STUDYING PRINCIPALS' RESOURCE ALLOCATION AND AFFECTING RESOURCE FACTORS FOR PHYSICAL EDUCATION IN FINLAND

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ABSTRACT

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The aims of the present study were to investigate principals' opinions of PE resourcing in schools. Resourcing was divided for different resourcing factors in schools: principals' money allocation, qualified PE teachers, PE teachers' in-service education, extracurricular PE and optional PE courses. These resource factors were investigated by associations between school size and different resourcing factors and between school's regional location and different resourcing factors. Other aims were to study if principals' and PE teachers' opinions of PE resourcing diverge and to compare results of PE resourcing to previous PE evaluations study (Huisman 2004) in 2003.

A follow-up evaluation 2010 of physical education learning outcomes, commissioned by the National Board of Education, was conducted by the Department of Sports Sciences at the University of Jyväskylä in spring 2010. Data, questionnaires, were collected from 51 comprehensive schools, of which four are Swedish speaking. Questionnaires were answered by 1619 ninth grade students, PE teachers and principals. The evaluation study sample represented extensively different provinces, municipal groups and European Union support schools. (Palomäki & Heikinaro-Johansson 2011, 5-17.)

According to the results, large-sized schools allocated more money for PE in last two academic years, had more qualified PE teachers and arranged more optional PE courses than medium-sized schools. All other resourcing factors were somewhat equal between large-sized and medium-sized schools. From the regional point of view, schools from Southern and Western Finland had more qualified PE teachers than Eastern and Northern Finland. PE teachers from Southern Finland did not take part in in-service education as much as PE teachers in other provinces. Compared to the previous PE evaluation study (Huisman 2004) both, PE teachers' participation in in-service education and arranged extracurricular PE in schools, had decreased. Interesting finding was that arranged extracurricular PE in schools had decreased although government had given subsidies for arranging them. Most principals thought PE is not expensive compared to other subjects. Principals for the most part wanted more money for arranging optional PE and thought extracurricular sports are necessary in schools. Most principals thought all PE facilities are at least in satisfying condition but 21 % of PE teachers thought they were poor.

This study confirms also that, in Finland, the need for enhancing in-service education and PE teacher training is remarkable. Interesting would be to know also where the money is used in schools.

Keywords: Physical education (PE), money allocation, in-service education, extracurricular sports

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1 INTRODUCTION

School physical education (PE) is highly valued in Finland and tolerates very well the comparison to other countries. However, several concerns for PE in Finland still exist. Sitting lifestyle is becoming a habit and a real problem for our society because of the decrease of everyday physical activities. This can be seen from the decreased amount of physical activity of our children and young people and increasing amount of obesity (Heikinaro-Johansson, Johansson & McKenzie 2009). Physical activity is an important part of personal health. It is the key factor for physical activity and its stability for people is physical education (Finnish National Board of Education 2007).

Physical education is a pathway to reach every youngster between the ages of 6-16. Moreover, those are the people who need physical education the most. What we learn as a child we hold it more often in our adulthood (Barnekow-Bergvist, Hedberg, Janlert & Jansson 1998). Increasing the amount of physical education lessons, enhancing the quality (qualified physical education teachers, enough equipment and facilities) of physical education and increasing the amount of optional physical education courses for physical education are important factors for physical activity development and for the habit formation of the people in our society (Heikinaro-Johansson, Johansson & McKenzie 2009).

Increasing physical education lessons and making the quality better is still easier to be said than done. Increasing physical education lessons means changes in the curriculum nationwide. It might also mean that physical education lessons absorb lessons from other subjects. Other curricular arrangements, extracurricular sports, have been organized to enhance young people's physical activity interests. One concern is finding qualified physical education teachers for teaching.

School physical education needs resources for implementing educational aims. Ordering facilities for lessons, moving pupils from school to physical education facilities and

having appropriate and up-to-date equipment is seen in school budget. Nevertheless these factors affect to quality and attitudes against physical education.

Principals are in charge of the decision-making and the administrative tasks of the schools. Moreover, they are in charge of the schools' financial management. It is their concern to try to increase the wealth of the schools. Naturally, it is also the principals' responsibility to make sure the educational goals of their schools are achieved (Mäkelä 2007, 199). These are only a few of the principals' tasks among several other tasks, including school leading. This review of literature reveals some facts and attitudes about Finnish principals' money allocation for physical education. Money allocation is affected by several factors which include the municipal situation, curricular goals, appreciation of the subject, group sizes, location of the school, teacher in-service education, teachers' temporary lay-offs, extracurricular sports and of course the school budget. Previous studies have investigated principals' administrative tasks and school pedagogical leading, (Mäkelä 2007; Mustonen 2003) but there are hardly any studies dealing with the school leaders' investments for physical education or factors that affect those investments.

In the last five years, money has been given for teacher in-service education and extracurricular sports by the government to improve learning and the quality of education (Finnish National Board of Education 2009b; National-Level Coordination Project of Degree Programme Development in Teacher Training and the Sciences of Education 2005). This is the reason why this study examines the money allocation and shows results on what measures have been taken in order to improve physical education.

This study is a part of the National Board of Education follow-up evaluation, conducted by the Department of Sports Sciences at the University Of Jyväskylä in spring 2010 (Palomäki & Heikinaro-Johansson 2011). This project processed Finnish physical education issues including students' attitudes, teachers' qualification and attitudes and principal survey. The previous follow-up evaluation was conducted in 2003 and this study compares the results to the previous one.

2 THE FINNISH EDUCATION SYSTEM

In Finland, the educational system has been developed actively to serve national needs (Jakku-Sihvonen & Niemi 2007, 9).This chapter reveals students' study path from the early years in basic education to the profession in adulthood, what comes with Finnish educational laws and human rights, population and mother tongue deviations and what are the main goals of Finnish educational system. Moreover, I represent the educational structure in this chapter since this study concerns secondary schools, principals and PE teachers.

2.1 Fundamental criteria

The main objective of the Finnish education policy is to offer all citizens equal opportunities to receive education, regardless of age, domicile, financial situation, sex or mother tongue. Education is considered to be one of the fundamental rights of all citizens. Firstly, provisions concerning fundamental educational rights guarantee everyone (not just Finnish citizens) the right to free basic education; the provisions also specify compulsory education. Secondly, the public authorities are also obligated to guarantee everyone an equal opportunity to obtain other education besides basic education according to their abilities and special needs, and to develop themselves without being prevented by economic hardship. (Finnish National Board of Education 2012b, 2; Ministry of Education and Culture 2012.)

In addition, the public authorities are obligated to provide for the educational needs of the Finnish- and Swedish-speaking population according to the same criteria. Approximately 5.5 per cent of the population has Swedish as their mother tongue. Both language groups have the right to education in their own mother tongue. Regulations on the language of instruction are stipulated in legislation concerning different levels of education. (Finnish National Board of Education 2012a; Finnish National Board of Education 2012b, 16.)

A major objective of the Finnish education policy is to achieve as high a level of education and competence as possible for the whole population. One of the basic principles behind this has been to offer post-compulsory education to whole age groups. In international terms, a high percentage of each age group goes on to upper secondary education when they leave comprehensive school: more than 90 per cent of those completing basic education continue their studies in general upper secondary schools or vocational upper secondary education and training. (Finnish National Board of Education 2012a.)

2.2 Education structure

The Finnish education system is composed of nine-year basic education (comprehensive school), preceded by one year of voluntary pre-primary education; upper secondary education, comprising vocational and general education; and higher education, provided by universities and polytechnics. In Finland, pre-primary education, basic education and upper secondary education and training, complemented by early childhood education and before- and after-school activities, form a coherent learning pathway that supports children's growth, development and well-being. (Figure 1) (Ministry of Education and Culture 2012; Finnish National Board of Education 2012b, 1-3; University of Jyväskylä 2008.)

Students' opportunities to progress from one level of education to the next are guarded by legislation. Both general and vocational upper secondary certificates provide eligibility for further studies in universities and polytechnics. A student completing one level is always eligible for the next level of studies. The qualifications of each level are governed by a separate Act of Parliament. (Ministry of Education and Culture 2012.)

Basic education is free general education provided for the whole age group. Basic education schools of Finland in 2009, divided by school sizes of this study, are

represented in appendix 4. Upper secondary education consists of general education and vocational education and training (vocational qualifications and further and specialist qualifications). The higher education system comprises universities and polytechnics, in which the admission requirement is a secondary general or vocational diploma. (Figure 1) (Ministry of Education and Culture 2012; Finnish National Board of Education 2012b, 2;University of Jyväskylä 2008.)

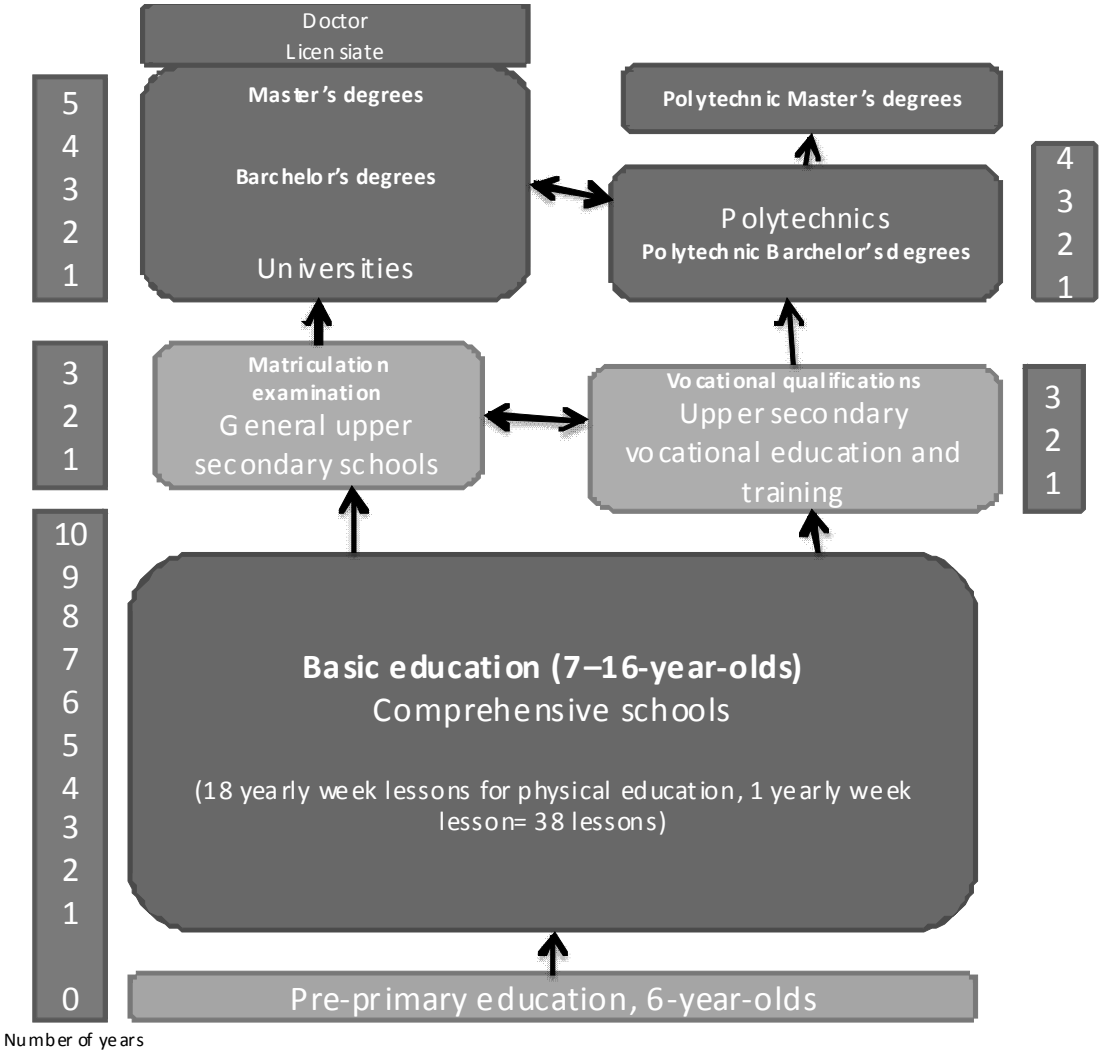

FIGURE 1. Finnish Educational system (Finnish National Board of Education 2012a & 2012b; Ministry of Education and Culture 2012; Ministry of Education and Culture 2012).

