

## The Appraisal, by Pupils in the 5<sup>th</sup> and 6<sup>th</sup> Classes of Junior School, of the Physical Education Manual Proscribed for them

Spetsotaki, R

Mountakis, C

Konstantinakos, P

Georgiadis, K

Kipreos, G

University of the Peloponnese, Department of Sports Management, Sparta, Greece  
Correspondence Author Email: spetsotak@sch.gr

Doi:10.5901/mjss.2016.v7n3s1p486

### Abstract

The aim of the present study was the evaluation of the Physical Education (P.E.) book for pupils in the 5th and 6th Classes of Junior School by the pupils themselves with regard (a) to its content, (b) its educational suitability and its sufficiency as a teaching aid, (c) its structure and organization, and, (d) its overall appearance and illustration. A specially drawn up questionnaire with a graded evaluation scale, Likert type, was used as a tool of assessment. The questionnaire was anonymous and was distributed to the students by their P.E. teachers. The sample comprised 4,391 pupils from the 5th and 6th classes Greek Junior Schools. The t-test, the one way Analysis of Variance (ANOVA), with the Tukey Post Hoc Test, and the Pearson's (r) correlation coefficient were used for the analyses of the data and the statistical significance level was less than 0.05. Overall, the results showed that the pupils rated the P.E. pupils' book very highly with regard to its content, moderately regarding the educational suitability and sufficiency as a teaching aid, very good both with regard to its structure and organization and its general appearance and illustration. However, the pupils from rural areas gave more positive picture to the book while the girls from the 5th and 6th classes rated the book more highly than the boys. Finally, the pupils considered the learning of a number of varied kinetic activities and information about how to live a healthy life, to be the most interesting aspects of the book. Generally, a positive view of the P.E. pupils' book was conveyed by the pupils.

**Keywords:** evaluation, school P.E. pupils' book, content, educational suitability, sufficiency as a teaching aid, structure and organisation, illustration of the school book

### 1. Introduction

In the educational process teaching and learning are processes mainly based on school textbooks, which apply to all subjects, irrespective of whether they belong to the theoretical or the exact sciences (Tobin, 1990). What is chiefly meant by the term "school textbook" is: (a) the students' book, (b) the students' workbook and, (c) the teachers' book (Xohellis, 2005, & O.E.P.E.K., 2008). So, still today, the school textbook is the main source of educational material through which learning is conducted and provides the main means of teaching throughout the world (Bonidis, 2004). Undoubtedly, it is the foundation of the educational process from junior school up to university and, particularly in Greece, it clearly determines the content of school learning, the learning activities developed by instructors and those undertaken by pupils (I.P.E.M. – D.O.E., 2009, & Matsangouras, 2006). Educators aim to hand on knowledge and skills, carrying on an educational tradition that considers textbooks to be a source of knowledge that has to be transferred to the students' minds while at the same time providing the main teaching means for most teachers. (Kapsalis & Haralambous, 1995, & Bonidis, 2004).

The central role of the school textbook has been noted in a number of studies dealing with school handbooks and their use in the classroom. The importance of such books is perennially at the centre of discussions as to how much they finally aid the successful execution of the teaching act (Fritzche, 1992). The teacher plans his teaching on the basis of the textbook because it is his main source of assistance, owing to the "authority" of its contents. It is considered reliable because it has been approved by the state, it is always accessible to pupils who, at the same time, can follow the course

of instruction (Bauer, 1995; Bonidis, 2004). Besides, it's not just a matter of chance that most of the teaching/learning time is taken up by textbooks. In many countries the pupils study on the basis of the textbook for about 60% of the lesson time (Mikk, 2000), while 70% of classroom activities are derived from the same source (Kapsalis & Haralambous, 1995). According to Pyrgiotakis (2008) school textbooks are of great significance and, because they determine the content of lessons to such a large degree, their preparation and drawing up requires special care and attention. They are also considered to be the main means for achieving the aims of education (Bonidis, 2004; Flouris, 1992) acting as they do as a medium between theoretical science and the actuality of the classroom (Kapsalis & Haralambous, 2008). In a wider, social sense, the value of textbook lies in their being available to all pupils cost – free, this serving the idea of a democratically constituted system of education (Koulaidis, Dimopoulos, Sklaveniti, & Christidou, 2001). However, there are other, more critical views, such as that of Roseman (2000) who regards textbooks as just a collection of wasted opportunities.

Taking into consideration what has been said above, further school textbooks encompass the contents of the Analytical Study Programme (A.S.P.) and through specific procedures realize the purposes of education, as laid down by its organizers (Koulaidis, et al. 2001). In practice, they stand in for the Analytical Programme (Matsangouras, 2006), while the teacher is the one who has the final word concerning their use in the classroom, completing the process of transmitting ideology, tradition and culture. They don't just form the scholastic version of school knowledge but help as well create literate pupils (Koulaidis, et al. 2001) while at the same time ensuring communication and the development of inter-personal relationships within the classroom (Matsangouras, 2006). As the National Education Council (2006) put it, "textbooks build and intellectualizes reality and as such can play a positive role in the forming of ideas, countering stereotypes and prejudices".

