

Preferred by Polish students of physical education subject matter and type of bachelor theses in 2008–2010

Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Manuscript Preparation
- E** Funds Collection

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Abstract

Background and Study Aim:

One of the simplest, synthetic criteria for evaluation the candidate's qualifications for employment as a teacher of a particular subject is the quality of bachelor's or master's thesis. This recommendation can be deduced from the main arrangements of the European Qualifications Framework (EQF). The aim of study is to answer three questions: (1) Is the type of school a significant differentiating factor preferred by students of subject matter and type of bachelor thesis? (2) Is certain subject matter of bachelor theses particularly dominate in the preferences of students? (3) Do students regardless of the type of school definitely prefer one of possible forms of graduation - writing and the defence of bachelor thesis or graduation exam?

Material/Methods:

Randomization was based on intentional selection. 176 graduates from Faculty of Physical Education, University of Rzeszow (UR) were examined and 86 graduates from Faculty of Physical Education, Pawel Wlodkowic University College in Plock (UC), who completed first cycle physical education studies in Poland in 2008–2010.

The period of functioning each of these faculties did not exceed ten years. An anonymous questionnaire was used in the own elaboration.

Results:

UC graduates prefer subject matter of bachelor theses specific to the education of physical education: 59% concerns to the biological basis of human development (dominate Kinesiology, Anatomy, Anthropology) and 27% of managing this development (dominate the methodology of physical education, sport theory.) Furthermore 62% of them as the proper form of completion of the studies point out writing and the defence of bachelor thesis, and 65% that it should be an empirical work, 7% declare theoretical. UR graduates prefer subject matter of bachelor theses which are not qualify directly to the competence of the physical education teacher (27%) or qualify indirectly i.e. history (17%); writing and the defence of bachelor thesis considered respectively 62% of them, 17% point out graduation exam. Empirical works prefer a 52%, and theoretical 48% respectively. The difference of statements between graduates of both types of higher schools is statistically significant.

Conclusions:

Students preferences are primarily determined by scientific interests and research achievements of the promoters of their theses, and are related to the internal regulations of higher schools.

Key words:

educational standards • European Qualifications Framework • physical education teachers' competences • scientometrics

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BACKGROUND

Educational standards

– set of educational rules on studies preparing for teaching profession and the professions for which the requirements for the educational process and its outcomes are defined in the regulations of the European Union [31] (Article 1.18).

In the broadest sense the mission of education is to pass on knowledge, develop skills and improve competences. In the education process there are many interactions between student and teacher. In this complex process of people interacting with one another the creative solutions may emerge as well as negative phenomenon's (fragmentary level of education, unethical attitudes, professional burnout). The standard of these relations is subject to qualitative evaluation. A classic criterion for evaluation of a scientist is the interest students' show in lectures, ability to draw in gifted scientists, international scientific and research cooperation. A common criterion for final evaluation of a student is verification of the learning outcome through graduation examination or defence of a thesis (empirical works, theoretical works, projects etc.). These solutions while proven are however implemented by many competing higher schools and research institutes thus the systemic evaluation [1] as well as efficient use of advanced computing systems of quality management in science is required. The evaluation requires considerable financial and intellectual resources as evaluation of the effects of education, research projects, science and innovation policy of the country is a complex task requiring complete, comprehensive and reliable data, correctly chosen scientometrics models, techniques, tools, algorithms and indexes [1–7].

Growing importance of the evaluation is an effect of economic and social changes taking place. There are increased expenditures on research, development and implementation [8]. Innovation is one of the important elements of policy-making and strategy planning of many countries as well as of the European economy which through implementation of guidelines from the Treaty on European Union [9], the Bologna Declaration [10], and the Lisbon Strategy [11,12] develops knowledge based economy. This strategy is focused on intellectual potential thus making it one of the production factors.