3 FINANCIAL ISSUES ON SCHOOL PHYSICAL EDUCATION

This chapter represents the way financial issues affect school units, who makes decisions on financial issues at governmental and school level and how the decisions influence school economics and students. Principals make financial decisions at school level and they are also the main study point in my research. Due to that their roles in school, job descriptions and situations at the present time are represented here. In this chapter the previous interesting study results of principals' work and development projects are also represented.

3.1 Government and municipalities

In Finland the Parliament decides on educational legislation, funding and educational policies. The Government and the Ministry of Education and Culture are responsible for school education, planning and implementation. The Ministry of Education and Culture determines education policy guidelines and strategic lines. It also oversees the supply of training and education tied to the state budget. Last but not least, The Ministry of Education and Culture prepares a training program from law and government decisions. Municipalities are obliged to provide basic education for all children in their area with their school units. Their actions are guided by the established legislation and goals. (Finnish National Board of Education 2011a.)

Similarly, the financial planning of the school and student management is the economic frame of the school unit. Well-managed economy contributes all school activities. Local and state economic changes are reflected in the individual school's finances and in the principal's tasks. Good financial planning creates safety, stability and constancy for the work of a school unit. (Mäkelä 2007, 138.)

The economic issues of the school are founded on the country economics. If the country has a poor financial situation, it reflects to the financial situations of the municipalities. Nation and municipalities are jointly responsible for financing of basic services with the state deferred system. Municipalities lead the economics of the school. (Nikkanen & Ruohotie 1998, 40; Nikki 2001, 30.)

Municipalities and schools are mutually different footing in economic relationships. Municipalities economically under the strain have to cut education economy relatively harder than wealthier municipalities, although municipalities are subjected to the same educational objectives. (Nikkanen et al 1998, 9.) Suomi et al. (2004) studied the local sport administration in Finland. The study was a survey made for the officials of the municipalities. The survey included a questionnaire in which answered 228 out of 428 municipalities. The officials felt that the available money is very essential in enhancing physical activities. There are resources in the cities to practice that, but in the rural municipalities resource problems proved to be true. (Suomi, Karinmäki & Matilainen 2004.) When the financial situation of the municipalities is negative, schools must make either difficult or extremely difficult decisions in order to develop the education of the schools. To achieve the financial balance the municipalities have to cut some services or find the means of saving elsewhere. For these situations, temporary lay-offs are one solution. (Alanen, 1999.)

According to Puustinen (2010), over 30 000 students have suffered from the temporary lay-offs of the teachers. In Finland fifteen different municipalities laid off teachers giving the total result on 3000 in autumn 2010. Municipalities saw the lay-offs provide savings for their budgets, but the layoff reports proved completely opposite results in spring 2010. The same article revealed that some municipalities try to replace the temporary layoffs by the so-called free economy savings, namely by providing teachers work efforts on behalf of unpaid time off from work. The Trade Union of Education in Finland considers the free economy savings as damaging as the lay-offs and points out that teachers should not sign a free savings contracts. (Puustinen 2010.)

3.2 School principals

School principal is a “leading teacher” with a formal role of a director and without teaching responsibility or just a limited amount of classes. In Finnish context the bigger the school, the less teaching responsibility there is. By law a principal can be appointed to tenure only when the applicant has teacher’s qualification at the particular school level, enough teaching experience and conducted studies (25 credits) in school administration. A principal must have a teacher qualification for at least one school form if he or she is responsible for two or more different school forms. (Asetus opetustoimen henkilöstön kelpoisuusvaatimuksista 2 § 1998)

The Statics Finland made a survey with the task force of the Ministry of Education and Culture in spring 2008 about teachers and principals in Finland. The data consisted of 1685 principals, which 1298 were comprehensive school principals and 387 general upper secondary school principals. According to the results, 99 % of the principals were formally eligible to perform the profession in comprehensive and general upper secondary schools. In comprehensive schools 55 % of the principals were over 50 years old and in the general upper secondary schools the percentage of was 64 %. Less than 10 % of the principals were under 40 years old in both comprehensive and general upper secondary schools. (Kumpulainen 2009, 29-33 & 43-46.)

Roles of a principal in school have been changed over time. Traditional roles of a principal have consisted of planning, organizing and coordinating the economic and administrative tasks. Administrative tasks and decision-making are often associated with management. Administrative functions in school leading will continue growing. The principal must know the basics of finance and accounting. The language of finance and accounting is so versatile, time variable and expertise requiring that principals have to educate themselves over again. (Karikoski 2009, 53, 263; Mäkelä 2007, 132; Nikki 2001, 25.)

Mustonen (2003) has studied the duties of principals in Finnish schools in Savo region for his Master's Thesis. He had collected all the laws and references in the 19th century about the tasks principals have had. In addition, the written material included information about staff hiring and supervising schools' equipment, facilities, teachers and teaching. Principals were also responsible for curricular goals together with the subject teachers. Staff hiring included not only subject teachers but also deputy teachers, school assistants and secretaries. Qualified subject teachers are sometimes hard to find and school finance is also concerned in hiring teachers. (Mustonen, 2003, 118; Mäkelä 2007.)

Latvala (2010) studied the work of a secondary school principal in Jyväskylä. His study resulted in similar results with Mustonen (2003) that principals' have to show opportunities for teachers and themselves for in-service education (Latvala 2010; Mustonen 2003, 118). The principals also report the school staff from available in-service education and give possibilities to participate in them within the limits of financial framework (Mäkelä 2007, 52).

While the work of school principals is turning versatile, the principals' job satisfaction and coping deteriorate at an alarming rate. The Finnish Principals association's Pro Rexi 2015– development project (2008) of the principals perceptions of their job description changes were discussed in 2004 on a nationwide survey. Based on the results, every principal (n=587) felt their workload increased significantly shifted to schools discretion. The conclusion was that the job change was reflected in increased working hours and problems of carrying on. (Suomen Rehtorit ry. 2008.) When workload increases and job satisfaction has started to decrease, the interest to work as a principal of the school has fallen down completely (Ahola 2010; Korkeakivi 2011).

Principals are also responsible for planning the extracurricular activities in schools. The aim of the extracurricular activities is to support schools education and teaching by developing students' social growth and versatile self-assertion. Participation to activities is voluntary for the students and free of charge. Extracurricular activities and time allocation has to be appropriate to the school curriculum. Club activities are intended for

comprehensive school students in grades 1-9, but they can also be arranged in secondary schools. The extracurricular activities include more physical activities and, therefore, they can be arranged as extracurricular PE. (Finnish National Board of Education 2004a, 208; Pietilä 2005, 6, 67.)

4 PHYSICAL EDUCATION RESOURCES

Resources spent in school PE come from human resources, curricular resources, material (equipment and facilities) resources. The basic issues of human resources are having a qualified PE teacher and in-service education of teachers. Curricular resources come with the curricular goals set for teaching and extracurricular PE. (Bevans, Fitzpatrick, Sanchez, Riley & Forrest 2010.) All of these aspects play a significant role in my research and are represented in this chapter.

4.1 Human resources

4.1.1 Qualified physical education teachers

According to the Finnish law (system), a physical education teacher is categorized as a subject teacher. A professional physical education teacher entry requires Masters' degree, at least 60 credits of subject teacher studies for the subject (basic and subject studies) and at least 60 credits of teacher's pedagogical studies. (Asetus opetustoimen henkilöstön kelpoisuusvaatimuksista 5 §, 1998.) In Finland, as in several other countries, the responsibility of PE is to educate children and young people to adopt a physically active lifestyle and to educate them social skills. Learning of motor skills is a cornerstone to enhance physically active lifestyle of students. The responsibility of Finnish PE teachers is relatively extensive since planning and implementing PE lessons are the main duties of a PE teacher in Finland and all these tasks have to be concerned. (Johansson & Heikinaro-Johansson 2011; Nieminen & Salminen 2010; Heikinaro-Johansson et al. 2009.)

Human resources mean having a qualified PE teacher in school and how many students are in the same class per teacher (Bevans et al 2010; Hardman 2008). Every school does not have a qualified PE teacher and adequate promotional infrastructure, finance and school imposed barriers can inhibit participation in in-service education and continuing

professional development for PE teachers or teachers who have responsibility of PE. (Hardman 2008.)

In spring 2003, the National Board of Education evaluated learning performance in physical education among students in their final year of comprehensive school. The evaluation included a knowledge test and a questionnaire, in which 2787 boys and 2659 girls took part. Data were collected from 100 Finnish-speaking and 11 Swedish-speaking comprehensive schools. Background information was also collected from 245 physical education teachers and 111 principals. According to this study only 65 % of PE teachers (245) were qualified, 16 % taught PE with some other subject qualification and 20 % of the PE teachers had a job as a sport instructor or in the class teacher education so they had either physical content knowledge or general pedagogical knowledge. (Huisman 2004, 118.)

Finnish National Board of Education published an inquiry in 2008 in which qualified teachers in each subject were represented across Finland. The inquiry revealed that PE teachers' qualification situation in basic education was lower compared with other subject teachers. The part of qualified PE teachers was 79%, other subject teaching qualifications 5% and the percentage of teachers without qualification was 16% (n=1229). (Kumpulainen 2009, 42.)