### 1.1 *The Physical Education Books for Junior Schools*

Within the framework of the introduction of new school textbooks into Greek public education, compiled on the basis of the cross-curricular Study Programme (C.C.S.P.), the Pedagogical Institute compiled during the school years 2006 – 2009 about four hundred textbooks, together with a variety of supporting material (maps, dictionaries, software, etc.) (G.G. 304/13-3-2003). The Physical Education sector of the Pedagogical Institute undertook the creation of the Analytical Programme of Studies and the C.C.S.P., of Physical Education and Olympic Education (Mountakis, 2006). Specifically they published six P.E. textbooks for Junior P.E. and four for Secondary schools, both for pupils and for teachers according to the Analytical Programmes of each level. The composition of these P.E. textbooks was a unique undertaking (it was the first time in Greece that P.E. books were compiled for pupils) given that the only structures of support for P.E. were, formerly, different kinds of in-service training (Lambrou, Bournelli, Manasis, & Mountakis, 2013). At the same time, the only guides for primary education were addressed to teachers only, these being "The Analytical Programme and Instructions for the Teaching of Physical Education at Junior School" which was published in 1988 by the Ministry of Education to cover the needs of P.E. teachers and the book "Physical Education at Junior School. A book for instructors" published in 1997 by the O.E.D.B.

The pupils' book, "Physical Education for the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School" with which the present study is concerned, is focussed exclusively on those classes and is the first specialised support structure for pupils at that level ever attempted by the Ministry of Education. Separate chapters cover basketball, handball, football, volleyball, gymnastics, classical athletics and traditional Greek dance, according to the Analytical Studies Programme. Separate chapters are also devoted to Sports for Life, correct sporting behaviour and the organization of sports activities (Dingelides, Theodorakis, Zetou, & Dimas, 2006).

### 1.2 *The aim of the study*

The aim of the present study was to get pupils in the 5<sup>th</sup> and 6<sup>th</sup> Classes of Junior School to evaluate the P.E. textbook from the standpoints of: (a) content, (b) educational suitability and its efficiency as a teaching aid, (c) structure and organization, (d) general presentation and illustration.

### 1.3 *Null hypothesis (H<sub>0</sub>)*

1. H<sub>1</sub>: There are no significant statistical differences between Junior school pupils studying in different geographical areas (urban, suburban, rural) in relation to their evaluation of the parameters of the P.E. textbook for their classes with regard to (a) content, (b) educational suitability and its efficiency as a teaching

- aid, (c) structure and organization, (d) general presentation and illustration.
- H<sub>2</sub>: There are no significant statistical differences between the sexes in the evaluation of the above parameters - variables of the Junior School textbook.
  - H<sub>3</sub>: With reference to the pupils school classes (5<sup>th</sup> or 6<sup>th</sup>) there are no significant statistical differences in their evaluations of the parameters of the P.E. textbook.

#### 1.4 Objectives

The following questions will also be investigated:

- What do the pupils find most interesting in the P.E. pupils' book.
- What did they learn from it that they never knew before?
- If they have ever asked advice from their P.E. teachers and, in particular, if they have asked for information on matters arising from their reading of the book.

## 2. Methodology

The mean of collecting data for the present study was the questionnaire. It was drawn up from scratch following the scientific prerequisites for the construction and systematic collection of quantitative data (Karayiorgos, 2002; Thomas & Nelson, 2015) in order to answer the aim of the study, to check the quantity of information as well as its validity, reliability and utility as a research tool (Vafeiadis, 2003; Karayiorgos, 2002; Thomas & Nelson, 2003). The questionnaire was drawn up in accordance with the type and amount of required information (parameters – variables) (Kambitsis, 2004; Kambitsis & Harahousou, 1999; Paraskevopoulos, 1993b; Stavrou 2003).

The carrying out of the research was under the approval of the Ministry of Education's Pedagogical Institute, under whose authority it came, and which drafted accompanying letters to keep those involved (Headmasters, - teachers – parents) informed over the course of the study, thus ensuring scientific confidentiality and the parents' ethical consent (Kambitsis, 2004; Thomas & Nelson, 2015). The questionnaire was also given an evaluating pilot test before the start of the study.

The selection of the sample was based on stratified random sampling. A proportional percentage was taken of the general – total population for each layer – group of the sample. The largest possible sample was aimed at in order to satisfy and ensure both the reliability of the method (bias error), and the statistical analysis (standard error) (Kambitsis, 2004; Paraskevopoulos, 1993b).

