



THE ESTIMATION OF EDUCATIONAL NEEDS OF PHYSICAL EDUCATION TEACHERS IN THE LIGHT OF THE NEW EDUCATIONAL PROGRAM BASIS

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ALICJA KOSTENCKA*, MIROŚLAWA SZARK-ECKARDT

Kazimierz Wielki University, Bydgoszcz, Poland

ABSTRACT

Purpose. The study is aimed at showing the state of educational needs of physical education (PE) teachers in the light of the new educational program as well as presenting their opinions about the implementation of some elements of the up-to-date physical education didactics (on the example of teachers in the Kuyavian-Pomeranian Voivodeship). **Basic procedures.** The survey was conducted in March 2009 among 118 people (including 63 men and 55 women) – PE teachers of various working experience (1 to 36 years of work experience), from randomly chosen primary schools (PS) and secondary schools called gymnasium (G) in the Kuyavian-Pomeranian Voivodeship. **Main findings.** The analysed views of PE teachers of primary schools and gymnasias of the Kuyavian-Pomeranian Voivodeship allow us to state that the teachers notice a need to use basic elements of the up-to-date physical education didactics. They expect concrete materials on the educational program of physical education for 2009. The highest percentage of PE teachers (up to ca. 80%) would like to make use of information on proposals for up-to-date forms of exercises, health-giving training and lifelong sporting activities. Over 70% of them feel the need for materials on pupils' activation and individualisation in PE classes and descriptions of how to use activating methods (ca. 68%). A high percentage, amounting up to 62%, think that these materials should concern methods in health education, and 58.5% (including 66.7% of PS and 50.8% of SS) want to learn about proposals for activities which develop pupils' health. **Conclusions.** Physical education teachers employed at elementary schools and gymnasias in the Kuyavian-Pomeranian Voivodeship, regardless of sex and work experience, support the educational program of physical education. Regarding the usage of various diagnostic tools, it was found out that there are statistically significant differences between elementary school teachers and gymnasium ones. Physical education teachers, regardless of school type, sex and work experience, emphasize the need for training in the didactics of their subject and in health education.

Key words: physical education teachers, educational needs, new program basis, health education

Introduction

The reform of the educational program has set new tasks to PE teachers. These tasks require from teachers high competence in the recent achievements in didactics, pedagogy, psychology and health promotion. The most important element of the changes is introduction of health education issues in physical education (PE) classes in the form of both theoretical lessons in the classroom and a practical part in the gym, where pupils can choose the form of physical activity. Health education (HE) – which, on the one hand, comprises any activity whose objective is to learn about health and illness [1], and on the other hand, is a pedagogical and social process making use of methods and techniques applied in social sciences (pedagogy, psychology, social economy, legislation, etc.) and directed to change people's and social groups' behaviours of pro-health character [2] – requires from teachers specialist knowledge and skills, but first of all, proper attitudes which constitute

a base for the other competences. Modern teachers – HE masters – must begin from themselves, from “studying the roots of their uniqueness” as professionals [3]. Evaluation of teachers' attitudes is very difficult. In some way, teachers' opinions on educational issues may reflect their attitudes.

While the reform of the educational program is being introduced, it is worth considering if and how physical education teachers perceive some competences necessary to give classes in accordance with the new guidelines and consequently their educational needs. A diagnosis of teachers' educational needs is a logical point of departure for actions whose objective is further effective modernization of physical education; additionally, asking teachers about their needs and bringing these needs to their attention should favour an increase in motivation and activeness [4].

The aim of this work is to present the state of PE teachers' educational needs in the light of the new educational program basis and to present teachers' opinions about an application of several elements of the up-to-date didactics in physical education (on the example of the Kuyavian-Pomeranian Voivodeship).

* Corresponding author.

Material and methods

The survey was carried out in March 2009 among 118 persons (63 men and 55 women) – physical education teachers of different work experience (from 1 to 36 years of seniority) employed in randomly chosen primary schools (pupils aged 6–12 years) and secondary schools (pupils aged 13–15 years) called *gymnasium* in the Kuyavian-Pomeranian Voivodeship. The questionnaire used in the research was prepared by the authors and its validity was confirmed in some pilot research. A vast majority of the subjects – 102 teachers (over 86%) have a degree of higher education, being graduates from university schools of physical education. The statistical analysis was done making use of Statistica 8.0.

The answers to the research questions were analysed by means of χ^2 test taking into consideration the demographic data of the subjects. The level of statistical significance was set at $p < 0.05$. The statistical characteristics of the subjects are presented in Tables 1 and 2.

Table 1. Statistical characteristics of the subjects – type of school

Sex	Type of school				Total <i>n</i>
	Primary school		Secondary school		
	<i>n</i>	%	<i>n</i>	%	
Men	27	47.4	36	59.0	63
Women	30	52.6	25	41.0	55
Total	57	100.0	61	100.0	118

Table 2. Statistical characteristics of the subjects – work experience

Sex	Work experience						Total <i>n</i>
	Under 10 years		10–19 years		Above 20 years		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Men	24	61.5	23	46.0	16	55.2	63
Women	15	38.5	27	54.0	13	44.8	55
Total	39	100.0	50	100.0	29	100.0	118

Results

The obtained opinions of physical education teachers from primary schools (PS) and secondary schools (SS) about the necessity of applying some elements of the modern didactics of physical education are shown in Tables 3–5.