4.1.2 PE teacher in-service education

In Finland there is a career-long learning principle which means that teachers are able to educate themselves with in-service education. Finnish teacher profession also includes active attitude for the development of own teacher abilities. (Heikinaro-Johansson 2003; Välijärvi, Kupari, Linnakylä, Reinikainen, Sulkunen, Törnroos & Arffman 2007, 61.) The in-service education will play a significant role in maintaining continued proficiency. In-service education is organized by universities which have a special institute for organizing courses that will fit into the educational need of professionals. The planning

costs may be partly supported by the government, but most of the costs are paid by the customers. (Jakku-Sihvonen & Niemi 2007, 13.) University of Jyväskylä Institute for Educational Research published a report in spring 2006 about teachers and principals' in-service education. Based on the report, in-service education for the resources - time and money -decreased substantially from 1998 to 2005. (Karikoski 2009, 30.)

Vokke-project (National-Level Coordination Project of Degree Programme Development in Teacher Training and the Sciences of Education, 2005) organized by the university of Helsinki, reported in 2005 that 11 million euro is occupied for teacher in-service education from the state budget every year. At present, the main providers of teacher in-service education are employers (for example municipalities), universities, in-service education centers, the Finnish National Board of Education, different organizations and private companies.

Armour (2006) has studied the PE teachers' career-long learning. When a teacher embraces almost 100 000 students in his or her career it is notable that in-service education is efficient. Meaning of temporary and short-term in-service education is significant for PE teachers' professional development, but they do not rehearse for sudden changes in profession or deep professional development of teaching. (Armour 2006.)

According to the physical education evaluation study, female PE teachers took part in in-service education more than men. Female PE teachers had taken part to in-service education nine days on average in last the two calendar years and men had taken part six days. (Huisman 2004, 124.) According to the article written by Heikinaro-Johansson et al. (2009), one of the five actions for improving the situation of school PE is to invest more resources to universities for PE teachers' in-service education.

The physical education evaluation study also showed that PE teachers wanted more possibilities to participate in in-service education. They thought that in-service education enables achieving the aims of PE easier. (Huisman 2004, 124.) According to the director

of Open University of University of Jyväskylä Satu Helin, the principals are not actually aware to recommend the possibilities the Open University offers for in-service education for their teaching and instructor staff (Kulonen 2011).

In 2011 The Trade Union of Education in Finland made a sample based survey concerning general upper secondary and vocational education teachers around Finland. All participants were members of Trade Union of Education in Finland and 235 teachers answered in this survey from which 57 % were general upper secondary school teachers and 43 % were vocational education teachers. According to this survey, teachers were not able to participate in in-service education. Teachers wanted in-service education mostly concerning their teaching subjects. (Rutonen 2012.)

4.2 Curricular resources

Schools implement their teaching and learning goals based on national curriculums. The National Board of Education has confirmed a curriculum for comprehensive and upper secondary education. The national framework curriculum forms the basis for drawing up local curricula, which is usually developed by municipalities. (Finnish National Board of Education 2004a,10; Finnish National Board of Education 2004b, 8.) The physical education evaluation study revealed that most of the schools (87 %) had a PE curriculum. Some of the schools (13 %) used the PE curriculum established in the municipality they worked in. (Huisman 2004, 111.)

Kurikkala (2009) studied the principals' attitudes of physical education in schools in his Master's Thesis. He collected the data from a survey for principals including electric questionnaire with 27 quantitative claims, three open questions and background information part. There were 30 principals who answered to the survey and they all were working around Jyväskylä. Based on the results, principals wanted a great deal more economic support for the physical education since schools are not able to follow the implementation of the curriculum (Kurikkala 2009). Economical issues are also seen in

Suomi's research 2004 when over a third of sports services officials of municipalities assess that the financial resources available for physical activity diminish in the future (Suomi et al 2004).

Curricular resources include extracurricular activities. According to the PE evaluation survey, 2/3 of the boys and 1/3 of the girls took part in schools' extracurricular activities. All of the activities included sports which concerns them as extracurricular PE, following Green (2008, 62). There were only two schools which served no activities at all. Most of the schools offered one or two weekly lessons per year. One school from the Western Finland reported that they serve 6 weekly lessons per year of extracurricular PE for the students. The amount of 63 schools offered extracurricular PE for the children in their extracurricular activities. Most of the principals (92 %) thought that extracurricular sports were necessary for the school. (Huisman 2004, 103, 130.)

Finnish National Board of Education (2009b) reported that government gave subsides for enhancing extracurricular activities. In 2008 government gave 5,7 million euro and in 2009 7,0 million euro for extracurricular activities. According to this report, the part of extracurricular PE was 85 % of almost 12 000 extracurricular activities in Finland. (Finnish National Board of Education 2009b.) Figure 2 shows how governmental subsides for extracurricular activities have distributed by Finnish provinces. The most substantial amount of subsides was received by the province of Western Finland. Lapland, on the other hand, received the smallest amount.

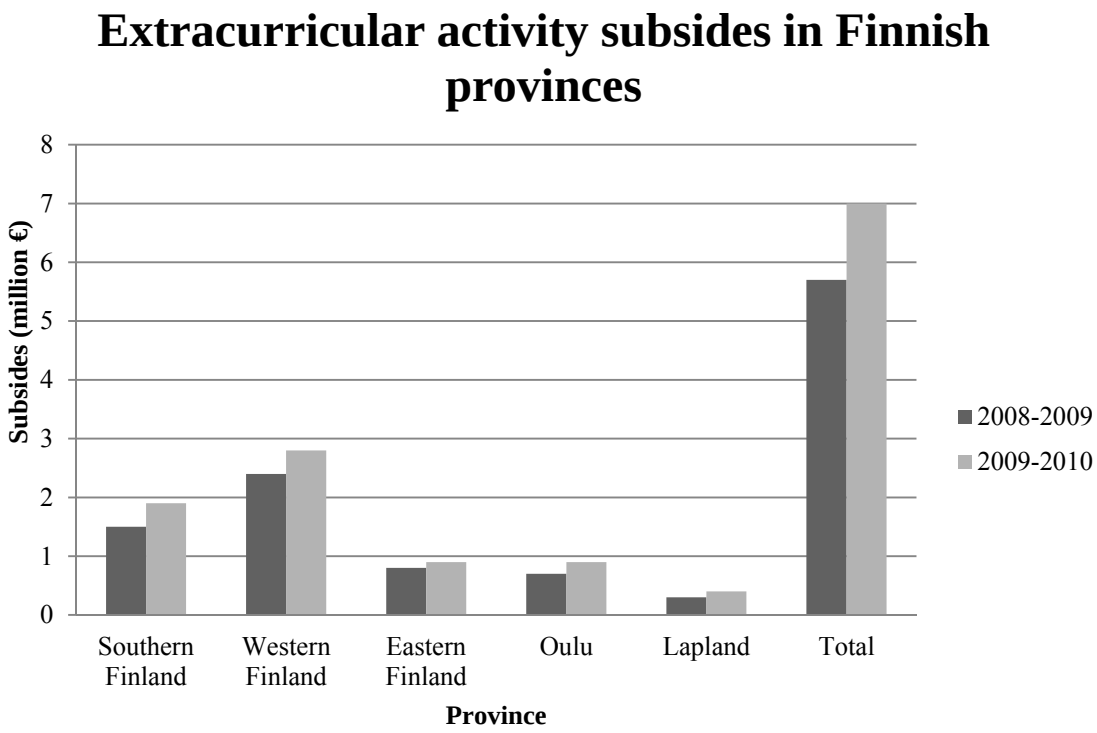

FIGURE 2. Governmental subsides for extracurricular activities in Finnish provinces. (Finnish National Board of Education 2009b)

The government has decided the regulation of basic national objectives and the hour division in basic time allocation (2001/1435). The amount of PE classes is reported with weekly lessons per year (one weekly lesson per year is 38 hours). According to it, in the grades from one to four there are eight weekly lessons per year of PE and in the grades from five to nine there are at least ten weekly lessons per year of PE. In the high school there are two compulsory courses of PE. In addition to the compulsory courses, the school must organize at least three other courses for students to choose from (2002/955). The Compulsory courses must be divided in two academic years (2007/183). (Finnish National Board of Education, 2007.) These findings mean that in grades one to nine there is only 90 minutes of PE in a week (Heikinaro-Johansson et al. 2009).

Curriculum time allocation is an important issue in the provision of quality PE. European Physical Education Association (EUPEA) recommends daily PE in the early years of schooling (elementary grades, up to 11 or 12 years of age) and 3 hours (180 minutes) per week in post-elementary (secondary/high schools) grades. In the United States, the National Association for Sport and Physical Education (NASPE) recommends a minimum of 150 minutes per week for PE in elementary schools and 225 minutes per week for middle and high school students. (Hardman 2008.) According to children and young people's activity experts in Finland, all 7- to 18-year-olds should be physically active for at least one to two hours daily in a variety of ways suitable for each age group. Continued periods of sitting for more than two hours at a time should be avoided. Screen time with entertainment media should be limited to two hours per day. The recommendation is that the daily amount of physical activity should include a number of periods with at least 10 minutes of exhausting exercise. At least half the day's physical activity should consist of more lively, and partly also effective and strenuous, activities. Muscle strength, mobility and bone health-enhancing physical activity is recommended for at least three times a week. (Children and young people's physical activity experts 2008, 6.)

The physical education evaluation study reported that in most of the schools (90 %) there were two hours of PE, especially in 7th and 9th grades. There was a slight amount of variation found in 8th grade PE implementation because 10 % of the schools reported they had three hours of PE. The situation of optional PE courses was good because 90 % of the schools informed from at least two up to four courses of optional PE. From the study it also became apparent that 11 % of the schools had the emphasis on physical education curriculum. (Huisman, 2004, 129.)

4.3 Facility and equipment

The National Core Curriculum 2004 makes aims for PE in Finnish school and gives advice for evaluation. To execute these aims PE requires appropriate facilities for indoor

sports which include gymnastics, ball games and music sports. Appropriate facilities are also needed in outdoor sports which include playing fields for different ball games, track and field, rink, skiing trails, orienteering terrains and swimming hall. Moreover, all of these sports require places to change clothes and shower facilities after lessons. Appropriate equipment is also needed for the training of these sports (Finnish National Board of Education 2004a, 173, 201, 248-250; Finnish National Board of Education 2004b, 205-209.)

The physical education evaluation study indicated that resourcing for facilities and equipment would lead to better results in PE. Teachers and principals wanted more up-to-date equipment and possibilities to use the school gym any time necessary. The aims of PE are easier to be achieved when there is enough equipment and facilities are appropriate in PE classes. It also will enhance students' opportunities for adequate physical activity. (Huisman 2004, 124.)

The physical education evaluation study reported that most school properties had gyms between 301-500 m^2. After that, the most common gym size was over 500m^2. Those gyms are categorized as largest when it comes to schools in Finland. Furthermore, almost similar amount of schools had small gyms (under 200m^2). The principals have also reported that the most schools had two different gyms, but only few had over three gyms or no gym at all. Moreover, they thought that the investments which they made for school facilities for school PE were positive. The largest amounts were always related to repairing old or building new facilities. (Huisman 2003, 128.)