The sample comprised 4,391 pupils from the 5<sup>th</sup> and 6<sup>th</sup> classes of 137 schools out of the 322 Junior Schools to which questionnaires were posted. Those 322 schools constitute the 10% of the total population of six-place and above school units to which questionnaires were sent (National Statistical Service, 2009). The choice was made randomly at each level. Six- and- above-place schools were chosen randomly (by use of random numbers from special tables of random numbers) from the various layers, from the various counties, maintaining the proportions of schools per county. The ratios of various layers in the sample were analogous to the layers in the population. The Regions and the specific school units in which the study was applied are shown in Table 1.

**Table 1.** Greek Regional Entities, the total number of six-teachers and above school units, a sample of school units per Regional Entity where questionnaires were sent and school units that responded to the research.

Greek Regional Entities	Total (all over Greece) School Units with 6 places and more	Percentage of the total population	Sample of School Units where questionnaires were sent	Number of School Units that Responded	Percentage of School Units that Responded
Eastern Macedonia and Thrace	192	5.95%	19	8	42%
Central Macedonia	594	18.4%	59	27	46%
Western Macedonia	104	3.22%	10	7	70%
Epirus	112	3.47 %	11	6	55%
Thessaly	224	6.94%	22	11	50%
The Ionian Islands	76	2.35%	7	6	86%
Western Greece	249	7.72%	25	10	40%
Central Greece	140	4.34%	14	9	60%

Peloponnese	179	5.55%	18	10	59%
Attica	964	29.89%	96	36	38%
Northern Aegean	86	2.6%	9	7	78%
Southern Aegean	113	3.5%	11	8	73%
Crete	212	6.57%	21	18	86%
<b>Total</b>	<b>3,225</b>	<b>100%</b>	<b>322</b>	<b>137</b>	<b>51%</b>

## 2.1 Method of distributing the questionnaires

Questionnaires were distributed to the schools by post, anonymously. A total of 322 envelopes were posted to the equivalent school units, containing: (a) a photocopy of the permission given by the Ministry of Education (former Pedagogical Institute) for the carrying out of the research, (b) An information sheet for the Headmaster of the school unit and the P.E. teacher, (c) An explanatory letter – parental permission form for their children to take part in the research and (d) Questionnaires for pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes. These questionnaires were distributed to the pupils in their classes by their physical education teachers at the beginning of P.E. lessons between the 20<sup>th</sup> and 30<sup>th</sup> May 2012, allowing 10 minutes for the children to fill them in. 4,391 of them, from 137 schools, were eventually anonymously returned and processed.

## 2.2 Statistical Analyses

For the analyses of the data the statistical programme SPSS 18.0 for Windows was employed. Initially, the statistical analyses was based on the codification and listing of the data and the statistical processing of the responses was carried out by the distributional statistical process (frequency [f] and relative frequency %) for the demographic data rankings. Statistical indicators (frequency [f], percentages, means values [M] and Standard deviations [SD] for the whole sample, every thematic unit – parameter with its sub-questions were also employed. For every question sub-category a new variable score was created, which gave a general picture of each of those questioned. The questions in the distributed questionnaires which comprised of variables contributing to the score were all YES/NO type, so it was considered that the total number of positive replies was the final score. These variables were used as continual quantitative variables in the statistical analysis.

Pearson's (r) correlation coefficient was employed to derive conclusions in cases where the relation between questions or scores was being investigated. Also the relationships between the total score and the qualitative character (demographic) data were explored through the use of t-test and the One Way Analysis of Variance (ANOVA). In instances where there were differences in ANOVA, the Tukey Post Hoc Test was then used as in order to make those differences more specific. In all cases the statistical significance level was 0.05 (5%).

## 3. Results

### 3.1 The Analysis of Demographic Characteristics

The first demographic characteristic refers to the geographical region to which the school belongs. It appears that 50.4% of the completed questionnaires came from urban and city areas (2,211 pupils responded), 28.1% from suburban and small town areas (1,234 pupils) and 21.5% from rural areas and villages (946 pupils responded). With regard to sex, 50.5% of those questioned were boys (2,219 pupils) and 49.5% girls (2,171 pupils), respectively. Of those questioned 51.8% were from the 5<sup>th</sup> class (2,273 pupils) while 48.2% were from the 6<sup>th</sup> class (2,115 pupils). In answering to the question as to whether pupils took part in sports activities outside school, 70.3% (3,081 pupils) answered positively, while those who said they didn't amounted to 29.7% (1,299 pupils). Among those pupils who took part in outside school sports activities 84.4% said that they participated up to three times a week while 15.6% said that they participated more than three times a week.

#### *Evaluation of the contents of the book*

The results of the evaluation of the content of the book are shown in the following Table 2.