The research findings show that the application of the program basis is approved by 63.5% of physical education teachers, that is, 75.4% of primary school

teachers and by about one third less, i.e. 52.5% of secondary school teachers. Nearly 7% (over 8% secondary school teachers included) have not answered the question, whereas 7.6% of the subjects (7.0% in PS and 8.2% in SS) do not know the program basis at all. Almost 17% of the subjects (14.0% in PS and 19.7% in SS) do not approve of the new program basis (they think it causes organizational problems or it still needs polishing up). A vast majority of PE teachers, over 87% of the subjects (92.2% in PS and 82.0% in SS) understands the need to use a diagnosis in their work. Teachers indicate as diagnostic tools, among others, physical fitness tests – 61.9% of the subjects (primary school teachers – 73.7% are ahead by nearly 23 percentage points in comparison to secondary school teachers – 50.8%). Questionnaires as a diagnostic tool have been mentioned by ca. 17% (only 3.4% in PS and 26.2% in SS), while observations by over 16% of the subjects. Physical fitness tests as the only element of diagnosis have been indicated by 44.1%, that is almost 60% of primary school teachers and about 30% of secondary school ones. As many as 22.9% of the subjects (17.5% in PS and 27.9% in SS) have not answered the question, which may indicate that they neither apply, nor understand the need to use any kind of diagnosis. The differences between the teachers in primary schools and those in secondary schools in the aspect of applying various diagnostic tools are statistically significant at a level below 0.01 ($p = 0.003918$).

Another important element of the modern didactics is evaluation. 80% of physical education teachers realise the necessity of its application in their work. The similar high percentage of the subjects (86.4%) understands the necessity of introducing innovative solutions in a teaching process (93.0% in PS and 80.3% in SS). Only 61.0% of the teachers notice the sense of planning their work in the form of devising plans in the result-focused aspect, whereas over 50% of the subjects claim that it is important to write synopses in the activity-focused aspect. The differences between the declarations of the primary school teachers and the secondary school ones are not statistically significant.

Table 4 shows physical education teachers' opinions on the issues discussed above, divided according to sex.

The results included in Table 4 show that the percentages of both men and women who consider it necessary to apply most of the above mentioned elements of modern didactics in physical education lessons are close to each other (differences of few percentage points). Only in the case of applying evaluation, there can be observed a difference of over 12 percentage points, but even this is not statistically significant.

Table 3. Type of school vs. physical education teachers' opinions about the necessity of applying some elements of the up-to-date didactics of physical education

Elements of didactics and the level of significant differences between PE teachers' opinions in primary and secondary schools (test chi ²)	Teachers' opinions	Primary school <i>n</i> = 57		Secondary school <i>n</i> = 61		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Application of the educational program basis <i>p</i> = 0.4542	Do not know it	4	7.0	5	8.2	9	7.6
	Approve	43	75.4	32	52.5	75	63.5
	Do not approve	2	3.5	4	6.6	6	5.1
	No opinion	8	14.0	12	19.7	20	16.9
	No answer	3	5.3	5	8.2	8	6.8
Diagnosis <i>p</i> = 0.2389	No	3	5.3	4	6.6	9	7.6
	Yes	53	92.9	50	82.0	103	87.3
	No answer	1	1.7	5	8.2	6	5.1
Diagnostic tools <i>p</i> = 0.003918*	Fitness tests as the only diagnostic tool	34	59.6	18	29.5	52	44.1
	Questionnaires	4	3.4	16	26.2	20	16.9
	Observations	9	15.8	10	16.4	19	16.1
	Fitness tests and other tools of diagnosis	42	73.7	31	50.8	73	61.9
	No answer	10	17.5	17	27.9	27	22.9
Evaluation <i>p</i> = 0.988	No	5	8.8	4	6.6	9	7.6
	Yes	45	78.9	48	78.7	93	78.8
	No answer	7	12.3	9	14.7	16	13.6
Innovative solutions <i>p</i> = 0.3928	No	3	5.3	8	13.1	11	9.3
	Yes	53	93.0	49	80.3	102	86.4
	No answer	1	1.7	4	6.6	5	4.2
Devising plans in the result-focused aspect <i>p</i> = 0.39641	No	22	38.6	20	32.8	42	35.6
	Yes	32	56.1	40	65.6	72	61.0
	No answer	3	5.3	1	1.6	4	3.4
Writing synopses in the activity-focused aspect <i>p</i> = 0.342692	No	29	50.9	24	39.3	53	44.9
	Yes	27	47.4	34	55.7	61	51.7
	No answer	1	1.7	3	4.9	4	3.4

* *p* < 0.01

Table 4. Teachers' sex vs. their opinions on the necessity of applying some elements of the up-to-date didactics of physical education