The school principals in Finland estimated that they have a positive impact on material and equipment procurements for the schools (Tukiainen, 1999, 94). According to the physical education evaluation study, principals in Finland reported that in the academic years of 2001-2003, the amount for sports equipment procurements varied between 0 and 70 000 euro. In most of the schools the amount was not more than 1000 euro. (Huisman, 2004, 128.)

According to the physical education evaluation study, a large part of the schools in Finland was not able to teach swimming at all or enough. The most common reasons for that were economic issues. The transportation to the swimming halls took a significant amount from the schools' operating budget. There were schools in the mentioned situation in every province in Finland (approximately 2/9 schools per province) (Huisman 2004, 101.) According to Kurki and Anttilas' study (1999), 21% of the primary schools in Finland were not able to teach swimming at all during the academic year 1997-1998.

Based on Kurikkala's results (2009), most of the principals claimed that physical education is not effective enough due to the lack of appropriate facilities and resources for sports equipment. Finnish principals asked for most of the funding increase or its reorientation from the society. (Kurikkala 2009.)

PE teachers also need a place where to store the PE equipment. They also mentioned the need to maintain and replace equipment after the grant-supported program ends. (Sherman, Tran & Alves 2010.) According to Siren & Muurimäki (2000), equipment stores must be big enough due to increasing variability of sports equipment. Stores must be able to be locked up if necessary. (Pangrazi 2001, 187; Siren & Muurimäki, 2000, 37.)

Dressing rooms are facilities where students can change into the required PE clothes. Moreover, it is required that the dressing rooms have shower facilities in them where pupils can wash up themselves after lessons. National Core Curricula for Basic Education accentuate hygiene and washing up after sweating. Facilities must be designed for both sexes. (Siren & Muurimäki, 2000, 38; Finnish National Board of Education 2004a, 198.)

5 PHYSICAL EDUCATION STATUS

This chapter represents the meaning of PE for students in schools and why PE is so substantial for every pupil in schools. PE has influence also in learning abilities and they are also represented here. My research considers also the appreciation and status questions of PE in Finnish schools and that is why PE situation nowadays and other factors which play significant role in PE appreciation according to previous studies are represented.

5.1 The importance of physical education

According to the National Core Curriculum for Basic Education 2004, the aim of physical education is to affect the physical, social and psychological wealth of the children in a positive way. Moreover, the aim is to understand the meaning of the physical activity for well being. PE is based on pupils' own activity, which will develop students' physical and motor skills and support their balanced growth and development. Physical exercise and sports will also reinforce social skills and team spirit. Students will be guided to assume responsibility, understand the spirit of fair play and observe good manners (Finnish National Board of Education 2004a, 208; Finnish National Board of Education 2004b, 245.)

The Finnish National Board of Education considers PE as an effective preparedness for learning because it stimulates and develops the responsible parts of the brain for cognitive actions. The school PE is not enough alone for achieving the goals for physical activity, but it has a special way to grow up children with physical activity. (Finnish National Board of Education 2009.)

Opportunities for physical activity may relate more to priority setting and decision making by school principals (Barnett, O'Loughlin, Gauvin, Paradis & Haley 2006). There we can reflect to the physical education evaluation study (2003) when they said

principals consider physical education as important as other subjects in school and it should stay as a compulsory object (Huisman 2004, 130).

Ahtiainen (1997) studied comprehensive and high school principals in Häme province. The aim of the study was to investigate the attitudes and thoughts of school PE. The data consisted of 95 (58 comprehensive school principals, 30 general upper secondary school principals and 7 both school form principals) principals who answered in questionnaires. The principals worked all around the Häme province. Based on the results, general upper secondary school principals considered physical education less important than comprehensive school principals. This might be derived from the educational system of Finnish general upper secondary schools. In Finland general upper secondary school highlights more academic subjects in student matriculation examination. Students also need the matriculation examination results for applying to first stage of tertiary education. (Ahtiainen, 1997.)

According to Kurikkala (2009), primary school principals consider physical education less important than the headmasters of other forms of schools. For instance, elementary school principals did not see the need for the educated physical education specialist, whereas other school form principals thought completely the opposite way. The principals are clearly satisfied with the current structure that the class teacher is responsible of physical education in elementary school and after elementary school there is a qualified physical education teacher. (Kurikkala 2009.)

5.2 The appreciation of physical education

In Finland PE is one of the most popular optional subjects in comprehensive schools. Even those who are not enough physically active in their free time prefer PE which might refer to successful experiences of PE in compulsory courses in comprehensive and general upper secondary schools. (Heikinaro-Johansson 2003; Heikinaro-Johansson et al. 2009.) Teacher profession in all is seen as one of the most important professions of

society. Finnish PE teacher education program is at a high level as is the teacher education in its whole concept. (Finnish National Board of Education 2009; Välijärvi et al. 2007, 48.)

Ahtiainen (1997) revealed that the importance and appreciation of physical education goes together with the experience principals have had about physical education. Similarly, principals who have been physically active and participated in competitive sports valued physical education more compared to principals who do not have so much experiences of physical activity. Positive experiences were also affected by their physical education teacher when they were school children. Other teachers' thoughts of PE are also related to their experiences about the subject. Teachers who have had positive experiences about PE valued the subject important for the students much more than the students who have had bad experiences. The reasons for bad experiences may come from unskillful teachers in the past, competiveness on sports and lack of knowledge on physical activity. (Ahtiainen 1997.)

6 AIMS OF THE STUDY AND RESEARCH QUESTIONS

The aims of the present study were to investigate principals' opinions of PE resourcing in schools and if PE teachers and principals' opinions differ from each other on the situation and opportunities of PE in schools. Other aims were to study what sport equipment principals have acquired to their schools, what are their opinions of expensiveness and importance of PE in school and to compare results of PE resourcing to previous PE evaluations study (Huisman 2004) in 2003. This research is part of the Physical Education Follow-up Evaluation 2010- study implemented in spring 2010 (Palomäki & Heikinaro-Johansson 2010).

The specific aims of the study are:

1) To investigate associations between school size and PE resourcing in schools. In this research, resources in school unit consisted of different factors: money allocation for PE, having qualified PE teachers in school, condition of gyms in school property, availability of PE facilities, possibility for PE teachers to take part in in-service education, arrangements of extracurricular sports and optional PE courses in school.

2) To investigate associations between regional location and PE resourcing in schools.

Differences of regional location and different school sizes in PE researching are seldom investigated. I hypothesize that school size affects to money allocation, larger schools invest more money for PE in every way, and there are no significant differences found. More likely I expect that regional location affects to PE resourcing: there are more investments made in sparsely populated provinces such as Oulu and Lapland.

3) To study if principals' and PE teachers' opinions of PE situation correspond to each other. In this research, principals lately acquired PE equipment is compared to PE teachers' opinions of current PE equipment conditions and sufficiency. Principals' and PE teachers' opinions of in-service education possibilities and PE facility situations are also studied.

4) To compare PE resource findings of this study to the previous PE evaluation study (Huisman 2004) results. This study includes comparisons of principals' opinions of PE expensiveness to other subjects, qualified PE teachers and extracurricular sports in schools.

5) To study what sport equipment principals have acquired recently and if more resources should be given for implementing optional PE courses.

7 METHOD

7.1 Background of the study

First PE follow-up evaluation study for comprehensive schools was implemented in 2003. In that time the 1994 National Curriculum was followed. This study is part of the Physical Education Follow-up Evaluation 2010- study in spring 2011 in which basics of the PE follow-up evaluation was used. In all national learning evaluation studies purpose is to collect information about achievements of national curricular aims and equality of learning fulfillment in Finland. Evaluation information is also used for teaching to develop national curricular basics. (Metsämuuronen 2009.) By the Constitution of Finland teaching organizers are obligated to participate in detached evaluation of their activity (Basic education law 21§ 21.1.2003 / 32).

A follow-up evaluation 2010 of physical education learning outcomes, commissioned by the National Board of Education, was conducted by the Department of Sports Sciences at the University of Jyväskylä in spring 2010. Data, questionnaires, were collected from 51 comprehensive schools, four of which are Swedish speaking. Questionnaires were answered by 1619 ninth grade students, PE teachers and principals. The evaluation study sample represented extensively different provinces, municipal groups and European Union support schools. (Palomäki & Heikinaro-Johansson 2011, 5-17.)

7.2 Data collection

The study focused on the primary and secondary school principals and PE teachers. The study data constructed from questionnaires, which were collected from 51 principals and 111 PE teachers. Research schools represented different provinces, municipalities, language groups and schools of different sizes. (Palomaki & Heikinaro-Johansson, 2011, 13)

Questionnaires were sent to schools in February 2010 and the data collection took place in March 2010. Principals were responsible of following study questionnaire directions. At the same time the material of physical activity data collection implementation was sent to PE teachers. Surveys were carried out in the context of students' physical activity at the same time with the follow-up evaluation. (Palomaki & Heikinaro-Johansson 2011, 29.)

7.3 Measures

Principals' questionnaires. Principals' questionnaire included questions about contact information and school province, their own backgrounds as a teacher, students, PE teaching arrangements, teacher information, extracurricular activities and opinions of PE in school. Mostly questions concerned the academic year 2009-2010, but there were questions which also concerned the academic year 2008-2009. This research is based largely on the questionnaire for principals and it concerns 16 questions of it which are represented in appendix 1.

Principals were asked to evaluate PE expensiveness compared to other teaching subjects, if money should be given more for optional PE courses, the necessity of extracurricular sports and PE facility conditions. In these questions principals had four choices to evaluate the expense compared to other subjects (1=I totally agree, 2=I agree, 3=I do not agree 4=I definitely do not agree). In school property indoor facilities and outdoor facilities outside school property question, principals had also four choices (poor, satisfying, good or excellent). In facility questions in PE arrangements, principals revealed the area of their gyms and the number of gyms they have in school property. The area of gym was already categorized in questionnaire: "Under 200 m^2", "201-300 m^2", "301-500 m^2" and "over 500 m^2". After that, questionnaire inquired PE facility conditions.

Money allocation was asked in four different questions. School investments for sport equipment between the years of 2008-2010 were asked by already used money in the

academic year 2008-2009 and estimated money allocation in the academic year 2009-2010. Principals reported last acquired PE equipment when answered to money allocation questions. Possible investments for school PE facilities and renovating were asked in the questionnaire.

For PE teachers' educational background answer, principals were obligated to give the number of qualified PE teachers and what is their qualification. Alternates for answer were six: "Master's degree", "Bachelor's degree", "VO" (these three were qualified PE teacher alternatives), "Bachelor of Sport Studies", "Class teacher" and "some other subject qualification".

Although extracurricular activities were asked in statement question from principals, extracurricular PE was also asked numerically in yearly week lessons (38 lessons): first all extracurricular activities and then the part of extracurricular PE.

PE teachers' questionnaire. PE teachers' questionnaires included school information, background information, questions of learning environment, teaching contents, gratifying and overloading traits of PE and PE status in school. This research contains eight questions of the questionnaire and they are represented in appendix 2.