**Table 2.** The results of the evaluation of the content of the book

Evaluation of Contents		YES	NO
1.	Do you like the P.E. book aesthetically?	83.5%	16.5%
2.	Do you take the book to school when you have a P.E. lesson?	58.3%	41.7%
3.	Do you think that the book has subjects in it that are interesting to you?	89.4%	10.6%
4.	Does the book help you to learn more about things like the value of exercise and diet and their effect on your health?	90.4%	9.6%

*Evaluation of the educational suitability and the efficiency as a teaching aid of the book*

The replies of the pupils from the 5<sup>th</sup> and 6<sup>th</sup> classes to questions about the educational suitability and the efficiency as a teaching aid of the P.E. Junior School book appear in table 3.

**Table 3.** Evaluation of the educational suitability and the efficiency as a teaching aid of the P.E. book for pupils in the 5<sup>th</sup> and 6<sup>th</sup> class of Junior school.

Evaluation of the educational suitability and the efficiency as a teaching aid		YES	NO
1.	Is the text of your book understandable?	92.0%	8.0%
2.	Have you consulted the book to being formed about some recent issue?	42.8%	57.2%
3.	Have you completed the questionnaire on page 61 so that you can see what changes you should make to have a more healthy life?	40.1%	59.9%
4.	Have you estimated your physical condition according to the table on page 77?	37.5%	62.5%
5.	Have you checked your dietary habits with the questionnaire on page 77?	44.3%	55.7%
6.	Have you tried to make an exercise program using the book?	24.5%	75.5%
7.	Have you done the test headed "Are you a responsible person?" on page 92?	38.8%	61.2%

*Evaluation of the structure and organization of the book*

What refers to the evaluation of the structure and organization of the P.E. book for pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School in shown on table 4.

**Table 4.** Evaluation by pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School of the structure and organization of the P.E. book

Evaluation of the structure and organization of the book		YES	NO
1.	Does the table of contents enable you to quickly find what you want?	84.3%	15.7%
2.	Do the bold letters and colours make the book easily readable?	83.7%	16.3%
3.	Does the summary at the start of each chapter help you understand what it's about?	65.1%	11.4%

*Evaluation of the general appearance and illustration of the book.*

Answers given to questions about the general appearance and illustration of the P.E. book for pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior school are shown in table 5.

**Table 5.** Evaluation of the general appearance and illustration of the P.E. book for pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior school

Evaluation of the general appearance and illustration of the P.E. book		YES	NO
1.	Do you think that the book is easy to handle?	80.0%	20%
2.	Do the pictures help you understand the text?	89.3%	10.7%
3.	Would you have liked more pictures?	65.1%	34.9%

New variables were also created which demonstrated the general picture of the pupils. For those newly created variables the basic statistical measures were found such as the Mean and Standard Deviation which were used for subsequent calculations.

The pupils evaluated the book very positively, with regard to assessing the contents on a four-level scale. The Mean value noted was 2.74. Regarding the educational suitability and efficiency as a teaching aid assessed on a 7-level evaluative scale, the Mean value was assessed at 2.66. Referring to the book's structure and organization, on a three-level assessment scale, the Mean value noted was 2.13. Finally, as far as the general appearance and illustration of the book is concerned on a 3-level assessment scale, the Mean value was noted as 1.93 (Table 6).

**Table 6.** General picture of the pupils at every investigated parameter.

The general picture of parameters for the evaluation of the P.E. book for pupils in the 5 <sup>th</sup> and 6 <sup>th</sup> classes of Junior Schools	Scale	Mean value	Standard deviation (SD)
Evaluation of Content	0-4	<b>2.74</b>	1.28
Evaluation of educational suitability and efficiency as a teaching aid	0-7	<b>2.66</b>	2.04
Evaluation of structure and organization	0-3	<b>2.13</b>	1.07
Evaluation of general appearance and illustration	0-3	<b>1.93</b>	0.97

### 3.2 Analysis of correlations between variables

In order to investigate the correlation between the variables (score), content, educational suitability and its sufficiency as a teaching aid, structure and organization, as well as the general appearance and illustration the Pearson's (r) correlation coefficient was employed. The degree of correlation between the variables is strong. The strongest correlations appear to be between Score for content and Score for structure and organization and between Score for structure and organization and Score for general appearance and illustration (Table 7).