Elements of didactics and the level of significant differences between PE teachers' opinions divided according to sex (test chi ²)	Teachers' opinions	Men <i>n</i> = 63		Women <i>n</i> = 55		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Application of the program basis <i>p</i> = 0.2851	Do not know it	4	6.3	5	9.1	9	7.6
	Approve	39	61.9	36	65.4	75	63.5
	Do not approve	5	7.9	1	1.8	6	5.1
	No opinion	11	17.5	9	16.4	20	16.9
	No answer	4	6.3	4	7.3	8	6.8
Diagnosis <i>p</i> = 0.2060	No	7	11.1	2	3.6	9	7.6
	Yes	54	85.7	49	89.1	103	87.3
	No answer	2	3.2	4	7.3	6	5.1
Diagnostic tools <i>p</i> = 0.6874	Fitness tests	37	58.7	36	65.4	73	61.9
	Questionnaires	12	19.0	8	14.5	20	16.9
	Observations	9	14.3	10	18.2	19	16.1
	No answer	15	23.8	12	21.8	27	22.9
Evaluation <i>p</i> = 0.1656	No	5	7.9	4	7.3	9	7.6
	Yes	46	73.0	47	85.4	93	78.8
	No answer	12	19.0	4	7.3	16	13.6
Innovative solutions <i>p</i> = 0.6934	No	5	7.9	6	10.9	11	9.3
	Yes	56	88.9	46	83.6	102	86.4
	No answer	2	3.2	3	5.4	5	4.2
Devising plans in the result-focused aspect <i>p</i> = 0.6381	No	23	36.5	19	34.5	42	35.6
	Yes	37	58.7	35	63.6	72	61.0
	No answer	3	4.8	1	1.8	4	3.4
Writing synopsis in the activity-focused aspect <i>p</i> = 0.3873	No	32	50.8	21	38.2	53	44.9
	Yes	29	46.0	32	58.2	61	51.7
	No answer	2	3.2	2	3.6	4	3.4

The survey which concerned the opinions of teachers with different work experience about the application of some elements of the up-to-date didactics of physical education show that there is not statistically significant difference between teachers with long work experience (over 20 years), medium (10–19 years) and short (Tab. 5). The percentages of the subjects in each seniority category are similar. Only in the case of application of the right diagnostic tools, most teachers with short work experience declare they make use of fitness tests (over 60%). It is twice the percentage of the teachers with long work experience and even three times as many in comparison with the teachers with medium work experience. The category that has most often avoided answering this question is the one with long work experience. In comparison with the other categories, slightly more teachers with short work experience claim that it is necessary to make use of work plans in the result-focused aspect and synopses in the activity-focused aspect.

Tables 6–8 show the educational needs for more competence in the basic elements of didactics which physical education teachers claim to feel.

Table 6 shows that over 70% of the subjects (75.4% in PS and 67.2% in SS) expect contents concerning

active-learning teaching and individual teaching in physical education lessons, as well as descriptions of the active-learning methods (about 68%, 64.9% in PS and 70.5% in SS). A high percentage of PE teachers (57.6%) sees the need to use materials containing descriptions of how to apply diagnosis and monitoring (63.2% in PS and 54.1% in SS). Over 60% of the teachers expect contents about the ways of evaluation (64.9% in PS and 55.7% in SS), whereas 55.1% of the subjects (52.6% in PS and 57.4% in SS) expect contents which explain how to apply the evaluation. Examples of work plans in the result-focused aspect are expected by about 46%, but over 50% do not feel such a need. Around 44% of the subjects claim to feel the need to use materials with the information about how to draw up their own educational programs. Nowadays, when electronic communication is omnipresent, only less than 40% of the teachers feel the need to make use of computer technology in their work with pupils. On average, one subject in three is interested in new ways of recording their work, as well as synopses of utility-focused classes. 21.2% of the subjects claim it is necessary to broaden their knowledge in order to be promoted. The percentage of the teachers in primary schools is a little higher than in secondary schools who

Table 5. Teachers' seniority vs. their opinions on the necessity of applying some elements of the modern didactics of physical education