Accomplishment of vision of Europe as a knowledge based society would not be possible without development of new tools. One of the solutions is the **European Qualifications Framework (EQF)** [13–19]. The EQF aims to have functioning quality framework system based on learning outcomes, created for increased transparency and competitiveness influencing education system, contributing to economic growth and higher employment by facilitation of lifelong learning. In accordance with these objectives it is possible to link national education systems with one another. Despite countries autonomy in education, the EQF offers descriptors concerning learning outcomes (from basic general knowledge

one to the most advanced and specialized one). In practice when comparing candidates' qualifications they need to be referred to particular scientific discipline or profession. An additional tool that helps to determine this specificity may be local solutions, such as used in Poland ministerial **educational standards** [20], containing general requirements for a given faculties (the minimum number of classes, the minimum number of European Credit Transfer System), the expected qualifications of graduates, curriculum framework contents (with a clarification of the scope of knowledge, skills and competence), practices, and other specific requirements (i.e. for physical education – adequate levels of health and fitness of candidates, organization of training camps to gain knowledge on various forms of physical activity and the principles of planning and organization of the various forms of active recreation) [21].

One of the simplest, synthetic criteria for evaluation the candidate's qualifications for employment as a teacher of a particular subject is the quality of bachelor's or master's thesis. This recommendation can be deduced from the main arrangements of the European Qualifications Framework (EQF).

The aim of study is to answer three questions: (1) Is the type of school a significant differentiating factor preferred by students of subject matter and type of bachelor thesis? (2) Is certain subject matter of bachelor theses particularly dominate in the preferences of students? (3) Do students regardless of the type of school definitely prefer one of possible forms of graduation – writing and the defence of bachelor thesis or graduation exam?

MATERIAL AND METHODS

A method of the diagnostic survey was applied, and as the tool anonymous questionnaire form in the own elaboration. The randomization was based on the intentional selection. The graduates from Faculty of Physical Education, University of Rzeszow (public) (UR) and from Faculty of Physical Education, Pawel Wlodkowic University College in Plock (non-public) (UC) were examined. The main criterion was short period of functioning each of these faculties – did not exceed ten years, so the factor of the well-established academic tradition was not significant.

Coming out with the specificity of teacher qualification as a criterion of the specific character of the study division and classification of the Kalina RM was adopted (Figure 1) [22].

Since students are not enough oriented neither in the issues of the division and classification of science, nor

European Qualifications Framework (EQF) – is a common European reference framework which links countries' qualifications systems together, acting as a translation device to make qualifications more readable and understandable across different countries and systems in Europe [14].

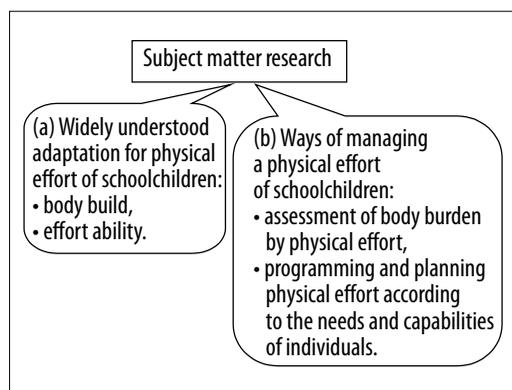


Figure 1. Subject matter research for the **physical culture** [22] – content reduced to the physical education.

in the detailed issues of methodology of science (i.e. the subject matter research specific for physical education (PE)), so in the survey as a criterion for identification the specificity (or non-specificity) adopted indicated by the respondent the subject matter of bachelor thesis associated with a definite learning subjects (i.e. physiology, psychology, sociology). The Respondents had the opportunity to indicate a few subjects, if the thesis connected with the content of more than one subject of study (i.e. physiology and psychology). Thus, in presentation of results, the identification of learning subjects, as appropriate to the subject matter of individual bachelor theses may exceed 100%. Subjects qualifying for educational standards [21] assembled into: group of basic content [B] and group of major content [M]. Term “other” refers to subjects, which are not covered by educational standards for PE (i.e. ecology, tourism). Generalized criterion of classifying theses, as specific for the PE was taken on division into subjects relating to “the biological basis of human development” (i.e. anthropology, physiology) and “the theory and methodology of PE and sport” (i.e. sport theory, methodology of PE). Subjects qualified to “humanities” are only in a certain range complementary to specific subjects (i.e. pedagogy, psychology). Subjects from the “other” do not meet the criteria.

Empirical data were processed in SPSS 17.0. The significance test of independent proportions was calculated among independent sets relatively to the compared groups of empirical data. In order to simplify comparison used an indicator of the proportion, expressed in a percentage. On figures the results are being given with an accuracy of two decimal places, while in the text values were rounded.