**Table 7.** Correlation between the variables – score.

	Score for content	Score for educational suitability and efficiency as a teaching aid	Score for structure and organization	Score for general appearance and illustration
Score for content	1	.469**	.535**	.416**
Score for educational suitability and efficiency as a teaching aid	.469**	1	.459**	.330**
Score for structure and organization	.535**	.459**	1	.538**
Score for general appearance and illustration	.416**	.330**	.538**	1

\*\* Correlation significant at level 0.01

### 3.3 Answers to null hypothesis

H<sub>1</sub>. The first null hypothesis was concerned with the geographical location of the school and the evaluation of the book by the pupils. (a) Differences were found in the evaluation of the contents of the P.E. book, with pupils of schools in rural (village) areas scoring higher (score=2.88) than pupils from urban (cities) (score=2.71) and suburban (small towns) (score 2.69), areas ( $F_{2, 4,388} = 7.4, p < 0.001$ ). The Tukey test revealed that there were statistically significant differences between small towns and villages ( $p < 0.05$ ) and between cities and villages ( $p < 0.001$ ). Differences between small towns and big cities were not significant. This implies that pupils from rural schools gave higher scores in their evaluations of the contents of the P.E. book. So the null hypothesis is rejected in regard to small town and villages and the city and villages and is upheld between small town and cities.

(b) Differences also were found in the evaluation of the educational suitability and sufficiency as a teaching aid of the P.E. book, with pupils of schools in rural (village) areas scoring higher (score=2.88) than pupils from urban (cities) (score=2.61) and suburban (small towns) (score 2.59), areas ( $F_{2, 4,388} = 7.3, p < 0.001$ ). From the Tukey test it appeared that there were statistically significant differences between small towns and villages, ( $p < 0.05$ ). cities and villages, ( $p < 0.05$ ). Differences between small towns and big cities were not significant. This implies that pupils from rural schools gave higher scores in their evaluations of the educational suitability and sufficiency of the P.E. book as a teaching aid. Therefore the null hypothesis is rejected in regard to small town and villages and the city and villages and is upheld between small town and cities.

(c) Differences were also found in the evaluation of the structure and organization of the P.E. book in rural areas (villages). These children had registered higher values (score=2.29) than pupils in urban areas (cities) (score=2.10) or those in suburbs (small towns) (score=2.05) ( $F_{2, 4,388} = 14.8, p < 0.001$ ). From the Tukey analyses revealed that there were statistically significant differences between small towns and villages ( $p < 0.001$ ), as well as between cities and villages ( $p < 0.001$ ), while there was no significant difference between small towns and cities. This means that pupils from rural areas gave higher values in the evaluation of structure and organization of the P.E. book. So the null hypothesis is rejected in regard to small town and villages and the city and villages and is upheld between small town and cities.

(d) Finally, concerning the general appearance and illustration of the P.E. book, differences were found between pupils from schools in rural (village) and urban (city) areas, the former noting higher values (score=2.13) in comparison to pupils from urban (city) schools (score 1.87 and suburban ones (small towns) (score 1.90) ( $F_{2, 4,388} = 25.4, p < 0.001$ ). From the Tukey analysis it appears that there are statistically significant differences between city and village ( $p < 0.001$ ), as well as between the small towns and the villages ( $p < 0.001$ ), while small towns and cities shows no significant difference. These results mean that pupils from rural areas gave higher values in their evaluation of the general appearance and illustration of the P.E. book. So the null hypothesis is rejected in regard to small town and villages and the city and villages and is upheld between small town and cities.

H<sub>2</sub>. The second null hypothesis was concerned with the sex of the pupils and the evaluation of the parameters of the book. The statistical analysis was performed by t- test. (a) There were statistically significant differences between boys and girls in their evaluation of the contents of the P.E. book. The boys registered lower average values (score=2.67) than the girls (score=2.81). ( $t=3.48, df=4,388, p < 0.05$ ) (b) as far as the evaluation of the P.E. book's educational suitability and its sufficiency as a teaching aid there were no significant statistical differences (boys score = 2.64, girls = 2.68) ( $t=0.58, df=4,388, p > 0.05$ ). (c) Differences were also found between boys and girls in the evaluation of the structure and organization of the book, the girls evaluating these more highly (score=2.19) than the boys (score=2.07) ( $t=3.8, df=4,388, p < 0.001$ ). (d) Differences also appeared in the evaluation of the general appearance and illustration of the P.E. book, the girls valuing these more highly and registering higher values (score =2.19) than the boys (score=2.07) ( $t=2.6, df=4,388, p < 0.05$ ).