Elements of didactics and the level of significant differences between PE teachers' opinions divided according to work experience (test χ^2)	Teachers' opinions	Seniority up to 10 years $n = 39$		Seniority 10–19 years $n = 50$		Seniority 20 years and more $n = 29$		Total $n = 118$	
		n	%	n	%	n	%	n	%
Application of the program basis $p = 0.2353$	Do not know it	4	10.3	5	10.0	0	0	9	7.6
	Approve	24	61.5	31	62.0	20	69.0	75	63.5
	Do not approve	4	10.3	1	2.0	1	3.4	6	5.1
	No opinion	6	15.4	10	20.0	4	13.8	20	16.9
	No answer	1	2.6	3	6.0	4	13.8	8	6.8
Diagnosis $p = 0.8576$	No	3	7.7	3	6.0	3	10.3	9	7.6
	Yes	33	84.6	45	90.0	25	86.2	103	87.3
	No answer	3	7.7	2	4.0	1	3.4	6	5.1
Diagnostic tools $p = 0.9759$	Fitness tests	24	61.5	10	20.0	9	31.0	73	61.9
	Questionnaires	8	20.5	8	16.0	4	13.8	20	16.9
	Observations	7	17.9	8	16.0	4	13.8	19	16.1
	No answer	8	20.5	10	20.0	9	31.0	27	22.9
Evaluation $p = 0.6217$	No	4	10.3	4	8.0	1	3.4	9	7.6
	Yes	32	82.0	38	76.0	23	79.3	93	78.8
	No answer	3	7.7	8	16.0	5	17.2	16	13.6
Innovative solutions $p = 0.4530$	No	4	10.3	5	10.0	2	6.9	11	9.3
	Yes	34	87.2	41	82.0	27	93.1	102	86.4
	No answer	1	2.6	4	8.0	0	0.0	5	4.3
Devising plans in the result-focused aspect $p = 0.1277$	No	9	23.1	23	46.0	10	34.5	42	35.6
	Yes	28	71.8	26	52.0	18	62.1	72	61.0
	No answer	2	5.1	1	2.0	1	3.4	4	3.4
Writing synopses in the activity-focused aspect $p = 0.6309$	No	17	43.6	21	42.0	15	51.7	53	44.9
	Yes	21	53.8	26	52.0	14	48.3	61	51.7
	No answer	1	2.6	3	6.0	0	0.0	4	3.4

Table 6. Type of school vs. physical education teachers' educational needs for more competence in the basic elements of didactics

Educational needs and the level of significant differences between PE teachers' opinions in primary and secondary schools (test chi ²)	Teachers' opinions	Primary school <i>n</i> = 57		Secondary school <i>n</i> = 61		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Teacher's promotion prospects <i>p</i> = 0.2113	No	47	82.5	42	68.8	89	75.4
	Yes	9	15.8	16	26.2	25	21.2
	No answer	1	1.7	3	4.9	4	3.4
Documentation of the teacher's work <i>p</i> = 0.6304	No	34	59.6	36	59	70	59.3
	Yes	22	38.6	22	36.1	44	37.3
	No answer	1	1.7	3	4.9	4	3.4
Active-learning and individualization of PE lessons <i>p</i> = 0.4850	No	13	22.8	17	27.7	30	25.4
	Yes	43	75.4	41	67.2	84	71.2
	No answer	1	1.7	3	4.9	4	3.4
Drawing up the teacher's own educational program <i>p</i> = 0.6281	No	30	52.6	32	52.5	62	52.5
	Yes	26	45.6	26	42.6	52	44.1
	No answer	1	1.7	3	4.9	4	3.4
PE work plan in the result-focused aspect <i>p</i> = 0.5409	No	31	54.4	29	47.5	60	50.8
	Yes	25	43.9	29	47.5	54	45.8
	No answer	1	1.7	3	4.9	4	3.4
Synopsis of the utility-focused classes <i>p</i> = 0.5706	No	39	68.4	38	62.3	77	65.2
	Yes	17	29.8	20	32.8	37	31.4
	No answer	1	1.7	3	4.9	4	3.4
Description of how to use active-learning methods <i>p</i> = 0.5310	No	18	31.6	16	26.2	34	28.8
	Yes	37	64.9	43	70.5	80	67.8
	No answer	1	1.7	3	4.9	4	3.4
Description of how to use diagnosis and monitoring <i>p</i> = 0.4621	No	20	35.1	26	42.6	46	39
	Yes	36	63.2	34	54.1	68	57.6
	No answer	1	1.7	3	4.9	4	3.4
Description of how to use evaluation <i>p</i> = 0.4881	No	26	45.6	23	37.7	49	41.5
	Yes	30	52.6	35	57.4	65	55.1
	No answer	1	1.7	3	4.9	4	3.4
Description of evaluation methods <i>p</i> = 0.4551	No	19	33.3	24	39.3	43	36.4
	Yes	37	64.9	34	55.7	71	60.2
	No answer	1	1.7	3	4.9	4	3.4
Application of computer technology at work with pupils <i>p</i> = 0.6369	No	34	59.6	35	57.4	69	58.5
	Yes	22	38.6	23	37.7	45	38.1
	No answer	1	1.7	3	4.9	4	3.4

expect contents about teacher's work recording, active-learning teaching and individualization in PE lessons, as well as drawing up teacher's own educational program, descriptions of applications of diagnosis and monitoring as well as evaluation methods. However, the differences are not statistically significant.

A little higher percentage of women compared to men claim they need to improve their competence in active-learning teaching and individualization in PE lessons (by 10 percentage points), work planning in the result-focused aspect (by 16 percentage points), synopsis of utility-focused classes (by 16 percentage points), and application of computer technology (by nearly 7 per-

centage points). However, the differences are not statistically significant (Tab.7)

The survey of the teachers with different work experience which regarded their educational needs related to the basic elements of didactics has shown no statistically significant differences between the teachers with long work experience (over 20 years), those with medium work experience (10–19 years) and those with short work experience. The percentages of the subjects in each category are very close (Tab. 8).