176 graduates from UR and 86 graduates from UC, who completed first cycle studies of physical education in Poland in 2008–2010, were examined.

The study was approved by the local Bioethics Commission.

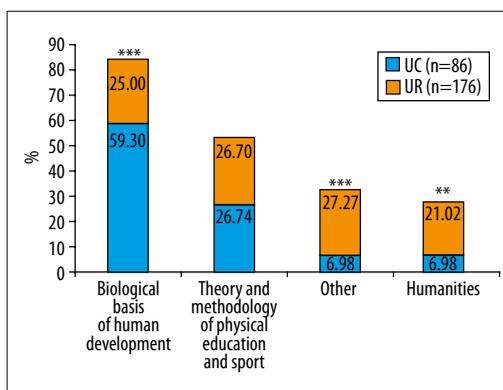


Figure 2. The proportions [%] of students of physical education the two types of Polish higher schools, who during the first cycle studies preferred subject matter of the bachelor theses based on specific or non-specific educational subjects (** $p < 0.01$; *** $p < 0.001$).

According to the Polish law ([32] Article 2.2.) sport along with physical education and rehabilitation comprise **physical culture**.

RESULTS

Most of UC graduates prefer subject matter of bachelor theses specific to the education of physical education with a clear indication (59%) to the “biological basis of human development” (Figure 2). Nearly half of UR graduates prefer non-specific subject matter of bachelor theses (“other” 27% and “humanistic” 21%). 27% of graduates from both higher schools declared that the subject matter of their theses concerned the “theory and methodology of PE and sport”. In detail meaning among UC graduates dominate choices: anatomy (19%), kinesiology (17%), anthropology (14%) – subjects qualified to the “biological basis of human development” (Figure 3). The lower is preference for subject matter of theses concerned the “theory and methodology of PE and sport”: the theory of sport (9%), methodology of PE (8%). UR graduates preferences concern the history of physical culture (17%) and methodology of PE (10%).

UR graduates generally proportionally prefer a particular type of bachelor theses: the empirical 52%, the theoretical 48% (Figure 4). Among the UC graduates dominate empirical works (65%), and the difference in the proportion of UR graduates is statistically significant ($p < 0.05$). Also, a statistically significant difference ($p < 0.001$) refers to theoretical works, but such a declaration have made only 7% of the UC graduates. Only the UC graduates (28%) did not express an opinion in this matter.

Relatively high in both sets of graduates is the lack of a clear statement as to the forms of graduation (Figure 5). More than every third graduate of UC (37%) had not clear idea and every fifth graduate of UR (21%) – the difference in proportions is significant ($p < 0.01$).

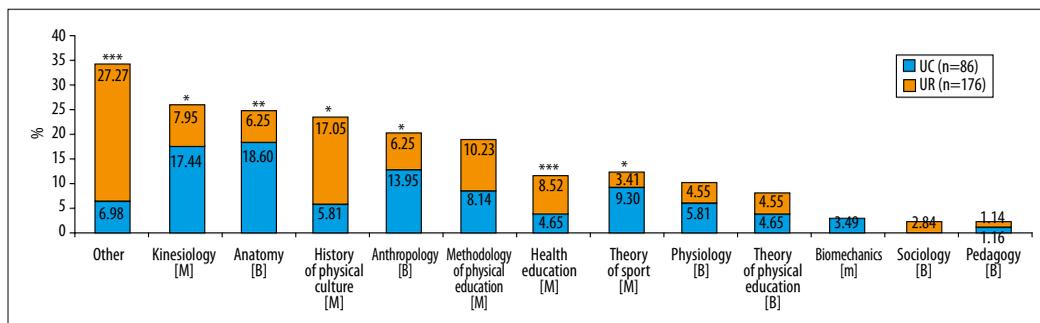


Figure 3. The proportions [%] of students of physical education the two types of Polish higher schools, who during the first cycle studies preferred determined subject area the bachelor theses (* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$). B – group of basic content; M – group of major content (according to the polish ministerial educational standards [20,21]).