PE facility, indoor and outdoor, conditions were also asked by multiple choice methods. Questions considered the evaluation of indoor PE facilities, outdoor PE facilities in spring and autumn, cross-country facilities in winter, ice sports facilities and dressing room facilities. There were three evaluation alternatives (excellent, moderate and poor). PE equipment adequacy and condition was also asked by multiple choice methods. Both were evaluated in also with three alternatives (PE equipment condition: excellent, moderate and poor) (PE equipment adequacy: adequate, moderate and inadequate). In the background information section of the questionnaire, PE teachers were asked to estimate the in-service education days they had participated in the last two years. In-service education days are observed later with principals' opinions of PE teacher in-service education possibilities.

7.4 Participants

7.4.1 Principals

The questionnaire for principals included questions of PE circumstances and organization in school. From the principal sample, 28 were men and 23 were women. Four principals represented Swedish schools. Principals had been incumbent from 0 to 23, on average of 8 years. Most principals were qualified as history and social studies teachers (n=13) (table 1). The second highest group of principals was qualified to teach mathematical subjects. The third highest group of principals was qualified to teach artistic and skill subjects. Two principals were qualified to teach PE. According to the Quantitative Indicators of Education 2010, the gender distribution of principals' is 43 % women and 57 % men. This shows that the study material represents this distribution relatively well. (table 1)

Table 1 also shows the work experience of principals in their profession as a school leader. Most of the principals had worked in their profession for ten years or less (n=37). Male principals had more experience than women principals. The answers showed that 11 male teachers had been principals at least ten years while the number of woman principals was three.

TABLE 1. Qualified teacher status and work experience of principals' by gender (n=51).

	Principals		
	Women (n)	**Men (n)**	**Total (n)**
QUALIFIED TEACHING SUBJECT			
History and social studies	1	12	13
Mathematical subjects	4	4	8
Classroom teachers	4	4	8
Artistic and skill subjects	4	3	7
Language subjects	5	1	6
Biology and geography	3	1	4
Special education	1	2	3
Other	1	1	2
Total	**23**	**28**	**51**
WORK EXPERIENCE			
less than 5 years	10	9	19
5-10 years	10	8	18
11-15 years	2	7	9
over 15 years	1	4	5
Total	**23**	**28**	**51**

7.4.2 Physical Education teachers

At least one PE teacher from each sample school answered the questionnaire. In most of the schools (n=37), however, the questionnaire was answered by two PE teachers. Fifty-four teachers were women and 57 were men. Five women and five male teachers were from Swedish speaking schools. (table 2)

The PE teachers who participated in the study taught PE from 3 to 36 lessons in a week. (sd=7.7, m=19.67). Male PE teachers' average was 20 lessons and female PE teachers'

average 19 lessons. Age of PE teachers varied from 26 to 62 years. Most of the teachers, 78, were 31-50-year old, 22 PE teachers were older than 50 years and 11 were 30 years or younger.

Most of the teachers, 81, had worked at least 7 years as a PE teacher. This study involved more male teachers, 13, than women, 7, who had worked less than 4 years. On the other hand, PE teachers who had worked over 18 years were mostly women, 27, when the amount of male PE teachers was 11. Class teachers were mostly women, 10. (table 2) PE teachers' information of age, exact in-service education days, in which province and what sized school they work at are represented in appendix 6.

TABLE 2. PE teachers by gender, educational level and work experience (n=111).

	Women		Men		Total	
	n	%	n	%	n	%
Professional qualification						
Master of PE (Master's degree)	30	56	35	61	65	59
Candidate of PE (Bachelor's degree)	6	11	4	7	10	9
VO (Master's degree)	2	4	1	2	3	3
Class room teacher, specification to PE	8	15	4	7	12	11
Bachelor of Sport studies	3	6	3	5	6	5
Class room teacher, no specification in PE	2	4	2	4	4	4
Other qualification	3	6	8	14	11	10
Total	**54**	**100**	**57**	**100**	**111**	**100**
Work experience						
less than 4 years	7	13	13	23	20	19
4 – 6 years	4	7	5	9	9	8
7 – 18 years	16	30	25	45	41	37
19 – 30 years	20	37	9	16	29	26
over 30 years	7	13	4	7	11	10
Total	**54**	**100**	**56**	**100**	**110**	**100**

7.4.3 School units

Most of the sample schools (n=32) involved only secondary school. The number of basic education schools (primary and secondary school combined and grades one to nine) was 15 of the sample and secondary and general upper secondary school combinations were three of the sample schools. There was one comprehensive school in the sample which included all stages, comprehensive and upper secondary, of education (table 3).

Regional comparisons were made by using provincial division, although provinces as administrative units have not existed since 1.1.2010. Provinces were Southern Finland, Western Finland, Eastern Finland, Oulu, Lapland and Aalands Islands. The last province is not considered in this study due to the contract of its provincial government and the board of education. Most of the schools were located in Southern, 20, and Western Finland, 18. In Lapland there were only two schools in this study and the other school was including every school level. Due to small amount of schools in Lapland, Oulu and Lapland provinces are combined as Northern Finland province. (table 3)

TABLE 3. School units in different provinces (n=51).

School unit	Province of school				
	Southern Finland	Western Finland	Eastern Finland	Northern Finland	Total
Basic education schools	7	2	3	3	15
Secondary	10	16	3	3	32
Secondary and general upper secondary	3	-	-	-	3
Comprehensive	-	-	-	1	1
Total	20	18	6	7	51

Principals answered the question which showed the number of pupils in basic education schools. The number of pupils is one definition to measure the meaning of school size for different factors of one school unit (The National Board of Education in Finland 2010, 25). In this study, school size is attached to the number of students in one school unit. The division here is medium-sized school (less than 300 pupils) and large-sized school (300 or more students). The split is made by the National Board of Education (2011a, 45) and due to the small amount of small-sized schools, medium-sized school split involves three of the smallest parts (20-49, 50-99 and 100-199 pupils). (table 4).

School sizes were distributed by provinces (table 4). Large-sized schools located mostly in Southern Finland, 14. Western Finland included ten medium-sized schools. Large-sized schools represented the majority in this study (n=30).

TABLE 4. School sizes distributed by provinces (n=51).

School size	Province of school				Total
	Southern Finland	Western Finland	Eastern Finland	Northern Finland	
Medium-sized (under 300)	6	10	2	3	21
Large sized (at least 300)	14	8	4	4	30
Total	20	18	6	7	51

7.5 Data analysis

IBM SPSS Statistics 19 software was used for the statistical analysis. Questions of student amount, money allocation, purchased sport equipment, in-service education days and extracurricular sports were open-ended questions which were categorized (appendix 3). Categorizing is the simplest way to systematize qualitative data. It is actually considered to be quantitative analyzing with content themes (Tuomi & Sarajärvi 2009, 53). Every other categorized question included reported number of sum except purchased sport equipment, it reported items. Student amount categorizing was already represented in chapter 7.4.3. Every other category was made by familiarizing with the data and after that the familiarized data was dealt into groups according to data contents.

This categorizing analysis was based on different publications of the National Board of Education and the University of Jyväskylä, Department of Sport Sciences (Huisman 2004; Kumpulainen 2011; Palomäki & Heikinaro-Johansson 2011). School-size categories were discussed and refined with project leaders in meetings and by e-mail. Categories were made by the data, but earlier information controlled analyzing (Tuomi & Sarajärvi 2009,

96). For data analysis, there became two categories for school-size, four for money allocation, five for purchased sport equipment, three for in-service education days and four for extracurricular sports in yearly week lessons (appendix 3).

Frequency tables, crosstabs and Chi-square (χ^2) - test were used in analyzing categorized and multiple choice questions data. By frequency tables, empiric data is arranged with understandable order. Crosstabs is the simplest way to observe if there is a relation between two categorized variables. Test of χ^2 is non-parametric test which measures the independence between two crosstab variables. (Karhunen ym. 2010, 65; Metsämuuronen 2005, 319-335.) In this research, every data were observed by either frequency table or χ^2-test because every result approached relation to school size or province. However, PE teachers' in-service education days by gender and extracurricular sports and optional PE courses in different school sizes were observed by t-test. T-test is a method of testing differences between two means (Metsämuuronen 2005, 365). Purchased sport equipment question was the only categorized question in which principals could answer different categories. In other categorized questions there became one answer to exact category.

7.6 Reliability and validity of the measures

Reliability. Minimizing measurement errors and reproducibility of the research are cornerstones of measurement reliability (Metsämuuronen 2005, 65). In this research, reliability was taken into account by using both, principal and PE teacher, questionnaire basis of the National Board of Education research in 2003. Due to that functionality of the questionnaire had already been tested with an average group of respondents, and that is why the need for change and the problems were known. Principal survey was conducted in the same content as the assessment in 2003, and only minor revisions to prior assessment were made based on the feedback of the previous survey. PE teacher survey also followed the same basis in 2003, but questions were changed to respond the Basic Education Curriculum 2004. There were also open questions of teaching methods and contents added to this PE questionnaire.

The validity of research refers to the ability of the method to find out what the research intends to find out. To examine the validity of this research, revisions policy of Metsämuuronen (2005, 109) was used. In this research statistical significance was hard to reveal due to sample sizes. Statistical significance is not the same as the significance of the result and each reader judges themselves what is the practical importance of the result. (Metsämuuronen 2009, 16; Metsämuuronen 2005, 420-421).

It was attempted to increase the ability to able to generalize the results of the study by choosing a representative sample group all around Finland. 100 Finnish and 11 Swedish-language schools participated in the Evaluation study 2003 assessment. In that study, 111 principals and 245 PE teachers answered to questionnaires. 47 Finnish-speaking and 4 Swedish-speaking schools participated in the present study and 51 principals and 111 PE teachers answered to questionnaires. The reason for a smaller number of schools was the fact that all the artistic and skill subjects were evaluated at the same time. Moreover, there were plenty of other evaluation researches implemented in the same year. (Huisman 2004, 8; Palomäki & Heikinaro-Johansson 2010, 36.) Nevertheless, the results of the present study can be generalized quite well in terms of Finnish schools.

8 RESULTS

8.1 Resources of PE in money allocation

Principals declared that, on average, schools used just over 1000 euro per academic year for exercise devices and equipment acquisition for PE. The amount of money for equipment purchases varied, however, a great deal from school to school, from 100 euro up to 12 000 euro. More specific information of principals answers is in Appendix 4 which represents every school in this study, how much they have allocated money for PE in academic year 2008-2009, what is estimated amount to allocate in academic year 2009-2010 and what is the total amount of money for PE in these two academic years.

Principals were asked in the questionnaire to evaluate money allocation to PE compared to other subjects in school. Most principals (92 %) thought PE is not expensive compared to other school subjects, but there were four principals (8 %) who thought that PE is more expensive than other subjects. (table 5) Compared to the previous PE evaluation study Huisman 2004, 130) results did not differ significantly from that.

TABLE 5. Principals opinion of PE expensiveness compared to other teaching subjects (n=51).