Tables 9–11 show the educational needs related to health education mentioned by physical education teachers.

Table 7. Physical education teachers' sex vs. their educational needs related to the basic elements of didactics

Teachers' educational needs and the level of significant differences between PE teachers' opinions divided according to sex (test chi ²)	Teachers' opinions	Men <i>n</i> = 63		Women <i>n</i> = 55		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Teacher's prospects for promotion <i>p</i> = 0.9517	No	47	74.6	42	76.4	89	75.4
	Yes	14	22.2	11	20.0	25	21.2
	No answer	2	3.2	2	3.6	4	3.4
Documentation of teacher's work <i>p</i> = 0.8459	No	36	57.1	34	61.8	70	59.3
	Yes	25	39.7	19	34.5	44	37.3
	No answer	2	3.2	2	3.6	4	3.4
Active-learning and individualization of PE classes <i>p</i> = 0.4497	No	19	30.2	11	20.0	30	25.4
	Yes	42	66.7	42	76.4	84	71.2
	No answer	2	3.2	2	3.6	4	3.4
Drawing up teacher's own syllabus <i>p</i> = 0.9983	No	33	52.4	29	52.7	62	52.5
	Yes	28	44.4	24	43.6	52	44.1
	No answer	2	3.2	2	3.6	4	3.4
PE work plan in the result-focused aspect <i>p</i> = 0.1820	No	37	58.7	23	41.8	60	50.8
	Yes	24	38.1	30	54.5	54	45.8
	No answer	2	3.2	2	3.6	4	3.4
Synopsis of utility-focused classes <i>p</i> = 0.1555	No	46	73.0	31	56.4	77	65.2
	Yes	15	23.8	22	40.0	37	31.4
	No answer	2	3.2	2	3.6	4	3.4
Description of how to use pupils' activating methods <i>p</i> = 0.9873	No	18	28.6	16	29.1	34	28.8
	Yes	43	78.2	37	67.3	80	67.8
	No answer	2	3.2	2	3.6	4	3.4
Description of how to use diagnosis and monitoring <i>p</i> = 0.8605	No	26	41.3	20	36.4	46	39.0
	Yes	35	55.5	33	60.0	68	57.6
	No answer	2	3.2	2	3.6	4	3.4
Description of how to use evaluation <i>p</i> = 0.9480	No	27	42.9	22	40.0	49	41.5
	Yes	34	54.0	31	56.4	65	55.1
	No answer	2	3.2	2	3.6	4	3.4
Description of evaluation methods <i>p</i> = 0.9201	No	24	38.1	19	34.5	43	36.4
	Yes	37	58.7	34	61.8	71	60.2
	No answer	2	3.2	2	3.6	4	3.4
Application of computer technology at work with pupils <i>p</i> = 0.7201	No	39	61.9	30	54.5	69	58.5
	Yes	22	34.9	23	41.8	45	38.1
	No answer	2	3.2	2	3.6	4	3.4

The data shown in Table 9 indicate that the highest percentage of physical education teachers, up to 79.7% (86.0% in PS and 73.8% in SS) expect descriptions of some up-to-date forms of movement, health-focused training and lifelong sports. 73.7% of the subjects, including 80.7% of primary school teachers and 67.2% of secondary school teachers, feel the need for a new handbook which will contain issues related to the new program basis. Over 77% of the teachers claim it is necessary to organize a teacher training conference focused on the new program basis. A high percentage of the subjects, i.e. about 62% (63.2% in PS and 60.6% in SS), think that the contents should regard health

education teacher training, whereas 58.5% (66.7% in PS and 50.8% in SS) would make use of suggestions how to develop pupils' health. On average, one subject in three is interested in synopses of pro-health classes. Primary school teachers are a little more concerned than those in secondary schools about health education teacher training, suggestions of activities regarding pupils' health development, as well as up-to-date forms of movement, health-focused training and lifelong sports, but the differences are not statistically significant.

More women than men claim they need to raise their competence in health education teaching techniques (by nearly 17 percentage points), to use synopses

Table 8. Physical education teachers' work experience vs. their educational needs related to the basic elements of didactics