H<sub>3</sub>. The third null hypothesis was concerned with the class of the pupils (5<sup>th</sup> or 6<sup>th</sup>) and the evaluation of the parameters of the book. The statistical analysis was performed by t- test. (a) Significant differences were found in relation to the pupil's school class. The 5<sup>th</sup> class registered higher values (score=2.90) than those of the 6<sup>th</sup> (score=2.57) ( $t=8.8, df=4,388, p < 0.001$ ). (b) Significant differences between the two school classes also appeared in their evaluation of the book's educational suitability and its efficiency as a teaching aid. Consequently, the 5<sup>th</sup> class pupils had higher values (score=2.74) than those of the 6<sup>th</sup> (score=2.58), ( $t=2.6, df=4,388, p < 0.05$ ). (c) In addition, significant differences were found between the two school classes in their evaluation of structure and organization. Pupils from the 5<sup>th</sup> class registered higher values (score=2.17) than those of the 6<sup>th</sup> (score=2.08), ( $t=2.6, df=4,388, p < 0.05$ ). (d) Significant differences also appeared in the evaluation of the general appearance and illustration of the P.E. book. Pupils from the 5<sup>th</sup> class registered again higher values (score=1.99) than those in the 6<sup>th</sup> (score=1.87) ( $t=4.01, df=4,388, p < 0.001$ ).

### 3.4 Objectives

#### *Evaluation by pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School of the most interesting subjects in the P.E. book*

In order to answer the above question each pupil was asked to choose two subjects. The results of relative grouping of responses appear in table 8. Interestingly 12.5% of the pupils declared that they had never studied the book and 3.5% that they had never been taught it.

**Table 8.** The most interesting texts in the P.E. book according to pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School

	<b>The most interesting texts in the P.E. book</b>	<b>Percentage</b>
1	Learning different kinetic activities	25.6%
2	Information about how to lead a healthy life	24.4%
3	Sports techniques	13.5%
4	Pictures and information	9.3%
5	Tests and questionnaires	5.6%
6	All of the above	4.8%
7	I've never studied the book	12.5%
8	I've never been taught it	3.5%
9	Nothing	0.9%

#### *Evaluation by pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School of what did they learn from the P.E. book that they never knew before.*

The Junior School pupils had to choose two answers to the question as to what the most important things they had learnt from the P.E. book. These are shown in table 9.

**Table 9.** The subjects that the Junior School pupils learnt about from the P.E. book that they had not known about before

	Subjects learnt from the book	Percentage
1	Different sports	31.6%
2	Information about a healthy life-style	15.2%
3	Sportsmanship – Fair play	3.7%
4	Traditional dance	3.6%
5	Educational games	1.7%
6	Sports rules	19.7%
7	Various other forms of exercise	12.6%
8	Connection between physical exercise and health	11.8%
9	Personal responsibility	2.7%
10	Sports history – The Olympic Games	5.7%
11	Nothing new	4.2%

*Evaluation by pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School about the advice or information they had asked from their P.E. teachers.*

In addition, in replying to the question as to whether the 5<sup>th</sup> and 6<sup>th</sup> class pupils had asked their P.E. teachers for advice or information about subjects they had read in the P.E. book, 40.3% answered positively and 59.7% negatively. Of the former 38% had asked for advice about a healthy diet and 27% about a variety of kinetic skills.

**Table 10.** Subjects that pupils of the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School had asked their P.E. teachers, after having read the P.E. book

	Subjects that pupils of the 5 <sup>th</sup> and 6 <sup>th</sup> classes of Junior School had asked their P.E. teachers	Percentage
1	Healthy diet	38.4%
2	Kinetic skills	27.1%
3	Connection between physical exercise and health	19.3%
4	Sports rules	14.1%
5	First aid	1.1%

#### 4. Discussion – Conclusions

The pupils evaluated the P.E. book very positively with regard to the contents, educational suitability and efficiency as a teaching aid and instructional adequacy, structure and organization and its general appearance and organization. More precisely, with regard to assessing the P.E. book's contents the pupils had a high level of satisfaction. Regarding the educational suitability and efficiency as a teaching aid the P.E. book was assessed on a medium degree of pupil satisfaction. Referring to the P.E. book's structure and organization, we witnessed a high degree of pupil satisfaction as well. Also, as far as the general appearance and illustration of the book is concerned on a high level of pupil satisfaction was detected. The above named finding mean that, in general, pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School are quite satisfied with the pupils' P.E. book.

Overall, pupils in rural areas give a more positive picture of the P.E. pupils' book than those in urban and suburban areas. In our opinion the pupils in rural areas gave more positive evaluation because children in the villages have less educated parents and generally have less educated social environment of these from the cities, so books can give them the knowledge that the pupils of the city can acquire from their home and their social environment. Students that live in urban area have greater access to many resources and therefore have opportunities that are not easily accessible to rural students. Besides that, parents from the urban area were more academic and they appreciated higher the value of education. On the contrary, parents of rural students were less likely to expect their children to reach higher educational scores. Recent research shows that the urban environment tends to be capable of raising and reinforcing children's cognitive behaviour more than rural environment. However, by providing the necessary qualified staff and equipment, students in the rural schools will also perform equally well as those in the urban schools (Obasi, 2011).