PE education is expensive compared to other teaching subjects	Principals					
	Female		Male		Total	
	n	%	n	%	n	%
I agree	3	13	1	4	4	8
I don't agree	16	70	17	61	33	65
I definitely do not agree	4	17	10	35	14	27
Total	23	100	28	100	51	100

χ^2 =3.14, df=2, p=.208

8.1.1 The relation between school size and PE money allocation

Discovered by the Chi-square- test, main result of associations between money allocation for PE in academic years between 2008-2010 and school size was that large-sized schools invest more money for PE than medium-sized schools ($p = .004$). Large-sized schools (66 %) invest at least 2000 euro. Most medium-sized schools (81 %) invest less than 2000 euro for PE. More than a half (53 %) of all schools invested less than 2000 euro in last two academic years for PE. (table 6)

TABLE 6. All investments for PE in different school sizes in academic years between 2008-2010 (n=51).

Investments for PE	School size					
in academic years	Medium-sized		Large-sized		Total	
between 2008-2010	n	%	n	%	n	%
Under 1000€	6	29	2	7	8	16
1000 – 1999€	11	52	8	27	19	37
2000 – 2999€	3	14	7	23	10	20
At least 3000€	1	5	13	43	14	27
Total	21	100	30	100	51	100

$\chi^2 = 13.18$, df=3

It is also calculated in appendix 5 how many euro per student schools have invested for PE. Appendix 4 shows that 39 schools invested less than 10 euro and 20 schools less than 5 euro per student in two years. These are small amounts. A school of 646 students invested the largest amount, 614,6 euro per student. This school had renovated school gyms completely and acquired new sport equipment. Lowest investments (1,2 euro) were made by a school which had 674 students. This can be considered surprising because two schools which have almost same amount of students invest money for PE in a significantly different way.

8.1.2 PE money allocation distributed by provinces

Regional relations to PE money allocation were observed by all investments made between the academic years of 2008-2010. Schools in Northern Finland (72 %) invested mostly less than 2000 euro. Every province had at least one school to invest at least 3000 euro. Half of the schools from Southern Finland and 61 % from Western Finland schools allocated less than 2000 euro for PE (table 7). Appendix 4 also represents the provinces of schools along with investments. In Eastern Finland, all schools invested over 5 euro per student, three schools invested more than 10 euro and the highest amount was 83,3 euro.

TABLE 7. All investments in academic years between 2008-2010 divided by provinces (n=51).

Investments for PE in academic years between 2008-2010	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
Under 1000€	3	15	4	22	-	0	1	14	8	16
1000 – 1999€	7	35	7	39	1	17	4	58	19	37
2000 – 2999€	5	25	3	17	1	17	1	14	10	20
At least 3000€	5	25	4	22	4	66	1	14	14	27
Total	20	100	18	100	6	100	7	100	51	100

χ^2 =7.44, df=9, p=.581

8.1.3 Recently purchased sport equipment for PE

Principals were asked to report the sport equipment they had acquired lately for schools. Some principals had got a great deal of equipment for several sport forms, one school had renewed everything fundamentally and spent 385 000 euro for this case. The main result

was that principals had purchased ball game equipment for the most part (62 %). Ball game equipment includes all indoor and outdoor ball game equipment. (table 8)

TABLE 8. PE Equipment principals had acquired for schools (n=47).

Sport form of the equipment	Principals	
	n	%
Ball games	29	62
Ice sports	7	15
Skiing	5	10
Fitness gym	4	9
Track and field	2	4
Total	47	100

Observing PE teachers opinions of PE equipment adequacy and condition compared to what principals had acquired lately in their schools, results were interesting. In one school principal had acquired gymnastic mats and racket game equipment. However, all PE teachers from this school estimated all indoor equipment condition poor with moderate adequacy. In this school all other sport equipment (outdoor, cross-country and ice) was in poor condition and inadequate. On the contrary, one principal had acquired exercise cycle, rowing ergometer and stopwatches lately for his school. PE teachers from this school estimated PE equipment adequacy of every sport as adequate and condition at least moderate. Every sport equipment condition was moderate except winter sport (ice and cross-country) equipment was excellent.

8.2 Qualified PE teachers in school

In the present study, qualified physical education teachers are categorized according to Salovaara's (2012) Master's thesis in which she studied PE teachers' qualifications. Most of the PE teachers (70%) were qualified for the profession (Master's or Bachelor's degree in PE). Compared to the previous PE evaluation study (Huisman 2004, 118) the situation

of qualified PE teachers in schools was slightly better because in 2003 there were 65 % of qualified PE teachers.

Bachelor's degree in PE gives also qualification to teach PE since the PE teachers with a Bachelor's degree have completed subject studies in PE. VO is an older Master's degree program in PE thus it also gives qualification to teach PE. These three education levels give qualification to be a PE teacher. Sixteen teachers were qualified classroom teachers from which four had specification in PE which gives qualification to teach PE in comprehensive school form. Six teachers had a Bachelor's degree of Sport Sciences and 11 of the answered PE teachers had some other form of qualification. In this study these two education levels give formal qualification in PE. Other qualifications among the 11 PE teachers were masters of philosophy, qualified nurses and persons not yet graduated from universities. The educational levels were represented earlier in table 2.

In this study PE teacher's qualification is classified in three ways: qualified PE teacher, formally qualified PE teacher and non-qualified PE teacher. Qualified PE teachers have completed Master's and Bachelor's degrees, formally qualified PE teachers are class room teachers with specification in PE or teachers with Bachelor's degree in sport studies, non-qualified teachers are class room teachers with no specification in PE or teachers with other qualifications. Table 9 reveals that in large-sized schools it is more likely to find a qualified PE teacher than in medium-sized schools ($p=.018$). Medium-sized schools had the largest amount of non-qualified PE teachers (24 %). It seems that schools which have less than 300 pupils are not in equal position when looking at the qualified teacher situation of PE. (table 9)

TABLE 9. PE teacher qualification divided by school size (n=111)

PE teacher qualification	School size					
	Medium-sized school		Large-sized school		Total	
	n	%	n	%	n	%
Qualified PE teacher	23	56	55	79	78	70
Formally qualified PE teacher	8	20	10	14	18	16
Non-qualified PE teacher	10	24	5	7	11	14
Total	41	100	70	100	111	100

χ^2 =7.99, df=2

Table 10 shows us that schools from Southern and Western Finland have more qualified PE teachers than Eastern and Northern Finland (p=0.032). In Western Finland there are also few non-qualified PE teachers (7 %). Remarkable finding was also that Eastern Finland had equal amount of qualified and non-qualified PE teachers (31 %).

TABLE 10. Teacher qualification for PE divided by provinces (n=111).

PE teacher qualification	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
Qualified PE teacher	32	74	33	79	4	31	9	69	78	70
Formally qualified PE teacher	4	9	6	14	5	38	3	23	18	16
Non-qualified PE teacher	7	17	3	7	4	31	1	8	15	14
Total	43	100	42	100	13	100	13	100	111	100

χ^2 =13.81, df=6

8.3 School property gyms in different school sizes

Mostly schools had 301-500m^2 gyms in their school property (n=19). Ten of them were in large-sized schools. Five large-sized and three medium-sized school principals reported of gyms under 200m^2 and one school did not have a gym at all. There existed 12 gyms in 51 schools which had a larger gym than 500 m^2. One principal (from a large-sized school) reported that they had two gyms with area more than 500m^2. (figure 3)

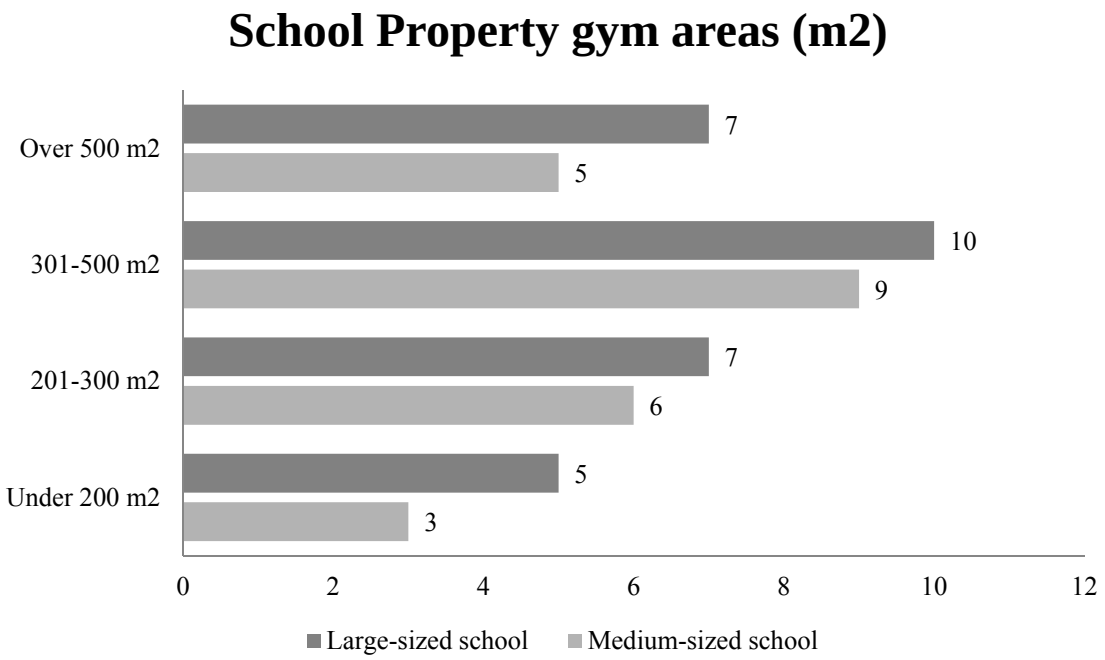

FIGURE 3. Amount and area of school property gyms divided by school size (n=51).

8.4 Situation of PE facilities according principals and PE teachers

Principals' questionnaire requested information of their school PE facilities. They had to estimate how their school property gyms and all the PE facilities they used respond to PE needs. Ten of the principals (19 %) estimated the gyms being in satisfying or poor condition. Most of the principals (75 %) thought that all PE facilities which school used for PE responded school demands at least good. (table 11)

TABLE 11. Principals' evaluations of school property gyms and all school PE facility conditions (n=51).

Evaluation of PE facilities	PE facilities			
	School property gyms		All sport facilities	
	n	%	n	%
Excellent	10	20	14	28
Good	31	61	24	47
Satisfying	9	17	13	25
Poor	1	2	-	0
Total	51	100	51	100

PE teachers' questionnaire included inclusive information of PE school property gyms and PE facilities outside school properties. Indoor PE facilities and dressing room facilities are combined in this study as indoor PE facilities, outdoor PE facilities contain outdoor facilities in spring and autumn, cross-country facilities in winter and ice sports facilities. According to PE teachers 11 % thought indoor PE facilities were poor and nearly same share (10 %) estimated outdoor PE facilities poor. (table 12)

TABLE 12. PE teachers' evaluations of school property gyms and outside school PE facility conditions (n=111).

