody>
</table>

### Table 2. Numerical (n) and percentage (%) representation of grade-level theoretical knowledge of the experimental and control groups on team sports

<table>
<thead>
<tr>
<th>Groups</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Experimental</td>
<td>11</td>
<td>21.15</td>
<td>7</td>
<td>13.46</td>
</tr>
<tr>
<td>Control</td>
<td>14</td>
<td>28.00</td>
<td>9</td>
<td>18.00</td>
</tr>
</tbody>
</table>

### Table 3. Numerical (n) and percentage (%) representation of grade-level theoretical knowledge of the experimental and control groups on individual sports at the initial and final assessment

<table>
<thead>
<tr>
<th>Group</th>
<th>Unsatisfactory</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Very good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Experimental</td>
<td>7</td>
<td>13.46</td>
<td>10</td>
<td>19.23</td>
<td>16</td>
</tr>
<tr>
<td>Control</td>
<td>13</td>
<td>26.00</td>
<td>10</td>
<td>20.00</td>
<td>13</td>
</tr>
</tbody>
</table>
knowledge of physical education is mostly represented in the experimental groups.

The following Table 2 can be based on the parameters that we find that is unsatisfactory, satisfactory, and good knowledge of team sports, the most frequent in the control group. In the experimental group of subjects was dominated by a Unsatisfactory and Satisfactory knowledge on both assessments.

According to table 3, we can see that the unsatisfactory, satisfactory and good knowledge of the individual sports most frequent in the control group. In the experimental group of subjects was dominated by a good, very good and Satisfactory knowledge.

CONCLUDING REMARKS

Level of knowledge about the physical education and physical exercise of the examinees is evaluated by questionnaire of twenty questions, which are because of the treated problem, categorized in three areas of knowledge such as: knowledge of physical education, knowledge of the collective experimental and control groups.

Numerical and percentage score on the level of theoretical knowledge about the level of physical education indicates that in the experimental group of participants most frequent is unsatisfactory and good knowledge and in the control group unsatisfactory knowledge.

As to the knowledge of team sports, very good knowledge is in both groups. Knowledge of individual sports is less, so the most common is good knowledge. This is the real relation of knowledge about team and individual sports, as well as the relation of the teaching of physical education and extracurricular activities.

REFERENCES


Tomova, D. The functions of sport in higher education. Activities in Physical Education and Sport, 2(1), 117-120.


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