Educational needs and the level of significant differences between PE teachers' opinions divided according to seniority (test chi ²)	Teachers' pinions	Seniority up to 10 years <i>n</i> = 39		Seniority 10–19 years <i>n</i> = 50		Seniority 20 years and more <i>n</i> = 29		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Teacher's promotion prospects <i>p</i> = 0.2334	No	26	66.7	40	80	23	79.3	89	75.4
	Yes	12	30.8	7	14.0	6	20.7	25	21.2
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Documentation of teacher's work <i>p</i> = 0.5673	No	25	64.1	29	58.0	16	55.2	70	59.3
	Yes	13	33.3	18	36.0	13	44.8	44	37.3
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Active-learning and individualization of PE classes <i>p</i> = 0.5586	No	8	20.5	14	28.0	8	27.6	30	25.4
	Yes	30	76.9	33	66	21	72.4	84	71.2
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Drawing up teacher's own educational program <i>p</i> = 0.5356	No	20	51.3	28	56.0	14	48.3	62	52.5
	Yes	18	46.1	19	38.0	15	51.7	52	44.1
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
PE work plan in the result-focus aspect <i>p</i> = 0.2825	No	16	41.0	26	52.0	18	62.1	60	50.8
	Yes	22	56.4	21	42.0	11	37.9	54	45.8
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Synopsis of utility-focused classes <i>p</i> = 0.6072	No	26	66.7	33	66.0	18	62.1	77	65.2
	Yes	12	30.8	14	28.0	11	37.9	37	31.4
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Description of how to use pupils' activating methods <i>p</i> = 0.5191	No	9	23.1	15	30.0	10	34.5	34	28.8
	Yes	29	74.4	32	64.0	19	65.5	80	67.8
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Description of how to use diagnosis and monitoring <i>p</i> = 0.6554	No	14	35.9	20	40.0	12	41.4	46	39
	Yes	24	61.5	27	54.0	17	58.6	68	57.6
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Description of how to use evaluation <i>p</i> = 0.5506	No	14	35.9	22	44.0	13	44.8	49	41.5
	Yes	24	61.5	25	50.0	16	55.2	65	55.1
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Description of evaluation methods <i>p</i> = 0.6924	No	15	38.5	17	34.0	11	37.9	43	36.4
	Yes	30	76.9	40	80.0	24	82.7	71	60.2
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Application of computer technology at work with pupils <i>p</i> = 0.6784	No	24	61.5	28	56.0	17	58.6	69	58.5
	Yes	14	35.9	19	38.0	12	41.4	45	38.1
	No answer	1	2.6	3	6.0	0	0.0	4	3.4

of pro-health classes (by over 22 percentage points), and to learn up-to-date forms of movement, health-focused training and lifelong sports (by over 7 percentage points). In most cases the differences are not statistically significant. It has been noticed only in the case of the synopses of pro-health classes at the level of significance below 0.05 (*p* = 0.041) (Tab. 10)

The survey of the opinions of teachers with different work experience related to their educational needs indicate that there are no statistically significant differences (test chi²) between teachers with a long work experience (over 20 years), those with medium work experience (10–19 years) and short work experience. The percentages in each category are similar (Tab. 11).

Discussion

The concept of pro-health physical education formulated a few years ago where it became an element of the general education system provides for an inclusion of physical education both in the modern education system and in the health promotion process [2]. The new generation theory does not guarantee its good application in practice, which in the Polish school is still far from the expected standards. The problem of lagging behind and not following modern tendencies in the education theory was noticed already in the 1980s [5] and is still valid for the 21st century physical education. Does the contemporary PE teacher still underline a gap

Table 9. Type of school vs. physical education teachers' educational needs related to health education

Educational needs and the level of significant differences between PE teachers' opinions in primary and secondary schools (test χ^2)	Teachers' opinion	Primary school <i>n</i> = 57		Secondary school <i>n</i> = 61		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Methodology of health education <i>p</i> = 0.6365	No	20	35.1	21	34.4	41	34.7
	Yes	36	63.2	37	60.6	73	61.9
	No answer	1	1.7	3	4.9	4	3.4
Suggestions of activities developing pupils' health <i>p</i> = 0.1846	No	18	31.6	27	44.3	45	38.1
	Yes	38	66.7	31	50.8	69	58.5
	No answer	1	1.7	3	4.9	4	3.4
Synopsis of pro-health classes <i>p</i> = 0.2421	No	38	66.7	32	52.5	70	59.3
	Yes	18	31.6	26	42.6	44	37.3
	No answer	1	1.7	3	4.9	4	3.4
Suggestions of up-to-date forms of movement, health-focused training, lifelong sports <i>p</i> = 0.2419	No	7	12.3	13	21.3	20	16.9
	Yes	49	86.0	45	73.8	94	79.7
	No answer	1	1.7	3	4.9	4	3.4
Need to use a new handbook <i>p</i> = 0.055	No	4	6.6	14	22.9	18	15.2
	Yes	46	80.7	41	67.2	87	73.7
	No answer	7	12.3	6	9.8	13	11.0
Need to take part in a conference on the new program basis <i>p</i> = 0.9966	No	11	19.3	12	19.7	23	19.5
	Yes	44	77.2	47	77.0	91	77.1
	No answer	2	3.5	2	3.3	4	3.4

Table 10. Physical education teachers' sex vs. their educational needs regarding health education