Evaluation of PE facilities	Indoor PE		Outdoor PE	
	n	%	n	%
Excellent	30	27	31	28
Moderate	69	62	69	62
Poor	12	11	11	10
Total	111	100	111	100

Comparing principals' opinions to PE teachers', principals thought slightly more optimistic of PE teaching facilities than PE teachers. This is because 21 % of PE teachers thought indoor or outdoor facilities were poor and there were only one principal to reveal school property gyms were poor and all facilities at least satisfying. Conditions of both, outdoor and indoor facilities, estimated five (5 %) PE teachers (appendix 7, table 3).

8.5 Principals opinions of PE teacher in-service education

Principals' questionnaire included questions of PE in-service education in which principals were asked to estimate the possibilities of the PE teachers to take part in in-service education. Principals thought mostly that PE teacher in-service education possibilities were at least mediocre (90 %) (table 13). Principals, who thought in-service education possibilities were poor, were all from Southern or Western Finland and mostly from large-sized schools. More specific information about regional and school size distribution of principals' opinions is found from appendix 8.

TABLE 13. Principals' opinions of PE teacher in-service education (n=51).

In-service education possibilities	Principals	
	Total	
	n	%
Weak	5	10
Mediocre	31	61
Good	15	29
Total	51	100

Principals' opinions revealed a good deal of different issues in offering PE teachers in-service education. Opinions varied a great deal between municipalities, schools and financial situations. Reasons included (1) challenge of financial situations, (2) diverge of

situations between municipalities, (3) arrangement of in-service education and (4) limited time outside of weekly duties.

"At this moment, this municipality does not give financial support for teachers' in-service education at all."

"PE teacher substitutes cost extra money a lot and there is a limited money allocation for that. This is the reason for limiting PE teacher in-service education."

"Teachers are able to take part in in-service education whenever they want it."

"For PE teachers, possibilities are not equal compared to other subject teachers' in-service education possibilities."

"Helsinki offers plenty of good in-service education for PE teachers."

"In-service education is not offered in our municipality. Travelling to in-service education costs and we do not have enough money for PE teacher in-service education."

"Weekly schedules and duties do not give time for in-service education."

8.6 PE teacher in-service education participation

PE teachers had participated in in-service education 0-20 days (m=4, sd=4,022) during the last two academic years. Female PE teachers were involved in training slightly more than male (table 14). In-service education days seemed to decrease by almost half of both female and male teachers in the last seven years (Huisman 2004, 119). Exact information of every PE teacher is represented in appendix 6.

TABLE 14. Differences between gender in in-service education days (n=107).

		In service education days		t-measure	statistical significance
	n	m	sd	t	p
Female	52	4.88	4.236	-2.081	.040
Male	55	3.22	3.680		

PE teacher in-service education days were studied by provinces. Significant part of teachers from Southern Finland (41 %) did not participate in in-service education at all. At the same time teachers from Western Finland (88 %) participated in in-service education at least for one day. Only 59 % of Southern Finnish teachers participated at least one day (table 15). No matter what the school unit's size was, most of the PE teachers (51 %) had at least one day of in-service education. PE teachers' in-service education days distributed between school sizes is represented in appendix 9.

TABLE 15. PE teachers in-service education in different provinces (n=107).

In-service education days	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
0	17	41	5	12	2	17	1	8	25	23
1-5 days	11	27	26	64	8	66	9	69	54	51
Over 5 days	13	32	10	24	2	17	3	23	28	26
Total	41	100	41	100	12	100	13	100	107	100

χ^2 =17.96, df=6, p=.006

The most interesting result of teachers' in-service education possibilities is that only 10 % of principals thought possibilities were poor while in the same time 23 % of PE teachers did not participate in in-service education at all in last two years. In any case one day of

in-service education in two years is not enough. Thus five days in-service education should be mediocre estimation in in-service education possibilities.

8.7 Extracurricular sports by principals

Observing the opinions of extracurricular PE in schools, majority of principals (94 %) thought that extracurricular PE is necessary in schools. Principals had also opportunity to answer that extracurricular PE in school is definitely not necessary but no such answers were found in this study (table 16). Results were somewhat same compared to the previous PE evaluation study (Huisman 2004, 130) in 2003.

TABLE 16. Principals' opinions of necessity of extracurricular PE in schools.

Extracurricular PE in school is necessary	Principals	
	n	%
I totally agree	12	24
I agree	35	70
I don't agree	3	6
Total	50	100

8.8 Extracurricular PE in schools

Extracurricular PE is represented in this study as yearly week lessons. Medium-sized schools arranged 2.70 yearly week lessons and large-sized schools 2.10 yearly week lessons. (table 18)

TABLE 18. Differences between school sizes in extracurricular PE (n=107).

	Extracurricular PE (yearly week lessons)			t-measure	statistical significance
	n	m	sd	t	p
Medium-sized schools	21	2.10	1.758	-.912	.366
Large-sized schools	30	2.70	2.654		

More than half of the schools (53 %) offered at least one yearly week lesson. There were more large-sized schools (60 %) which arranged at least one yearly week lesson of extracurricular PE in relation for the amount of schools than compared to medium-sized schools (43 %) (table 19). Western Finland had the most schools which arranged at least one yearly week lesson for extracurricular PE (61 %) while Southern Finland had 10 schools (50 %) who did not arrange extracurricular PE at all. Regional distribution of extracurricular PE is represented in appendix 10.

TABLE 19. Extracurricular PE in different school sizes.

Extracurricular PE (yearly week lessons)	School size					
	Medium-sized school		Large-sized school		Total	
	n	%	n	%	n	%
0	9	42	9	30	18	35
less than 1	3	15	3	10	6	12
1	7	33	14	47	21	41
2	2	10	4	13	6	12
Total	21	100	30	100	51	100

χ^2 =1.46, df=3, p=.692

The main result is that the situation of extracurricular PE is poor nowadays. Even 35 % of the schools did not arrange extracurricular PE at all and that is very notable finding. Most

of the schools were in Southern Finland (50 %) and the schools were large-sized (30 %). Nevertheless, Finnish government had given 12,7 million euro for implementing extracurricular activities in Finland (Finnish National Board of Education 2009b). According to this report, PE shares the biggest part in extracurricular activities. Very interesting point is to find out where the money given by Finnish government had been used. Also previous evaluation study revealed that only two schools did not arrange extracurricular activities at all (Huisman 2004, 103).

8.9 Optional PE courses in schools

More than half of the principals (58 %) wanted more resources for optional PE courses. 21 principals (42 %) would not want more money for optional PE courses (table 20). Comparing principals opinions in this study to the previous PE evaluation study (Huisman 2004, 130) opinions were, again, similar.

TABLE 20. Principals opinions if optional PE courses should receive more resources (n=50).

More resources should be given for organizing optional PE courses compared to current situation	Principals	
	n	%
I totally agree	4	8
I agree	25	50
I don't agree	18	36
I definitely not agree	3	6
Total	50	100

Large-sized schools arranged more optional PE courses than medium-sized (table 8, appendix 11). All large-sized schools offered at least two courses of optional PE. Even

50 % of large-sized schools offered more than four optional PE courses. One medium-sized school did not offer optional PE at all (table 21). Optional PE courses distributed by provinces are represented in appendix 10. Compared to the previous PE evaluation study (Huisman 2004, 129) the total amount of optional PE courses has stayed slightly in same position because in 2003 over 90 % of schools reported that they had at least two courses of PE.

TABLE 21. Number of optional PE courses in school divided by school sizes (n=49).

Number of optional PE courses	School size					
	Medium-sized		Large-sized		Total	
	n	%	n	%	n	%
No courses	1	5	0	0	1	2
One course	3	14	0	0	3	6
Two courses	2	10	7	25	9	18
Three courses	8	38	3	11	11	22
Four courses	4	19	4	14	8	16
More than four courses	3	14	14	50	17	36
Total	21	100	28	100	49	100

χ^2 =15.48, df=5, p=.008

9 DISCUSSION

In recent years, the economic downturn has contributed to municipal economic problems and many municipal cuts have also been affected to educational resources. This is, in general, seen in the PE follow-up evaluation. (Palomäki & Heikinaro-Johansson 2011, 118.) The aims of the present study were to investigate the school principals' resourcing for PE, to compare the relation of schools' size and regional location for PE resourcing, and to investigate if PE teachers and principals' opinions differ from each other on the situation and opportunities of PE in schools. In the following, results are examined first by the main topics, followed by the methodological analysis and further research subjects.

9.1 Money allocation for PE in schools

Principals thought the same way of PE expensiveness compared to other subjects as they did in National Board of Education PE evaluation research back in 2003 (Huisman 2004, 130). According to the results, large-sized schools allocated more money for PE, which is natural, but an interesting point of view is that smaller schools gave more money per student. On average, schools had mostly 1000 euro to use for PE and equipment per academic year, but it is enough only in smaller schools where the amount of euro per student is higher than in larger schools. The most substantial amounts of money were given by schools from Eastern Finland and Oulu provinces and similar results were also seen in euro per student.

Recently purchased sport equipment was mostly ball game equipment. This shows that ball games in PE seem to be favorable among students and PE teaching. This result supports the research of Heikinaro-Johansson and Telama (2005) where ball games were a popular form of PE. Appendix reveals that the average money amount in euro per student were 23.68 € in the last two years. This is an interesting notification if thinking

how much a student can do to enhance his or hers physical activity when this amount of money is given by schools in every two years per student.

9.4 Qualified PE teachers

In order to be physically active in the future, there must be positive experiences from school PE. Positive experiences consist of positive sport achievements, social skill improvements and learning new sport skills. The key factor for this is a qualified PE teacher. Finnish PE teacher education is at a good level and this affects to the efficiency of the PE lessons in a positive way (Heikinaro-Johansson et al. 2009). According to the physical education evaluation study (2003) and to the survey of Statics Finland and task force of Ministry of Education and Culture (2009, 141), there are not enough qualified PE teachers for the Finnish schools. This research followed the same results as PE evaluation study did in 2003 (Huisman 2004, 118) when 65 % of the teachers were qualified, 20% were formally qualified and 15% were unqualified PE teachers (n=245). This research reveals that the part of qualified PE teachers has not remarkably changed in the last seven years which gives concerns if there possibly even is enough qualified PE teachers to educate people.

In addition, according to PE follow-up evaluation in 2010 (Palomäki & Heikinaro-Johansson 2011, 100) PE teacher qualification situation is low compared to other subject teachers qualification situation. This is interesting because there might be several reasons for this: relatively young age structure of PE teachers compared to other subject teachers, physical demands of the PE teacher profession and if there is enough PE teacher training responding to the PE teacher demands of Finnish schools. PE teacher training in University of Jyväskylä, however, in recent years has stepped into a dilemma, because the need for training PE teachers and training resources do not correspond. According to follow-up evaluation study (Palomäki & Heikinaro-Johansson 2011, 122) Department of Sport Sciences statistics show that educational resources of PE teacher training number should be increased.