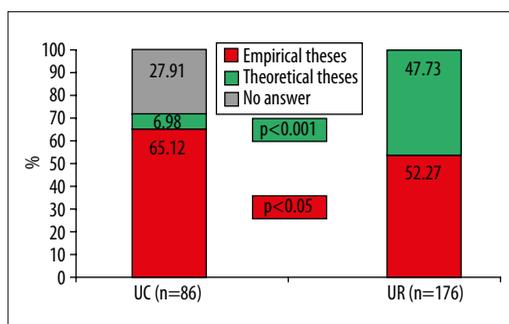


Figure 4. The proportions [%] of students of physical education the two types of Polish higher schools, who during the first cycle studies preferred empirical or theoretical bachelor theses.

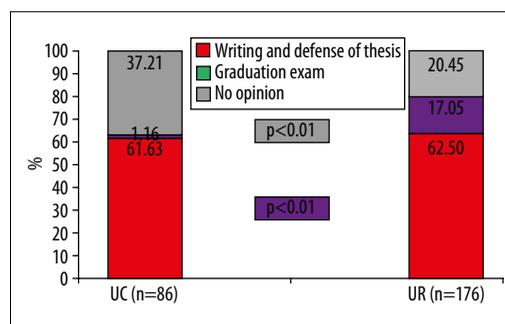


Figure 5. The proportions [%] of students of physical education the two types of Polish higher schools, who during the first cycle studies preferred writing and defense of bachelor thesis or graduation exam.

Statistically significant difference ($p < 0.01$) concerns also choice of the examination as the appropriate form of finishing studies – such a statement presented only one UC graduates.

Graduates of both higher schools are for the writing and defense of bachelor thesis in almost identical proportion.

DISCUSSION

The issues solved in this article only appear to be of local dimension. While it is true that in the European Union as well as in most countries around the world there are no unified criteria as to the form of graduation of the first cycle studies (graduation exam or defence bachelor thesis), furthermore there are no unified criteria for the form of the bachelor thesis (specific to the particular faculty or subject matter: original, review etc.). On the contrary, these issues are left for the decision of faculties, institutes and other organisational units of the higher schools. This is one of the competences traditionally associated with the freedom of education rule and also with freedom of learning. After all, each student has a freedom to choose, to some extent, a thesis supervisor – provided that the defence of a thesis is

the chosen form of graduation. This choice is limited by the official limits of the students allowed to participate in seminars of respective academic teachers. Then why do we emphasise that the issues are of not only local dimension?

First of all, if the learning outcomes are to be translated into employers' expectations then it needs to be decided whether bachelor thesis can be considered as an important criterion of professional competence of a graduate of a given faculty. If so the graduate should be aware that will be obliged to submit dissertation and results of the examining board review. Such a procedure is justified in the recruitment process of a physical education teacher. In the cognitive sense it would be very interesting to have candidates' explanations why the topic of their theses concerned for example historical issues instead of issues specific to work of a PE teacher – adaptation of schoolchildren to physical efforts and guidance over physical effort. However an important dilemma arises whether it is easier to convince potential employers (school headmasters or supervisory boards) that priority of employment should be given to those candidates who already, during their studies, proved they identify themselves with future occupation or should the obligation

be to prepare a thesis on a topic specific to a physical education teacher's profession be executed rigorously.

Secondly the above mentioned dilemma causes more dilemmas concerning both freedom of education for some, and freedom of study for others, strongly projected in the Bologna Process objectives. Many a time students of the first cycle of studies change their area of interest and intend to continue the second cycle of studies in an area different from qualifications gained as a first cycle. If he/she really intends to prepare a master thesis in history then preparing a bachelor thesis on history of sports or physical education seems reasonable. However there is no guarantee that before enrolling in second cycle studies this particular person will not decide to take on job as a PE teacher. Obviously we cannot assume a priori that this person will be a less efficient PE teacher and the problem should not be simplified to such an assumption. Due to editorial limitations we put a rhetorical question: since PE is a compulsory class for all the students, is it allowed for a history faculty student to prepare bachelor or master theses specific to physical education teacher's profession – concerning a widely understood adaptation of schoolchildren to physical effort and guidance over physical effort?