However, girls from the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School rate the P.E. pupils' book more highly than the boys do. In our opinion however girls are more diligent than boys. According to recent relevant research the girls study more books than boys (Papadopoulou, Vlachopapadopoulou, Michalacos, & Tsarmaklis, 2003) and enjoy reading more than boys (EACEA P9 Eurydice, 2010). While towards learning of mathematics, boys are more inclined to positive attitudes than



girls (Kipsang Kiptum, Rono, Too, Bii, & Too, 2013) and in new technologies gender differences in primary education, appeared to be small (Volman, van Eck, Heemskerck, & Kuiper, 2005).

In addition, pupils in the 5<sup>th</sup> class put a more positive value on the P.E. pupils' book than those in the 6<sup>th</sup> class. This may happen because the students of the 5<sup>th</sup> class are younger with less experience and have less knowledge than the students of the 6<sup>th</sup> class. That's why maybe they found the book more interesting since they can learn more from it. Furthermore, the students of the 6<sup>th</sup> class are already familiar with the book because they have already study it in the 5<sup>th</sup> class and this may result in their interest to it to declaim.

Finally, as far as the first objective is concerned: *What do the pupils consider to be of most interest in the P.E. book?* pupils replied "Learning different kinetic activities" and "Information about how to lead a healthy life" while fewer replayed the technical knowledge concerning the athletic skills. With reference to the second objective: *What did you learn from the P.E. book that you hadn't known about before?*, replied with "different sports" and "how to lead a healthy life style. In reply to the third objective: *If they have ever asked advice from their P.E. teachers and, in particular, if they have asked for information on matters arising from their reading of the book*, it appeared that those pupils who have read the P.E. book have approached their P.E. teachers for further advice/information on: healthy diet, a variety of kinetic activities, the affect of physical exercise on health, sports' rules and first aid.

#### 4.1 Afterword

The overall result of the present study supports a positive estimation of the parameters, content, educational suitability and efficiency as a teaching aid, instructional adequacy, structure and organization and general appearance and illustration of the Physical Education book for pupils in the 5<sup>th</sup> and 6<sup>th</sup> classes of Junior School. Also the most interesting in the P.E. book is learning different kinetic activities and information about how to lead a healthy life style.

It would be useful to have further research statistics for the other P.E. textbooks which would result in a meaningful and useful approach to Physical Education to the advantage of teachers and pupils alike.

### 5. Acknowledgments

The authors thank all participants of this study for their kind cooperation.

### References

- Bauer, L. (1995). Zur Adres satenbezogenheit des Schulbuches. Für wen werden die Schulbücher eigentlich wirklich geschrieben (For whom are school books actually written?). In Olechowski, R., Schulbuchforschung (School book research), (p. 228-234). Frankfurt am Main: Peter Lang.
- Bonidis, K. (2004). The contents of school textbooks as a research subject. Athens: Metechmio. (In Greek).
- Dingelidis, N., Theodorakis, I. Zetou, E. & Dimas, I (2006). Physical Education in the 5<sup>th</sup> and 6<sup>th</sup> class in Junior School. Teachers'book. Athens: O.E.D.B.
- EACEA P9 Eurydice (Education, Audiovisual and Culture Executive Agency). (2010) Gender Differences in Educational Outcomes: Study on the Measures Taken and the Current Situation in Europe. (Online) Available: <http://www.eurydice.org>. (October 20, 2015).
- Flouris, G. (1992). The Clash between educational laws, etc.: One aspect of the crisis in Greek education. In I. E Pyrgiotakis, & I. N. Kanakis, International Educational Crisis. Athens: Grigoris.
- Fritzsche, K.P. (1992). School textbooks as a subject for research. Aspects of international research into school textbooks. Pedagogical Supervision, 17, 173-183.
- Government Gazette, 304/13-3-2003. Cross-Curricular Study Programme (C.C.S.P.) and the Analytical Study Programme for Junior and Secondary Schools. (In Greek).
- I.P.E.M. – DOE (Institute of Educational Research and Study). (2009). New School Books, teachers' experiences. Emvalotis (Edr). (Online) Available: <http://ipem-doe.gr> (June 12, 2014)
- Kambitsis, Chr. & Harahousou – Kambitsi, Iv. (1999). Research techniques in sports science. Statistical analysis – evaluation. Thessaloniki: Meandros. (In Greek).
- Kambitsis, Chr. (2004) Research into athletic science. Thessaloniki: Tsiartsianis. (In Greek).
- Kapsalis, A., Haralambous, D. (1995) School textbooks. Institutional development and current problems. Athens: Ekphrasi. (In Greek).
- Kapsalis, A., Haralambous, D. (2008). School textbooks: Institutional development and current prospects. Athens: Metechmio. (In Greek).
- Karayiorgos, D. (2002). Methodology in educational scientific research. Athens: Savalas. (In Greek).
- Kipsang Kiptum, J., Rono, Ph., Too, J. K., , Bii, B., & Too, J. (2013). Effects of Students Gender on Mathematics Performance in Primary Schools in Keiyo South District, Kenya. International Journal of Scientific & Technology Research. Vol 2, 6, 247-252. (Online)