Educational needs and the level of significant differences between PE teachers' opinions divided by sex (test χ^2)	Teachers' opinions	Men <i>n</i> = 63		Women <i>n</i> = 55		Total <i>n</i> = 118	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Methodology of health education <i>p</i> = 0.1394	No	27	42.9	14	25.4	41	34.7
	Yes	34	54.0	39	70.9	73	61.9
	No answer	2	3.2	2	3.6	4	3.4
Suggestions of activities developing pupils' health <i>p</i> = 0.9901	No	24	38.1	21	38.2	45	38.1
	Yes	37	58.7	32	58.2	69	58.5
	No answer	2	3.2	2	3.6	4	3.4
Synopsis of pro-health classes <i>p</i> = 0.041*	No	44	69.0	26	47.3	70	59.3
	Yes	17	27.0	27	49.1	44	37.3
	No answer	2	3.2	2	3.6	4	3.4
Suggestions of up-to-date forms of movement, health-focused training, lifelong sports <i>p</i> = 0.5204	No	13	20.6	7	12.7	20	16.9
	Yes	48	76.2	46	83.6	94	79.7
	No answer	2	3.2	2	3.6	4	3.4
Need to use a new handbook <i>p</i> = 0.7674	No	11	17.5	7	12.7	18	15.2
	Yes	45	71.4	42	76.4	87	73.7
	No answer	7	11.1	6	10.9	13	11.0
Need to take part in a conference on the new program basis <i>p</i> = 0.6211	No	13	20.6	10	18.2	23	19.5
	Yes	47	74.6	44	80.0	91	77.1
	No answer	3	4.8	1	1.8	4	3.4

* $p < 0.05$

between the theory and the practice, because he/she often does not accept or does not know the current paradigm, or is not able to apply it in practice? According to Frołowicz not all the teachers think that the demands of the latest theory of physical education are right and

useful [6]. In addition, teachers will not take up any actions if they do not believe it is worthwhile that a change for better is possible. Then, they will not complain that "it is only a theory" or "how to put it in practice in such numerous groups?" [7].

Table 11. Physical education teachers' work experience vs. their educational needs regarding health education

Educational needs and the level of significant differences between PE teachers of different seniority (test χ^2)	Teachers' opinions	Seniority up to 10 years $n = 39$		Seniority 10–19 years $n = 50$		Seniority 20 years and more $n = 29$		Total $n = 118$	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Methodology of health education $p = 0.4719$	No	13	33.3	15	30.0	13	44.8	41	34.7
	Yes	25	64.1	32	64.0	16	55.2	73	61.9
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Suggestions of activities developing pupils' health $p = 0.6970$	No	15	38.5	18	36.0	12	41.4	45	38.1
	Yes	23	59.0	29	58.0	17	58.6	69	58.5
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Synopsis of pro-health classes $p = 0.7066$	No	23	59.0	29	58.0	18	62.1	70	59.3
	Yes	15	38.5	18	36.0	11	37.9	44	37.3
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Suggestions of up-to-date forms of movement, health-focused training, lifelong sports $p = 0.6111$	No	8	20.5	7	14.0	5	17.2	20	16.9
	Yes	30	76.9	40	80.0	24	82.6	94	79.7
	No answer	1	2.6	3	6.0	0	0.0	4	3.4
Need to use a new handbook $p = 0.6612$	No	8	20.5	7	14.0	3	10.3	18	15.2
	Yes	26	66.7	37	74.0	24	82.8	87	73.7
	No answer	5	12.8	6	12.0	2	6.9	13	11.0
Need to take part in a conference on the new program basis $p = 0.5208$	No	9	23.1	10	20.0	4	13.8	23	19.5
	Yes	29	74.4	37	74.0	25	86.2	91	77.1
	No answer	1	2.6	3	6.0	0	0.0	4	3.4

The new model of education requires from the teacher effectiveness, i.e. accordance of effects with intended goals set up by the theory of physical education or by the educational program, but also imposed by life [8]. Teachers' competences which are indispensable in the modern physical education can, to some extent, reflect their opinions about application of some elements of didactics and also their educational needs.

Can teachers feel they are well prepared, especially to such a challenge as it is for them health education included in their lessons? It has appeared that even students who graduated a few years ago from schools educating PE teachers (234 subjects from AWFis in Gdańsk surveyed in the years 2003–2004 and 200 subjects from AWF in Wrocław surveyed in 2005) expressed an opinion that they were not prepared enough to teach health education at school [9, 10]. This confirms a thesis that the changes in physical education in the Polish school should be accompanied by adequate changes in the curriculum of the future teachers [10]. The need to educate specialists in health promotion has been noticed by American researchers [11]. "One of the causes of the physical education crisis can be also the fact that during the PE teacher training more emphasis is put on preparation to exercise the body than to shape the personality able to be active for the body's sake on his/her own" [12, p. 57]. At this point we can notice another issue to discuss: what scope should the currently implemented education reform have? What has changed

for better in physical education, and what has to be changed in the future and in what way?

The findings of Śmiglewska's research carried out in the third year of the implementation of the educational reform have not confirmed that physical education teachers actually apply the praxiological assumptions and also they have proved insufficient pedagogical preparation of teachers [13]. However, the author underlines an optimistic fact – a vast majority of physical education teachers already in the school year 2001/2002 felt the need for reforms, which meant that the process of reforming started at least in their minds [13]. Will this thesis be confirmed by the survey of teachers' educational needs and application of the modern elements of didactics in school practice of physical education in 2009? It seemed so, because an analysis of the opinions of the PE teachers in primary and secondary schools in Kuyavian-Pomeranian Voivodeship allow us to claim that they feel the need to make use of the basic elements of the modern didactics of physical education and they want to raise their competence, therefore they expect specific materials containing information about the program basis of physical education for 2009.