Generalisation of the results of our research jointly from two perspectives – awareness of similar standards of education of physical education teachers in many countries and evidence showing worldwide crisis of the traditional model of physical education (civilisation diseases, bad eating habits, sedentary lifestyle, violence among schoolchildren, low attendance during PE classes etc. [23]) – entitles us to point out four implications on the global scale. These implications can be assumed as an important premises for further research and systemic solutions concerning the education of personnel: (1) if the far reaching freedom of choice of the form of graduation of the first cycle studies in physical education (graduation exam or defence of bachelor thesis) as well as freedom of choice of a subject matter bachelor thesis is allowed, then considerable limitation to the accuracy of evaluation of professional competences of the graduates should be taken into account; (2) since there is no certainty as to which graduates will decide to pursue the career of a PE teacher then evaluation of quality of bachelor thesis increases the probability of choosing the right employee; (3) since in different types of schools the majority of employers are unable (judging on the effects) to ensure the optimal level of physical education, then a candidate for a PE teacher should prove that bachelor thesis is based on the original research on adaptation of schoolchildren to physical effort or guidance over physical effort; (4) if one of the main tasks of the European Qualifications Framework

is supporting the mobility of Europeans (taking up jobs and studies in other EU countries) then not a formal diploma but the bachelor thesis which meets criteria listed in the point (3) should facilitate verification of professional competences.

There is much empirical evidence that the premises listed above are true. On the global scale, especially credible are the periodic reports of the World Health Organisation based on different health indicators – somatic, mental and social. More detailed analysis (concerning smaller populations such as professional groups, local communities etc.) are permanently made available in thousands of scientific publications of different reach and addressed to different readers – scientists from a particular discipline, teachers, public life leaders etc. Thus the obvious conclusion is that if the potential candidate for a PE teacher documents education with appropriate thesis (bachelor or master) especially as a graduate of a different faculty, it is impossible to prove that have thoroughly studied scientific papers on topics concerning studied profession. Thus it is even harder to prove that professional competences are high. Otherwise right would be the ones who claim that physical education classes are so simple that any teacher can conduct them with no harm to student's health or discredit of a teacher. Proclaiming such opinions can be tolerated but since such solutions are observed in practice it lets us assume that both the person who decided to replace the PE teacher with another class teacher as well as the teacher who agreed to conduct the PE class not only share that opinion but also put it into practice.

Indirect evidence of authenticity of the statements made in the last paragraph are the results of research on the causes of professional burnout among PE teachers. Among the globally observed factors that contribute to the professional burnout of PE teachers, the most common ones are: marginalization of the role of PE and PE teachers in schools (depreciating attitude of headmasters and teaching staff), negative attitude of other teachers, lack of opportunities for personal development [24–28]. The higher schools and academic teachers who allow defence of the bachelor thesis on topics far from specificity of physical education directly contribute to depreciating of this important, unique profession connected with widely understood health prevention. The latest research proves that among Polish PE teachers over 27% (female teachers being majority) can be qualified as affected by professional burnout, over 58% as not affected and the rest as partially affected [29]. The results of our research presented in this article shows that in the near future the probability of an increased number of physical education teachers suffering from professional burnout syndrome should be linked to graduates of the UR.



However the findings concerning UC are evidence, that the implementation based on the premises articulated above – from (1) to (3) – are real and are accepted primarily by students. Council of the Faculty of Physical Education UC has taken a decision in 2006 that bachelor theses must be original and the subject matter specific to physical education. When in 2009 in Poland intensified a discussion about choosing the form of graduation, UC students were in favour of continuing the defence of bachelor theses on the principles established in 2006 [30].

Because the authors of this publication know important facts of studying on physical education, both in UC and UR, therefore are entitled to the following conclusions.

CONCLUSIONS

1. Preferred by Polish students of physical education subject matter of bachelor theses are determined primarily scientific interests and research achievements of their promoters, however internal regulations of higher schools are determining the type of the thesis (specific to the physical education and the original but not necessarily).

2. An important factor in bringing back the authority of physical education teachers and appropriate position of physical education in schools of all types may be expressly emphasizing as part of the European Qualifications Framework the need to document the competence of the profession defended by the bachelor and master thesis, based on original studies concerning either the adaptation of schoolchildren to physical effort or managing physical effort. Meeting these conditions might turn out to be also an important factor of counteracting the professional burnout of physical education teachers.

Acknowledgement

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