- Available: [www.ijstr.org](http://www.ijstr.org) (November 15, 2015).
- Koulaidis, B., Dimopoulos, K., Sklaveniti, S., & Christidou, B. (2001). Techno-science texts in public. Athens: Metechmio (In Greek).
- Lambrou, Chr., Bournelli, P., Manasis, B., & Mountakis, K. (2013). Important educational conferences and seminars which had as their main or subsidiary theme Physical Education as implemented in Greek schools from the founding of the state up to today. *Physical Education – Athleticism – Health*, 28, 27-38. (Online) Available: [www.epfanh.gr](http://www.epfanh.gr) (September 5, 2014) (In Greek).
- Matsangouras, H. (2006). The Evaluation of School Textbooks. (Online) Available: [www.pi-schools.gr/programs/epimorfosi/axiol\\_protov\\_](http://www.pi-schools.gr/programs/epimorfosi/axiol_protov_) (September 5, 2014) (In Greek).
- Mikk, J. (2000). *Textbook: Research and Writing*. Frankfurt am Main: Peter Lang.
- Mountakis, K. (2006). Physical Education. In *The in-service training of Primary and Secondary School Staff in the C.C.S.P., the A.S.P. and the new teaching material for Junior and Secondary schools*. Athens: Pedagogical Institute. (In Greek).
- National Educational Council. (2006). *Informed Opinions on Secondary Education*. Secondary Education Committee. (Online) Available: [http://www.study.net.gr/ekpa/ekthesi\\_gla\\_defterovathmia\\_ekpaidefsi.html](http://www.study.net.gr/ekpa/ekthesi_gla_defterovathmia_ekpaidefsi.html) (October 10, 2014)
- National Statistical Service, (ESYE). (2009). *Statistical results from Junior Schools 2008-09*. (Online) Available: [www.statistics.gr](http://www.statistics.gr) (December 15, 2011)
- O.E.P.E.K. (2008). *Criteria for the evaluation of educational material. The provision of specialized services for the conduct of studies. Praxi 2.1 of E.P.E.A.E.K. II*. (Online) Available: [www.oeppek.gr](http://www.oeppek.gr) (May 10, 2014). (In Greek).
- Obasi, M. (2011). Urban-Rural Differential in Teaching and Learning of Geography in Ahiazu Mbaise and Owerri Municipal Council in IMO State. *Environmental Research Journal* Vol. 5 (4), 140-148. (Online) Available: <http://www.medwelljournals.com> (November 20, 2015).
- Paraskevopoulos, I. (1993b). *A Methodology of Scientific Research*, Vol. 2. Athens: Greek Letters. (In Greek).
- Papadopoulou, N., Vlachopapadopoulou, E., Michalacos, St., & Tsarmaklis, G. (2003). Leisure time activities of elementary school pupils of the district of Attiki Ann Clin Pediatr Univ Atheniensis, 50(4): 369-374
- Pirgiotakis, I. (2008). *Greek Education and Society*. Athens: Greek Letters. (In Greek).
- Roseman, E. (2000). Big biology books fail to convey big ideas, reports. American Association for the Advancement of Science. AAS's Project 2061. (Online) Available: <http://www.project2061.org/newsinfo/press/r1000627.htm> (March 20, 2013)
- Stavrou, L. (2003). *Methodology of study cases*. (Online) Available: <http://epeaek.ncsr.gr> (March 20, 2011) (In Greek).
- Thomas, J., & Nelson, J. (2015). *Research methods in Physical Activities*. Champaign IL: Human Kinetics.
- Tobin, K. (1990). Research on science laboratory activities: In pursuit of better questions and answers to improve learning. *School Science and Mathematics*, 90, 403-418.
- Vafeiadis, A. (2003). Notes for a workshop on the Analysis of Statistics. University notes. Thessaloniki: Department of Trade and Advertising. (Online) Available: <http://babel.noc.teithe.gr/~thanosv/ADlab2.ppt>. (May 13, 2012).
- Volman, M., van Eck, E., Heemskerck I., & Kuiper, E. (2005). New technologies, new differences. Gender and ethnic differences in pupils' use of ICT in primary and secondary education *Computers & Education* 45, 35–55. (Online) Available: [www.sciencedirect.com](http://www.sciencedirect.com) (November 30, 2015).
- Xohellis, P. (2005). The criteria of the relevance, reliability and educational suitability of school textbooks. *Teaching book and educational material in school: Difficulties – Opportunities – Possibilities – Prospects*. Thessaloniki: Ziti. (In Greek).