Teachers' needs concerning a raise in their competence regard first of all up-to-date forms of movement, health-focused training and lifelong sports, but also issues that regard health education teaching and activities developing pupils' health, as well as active-learning teaching and individualization during PE lessons, i.e.

application of active-learning methods. It is quite interesting that a little more primary school teachers than secondary school ones are interested in information about health education. However, the differences are not statistically significant. Another interesting fact is that the percentage of primary school teachers who expect a new handbook to be written and want to use it is by several percentage points higher than the one of secondary school teachers. Although the differences are not statistically significant, it is surprising to note a higher cognitive activity of teachers working at the lower stage of education, where the new formula of health education classes is not included. The need for a new handbook can prove that physical education teachers do not keep up with the modern theory and that they hardly know the recent literature on physical education, which is not rich yet, but is available periodically on the market. It can also be interpreted as a “call for practical solutions”. Certainly, it is an important signal which confirms the previous surveys of the teachers dealing with pro-health education issues in primary schools. The surveys indicated that there was a need to take up actions intended to raise teachers’ competence in health education by means of organizing different forms of professional training and equipping schools with tools and facilities to streamline the didactic process [14].

From the studies to date it has resulted that teachers’ opinions may vary depending on sex or work experience [6]. Our studies regarding opinions on didactics and educational needs indicate that such differences do not occur. This may have been caused by gradual blurring of these differences in practice due to the implementation of the new program basis.

Since the point of departure for health improvement through physical activity is diagnosis [15], it was expected that the subjects would be interested in this element of didactics. A vast majority of teachers understands that applying a diagnosis in their work is necessary, but they indicate first of all fitness tests as a main diagnostic tool (only a low percentage indicates questionnaires and observations). Most PS teachers use only fitness tests. Secondary school teachers exceed by several percentage points their counterparts in primary schools as far as the questionnaire application is concerned. The differences are statistically significant. This may indicate that PE teachers, especially in PS, are not aware of what possibilities of diagnosis they have. Over 20% of the subjects, and as many as 28% of SS teachers, have not answered the question at all. On this basis it is possible to predict that teachers in this group do not apply a diagnosis and will not apply it in

the future, as they do not understand the need to use any. To give preference in diagnosis to fitness tests can indicate that PE teachers still have deeply rooted biotechnological preferences. That would confirm the findings of Frolowicz’s study [6] which say that the changes occurred in teleology of physical education have still little to do with educational practice, as the teachers’ real educational intentions differ from what they declare. As it often happens those teachers do not adapt their actions, e.g. evaluation ones to the theoretical evaluation systems they invented [16].

The answer to another question – is there a conformity between the educational needs declared by physical education teachers and the self-evaluation of their preparation to conduct classes in health education at school given by different groups of teachers? – is not easy, either. The findings of the studies carried out in the years 2002–2004 on different groups of teachers [17–18] show a high percentage (55–60%) of the teachers who claim that their preparation to conduct classes in health education at school was good or very good. Physical education teachers’ opinions on their educational needs collected in 2009, which result from our survey, do not confirm the teachers’ optimistic declarations made a few years ago, although already in 2001 nearly 100% of the teachers noticed correlations between physical education and pro-health education [13].

Teachers’ awareness (which resulted from Śmiglewska’s research) still arouses hope of a further increase in their pedagogical competences, which can favour a change in quality of physical education. However, teachers need specialist courses and training to be well prepared to promote health. It is possible to develop an international cooperation in the future, which has already been suggested by American researchers [20].

There is an urgent need to create for physical education teachers educational opportunities and didactic materials (handbooks) containing information about up-to-date forms of movement, health-focus training and lifelong sports, as well as how to make pupils active and to individualize the process of physical education, about application of activating methods and health education methodology and other activities related to pupils’ health development.

Conclusions

1. Physical education teachers working in primary and secondary schools in Kuyavian-Pomeranian Voivodeship, irrespective of sex and work experience approve of the program basis of physical education.
2. As far as the application of different diagnostic

tools is concerned, statistically significant differences between primary and secondary school teachers have been noticed. Most of the primary school teachers declare the need to test only physical fitness, whereas the secondary school teachers more often add also surveys as a diagnostic tool. A numerous group of secondary school teachers (almost one third) do not indicate any diagnostic tool, which is disquieting.

3. Physical education teachers, irrespective of the type of school, sex and work experience, underline the need to broaden their knowledge in their subject's didactics (application of pupil's activating methods, diagnostic tools, monitoring, evaluation and giving marks) and health education (health-focused training, health education methodology and activities related to pupils' health development).

4. The changes in the educational program and organization of physical education and teachers' awareness about the needs of some elements of the modern didactics arouse hope to improve educational practice of PE teachers and consequently will lead to an increase in the quality of physical education.

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Address for correspondence

Alicja Kostencka
Instytut Kultury Fizycznej
Uniwersytet Kazimierza Wielkiego
ul. Ogińskiego 16
85-091 Bydgoszcz, Poland
e-mail: akostwf@ukw.edu.pl