9.3 PE facilities

Comparing principals' opinions to PE teachers', principals thought slightly more optimistic of PE teaching facilities than PE teachers. Five (5 %) PE teachers thought both, indoor and outdoor PE facilities were in poor condition and 21 % of PE teachers thought whether indoor or outdoor facilities were poor. In the same time one principal thought school property gyms were poor. According to PE follow-up evaluation study (Palomäki & Heikinaro-Johansson 2011, 109) 40 % of the PE teachers thought inadequate circumstances are the most loading issues in teaching PE. Circumstances considered here whether PE equipment, facilities or resources.

Also in the PE evaluation study in 2003 (Huisman 2004, 10) PE teachers wanted change for resources used for facilities and equipment. In addition, Johansson and Heikinaro-Johansson (2005) pointed out, that poor circumstances in PE cause dissatisfaction among PE teachers.

9.2 PE teachers' in-service education

The education of the PE teachers is at a high level in Finland. In-service education is a part of lifelong learning in Finland and it plays a significant role in Finnish education society. PE teacher in-service education is also an interesting issue in PE. According to Finnish National Board of Education survey (2003), PE teachers wanted more in-service education (Huisman 2004, 124). According to National-Level Coordination Project of Degree Programme Development in Teacher Training and the Sciences of Education (Vokke) (2005, 5), the amount of under five days in-service education is not enough for teachers in schools. Only 25 % of the teachers in this research were given possibilities to participate in in-service education at least 5 days in the last two years so this is an alarming notification.

The economic downturn is seen in this evaluation. In PE evaluation study 2003, female PE teachers participated 9 days on average and male PE teachers 6 days on average in in-service education when the same results in this study were 5 days on average in the case of female PE teachers and 3 days in the case of male teachers. Principals' opinions showed that the opportunities for PE teacher in-service education varied greatly in different municipalities and schools. In some schools, there were no funds on in-service education and one municipality was due to austerity measures refused in-service education completely. Most schools were able to provide limited funds through some training. Interesting was also that 10 % of the principals thought in-service education possibilities were good while 23 % had not participated in in-service education at all.

9.5 Extracurricular PE in schools

According to Heikinaro-Johansson et al. (2009), extracurricular PE arranged by PE teachers are necessary because they enhance students' physical actions and make the physical activity recommendations reachable. Finnish National Board of Education (2009b) reported that government gave subsides for enhancing extracurricular activities. In 2008, the government gave 5,7 million euro and in 2009 7,0 million euro for extracurricular activities. According to this report, the part of extracurricular PE was 85 % of almost 12 000 extracurricular activities in Finland.

Nevertheless, results of this research tell a significant truth: arrangements of extracurricular PE have decreased compared to PE evaluation study in 2003 (Huisman 2004, 104). In PE evaluation 2003, there were three schools out of 111 (3%) which did not offer extracurricular activities at all. In this research, however, there were 18 of 51 schools (35%). Nevertheless, majority of principals (94 %) thought that extracurricular PE is necessary in schools. This is concerning since there is such a significant amount of money given to improve extracurricular activities, but nothing seems to be implemented. Where has the money been used? Other school outcomes might have taken a large part of

these subsides. Interesting point is that principals still think the same way of the necessity of extracurricular activities in school in this research as they did in 2003.

According to the PE follow-up evaluation study in 2010 (Palomäki & Heikinaro-Johansson 2011, 118), only 8 % of boys and 4 % of girls had taken part in extracurricular PE. According to Green (2008, 74), in England and Wales a little bit under half from secondary-aged youngsters do not take part in extracurricular sports. Nevertheless, the participation is still a lot more than we have here in Finland.

In addition for economic factors, the challenge of extracurricular activities is finding a knowledgeable and committed instructor. It would be important that educational professionals would be responsible of extracurricular activities. There would be more teachers in response of extracurricular activities if payment method of extracurricular activities were same as it is in normal teaching. In extracurricular PE there can also be a problem with the contents, in which they are not able to respond to a sufficiently large set of student needs. Extracurricular PE is commonly used one yearly lesson per week and they focus mainly on ball games. Green (2008, 76) suggested that aims and purposes of extracurricular PE should be more towards an emphasis upon the intrinsic pleasure of sport and physical activities rather than preoccupation with levels of performance and achievement.

Extracurricular PE increases the physical activity and qualified PE teachers affect to the quality of PE. According to PE evaluation follow-up study (Palomäki & Heikinaro-Johansson 2011, 117-118) physical activity standards are achieved only by 10 % of the upper secondary school students. Are the standards too difficult to achieve because students have to be physically active also in their spare time or should the physical activity instructions be more efficient?

9.6 Methodological analysis

The strength of this study is a closer examination of the samples which are included in this research. This research as part of the National Board of education used very much the same basics in 2003 and 2010. This enables to observe accordingly and to compare the results of the improvements and the weakening of different areas.

According to the National Board of Education (2011, 45), a split of the school sizes was made in this study and the pupil percentage in Finland is the highest in large-sized schools (55%). The amount of the medium-sized schools is the highest in Finland but the percentage of pupils in smaller schools is smaller than in large-sized schools (45%). The sample size of schools in the present study can be considered quite small which limits the use of statistical methods.

The sample was a representative of the whole country, but its regional representation was partly weak, for example, the conclusions of Northern Finland have been made based on seven schools from a very large area. However, every province was represented comprehensively concerning association between school amount and student amount. Southern and Western Finland provinces were widely represented compared to other provinces.

9.7 Further study suggestions

Principals' main allocation for PE has not changed relatively in the last decade. Nevertheless, the amount of money allocated for PE which aims for student well being and encouragement for physical activity is not enough. Where does the money really go in schools? It would be very interesting to study principals' actions on money allocation more profoundly. This can be researched by investigating all investments principals make for their schools and how they rationalize their choices.

In this research, arrangements of extracurricular activities came up as the most significant and notable results along with PE teachers' participations in in-service education. If there is money given for these PE resource factors, where have the investments been used? Concerning extracurricular sports, contents should be observed and how they are arranged in schools. In addition, the aims of extracurricular sports and purposes would be interesting to study. PE teachers' in-service education possibilities more deeply, arranging places and who invests in the in-service education of PE teachers, would be significant to study. Moreover, it would be interesting to discover alternative choices to increase PE teachers' participation.

The situation of qualified PE teachers in school has not changed at all. It would be remarkable to study why the situation is low and has not changed. PE is the corner stone for physical activity, especially for the children who are not physically active. PE is the only opportunity for even more students to effective enough and exhausting physical activity (Heikinaro-Johansson et al, 2009). In order to be physically active in the future, there must be positive experiences from school PE. Positive experiences consist of positive sport achievements, social skill improvements and learning new sport skills. The key factor for this is a qualified PE teacher. Finnish PE teacher education is at a good level and this affects to the efficiency of the PE lessons in a positive way (Heikinaro-Johansson et al. 2009).

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APPENDICES

APPENDIX 1

Principal questionnaire

Background information *(Taustatiedot)*

In which province does your school locate?
(Missä läänissä koulunne sijaitsee?)

- ⬭ Southern Finland *(Etelä-Suomi)*
- ⬭ Oulu *(Oulu)*
- ⬭ Western Finland *(Länsi-Suomi)*
- ⬭ Lapland *(Lappi)*
- ⬭ Eastern Finland *(Itä-Suomi)*

1. How long you have been principal of current school? ☐☐ years
(Kuinka kauan olette toimineet nykyisen koulun rehtorina?)

2. What subject qualification do you have? _____
(Minkä aineen opettajankelpoisuus teillä on?)

Students *(Oppilaat)*

3. What grades do you have in your school?
(Mitä vuosiluokkia koulussanne on?)

- ⬭ grades 1-6 *(vuosiluokat 1-6)*
- ⬭ grades 7-9 *(vuosiluokat 7-9)*
- ⬭ upper secondary education *(lukio)*

4. Amount of students in your school is ☐☐☐ students.
(Koulun oppilasmäärä on … oppilasta)

Teachers *(Opettajat)*

13. Male PE teachers in your school ☐ teachers

Woman PE teachers in your school ☐ teachers

(Mies-/naisopettajia liikunnassa on … opettajaa)

14. How many of PE teaching teachers basic qualification is
(Kuinka monen liikuntaa opettavan opettajan peruskoulutus on…)

LitM/LitK: ☐ LiK: ☐ VO: ☐ Bachelor of Sport Sciences: ☐

Classroom Teacher: ☐ Other: ☐ qualification_____

15. What kind of possibilities for PE teaching teachers' in-service education does your school offer in your opinion?
(Minkälaiset mahdollisuudet mielestänne koulullanne on tarjota liikuntaa opettaville opettajille täydennyskoulutusta?)

⬭ weak *(heikot)* ⬭ mediocre *(keskinkertaiset)* ⬭ good *(hyvät)*

Describe briefly, why? *(Kuvailkaa lyhyesti, miksi?)*

_____

_____

_____

Facilities and equipment *(Tilat ja välineet)*

19a. School property gyms and amounts are
(Koulukiinteistön yhteydessä käytössänne on liikuntasaleja kooltaan…)

under 200 m^2 ☐ 200 - 300 m^2 ☐ 301 - 500 m^2 ☐ over 500 m^2 ☐

19b. What are your evaluations of the school property gym conditions?
(Miten arvioit koulukiinteistön yhteydessä olevien liikuntasalien kuntoa?)

⬭ excellent *(erinomainen)* ⬭ good *(hyvä)* ⬭ satisfying *(tyydyttävä)* ⬭ poor *(heikot)*

19c. What are your evaluations of all the PE facility conditions which you use in general?
(Miten arvioit kaikkien koulun käytössä olevien liikuntasalien ja liikuntapaikkojen kuntoa?)

⬭ excellent *(erinomainen)* ⬭ good *(hyvä)* ⬭ satisfying *(tyydyttävä)* ⬭ poor *(heikot)*

20a. How much has you school used money acquiring sport equipment (in accuracy of 100 €)? *(Kuinka paljon koulunne on käyttänyt ja käyttää rahaa liikuntavälineiden hankintaan sadan euron tarkkuudella?)*

In academic year 2008 – 2009 ☐☐☐☐☐ euro

Estimated amount in academic year 2009 – 2010 ☐☐☐☐☐ euro

What sport equipment has been acquired recently? *(Mitä liikuntavälineitä on hankittu viimeeksi?)*

_____

_____

20b. If your school has invested 2008-2010 for building, renovating or fixtures of sport facilities, how much is money used for that? *(Jos koulunne on investoinut 2008-2010 liikuntatilan rakentamiseen. korjaamiseen tai kiinteiden kalusteisiin, kuinka paljon siihen on käytetty rahaa?)*

☐☐☐☐☐☐ euro

Extracurricular activities and events *(Kerhot ja tapahtumat)*

22. Does grades 7.-9. have organized extracurricular activities?
(Onko 7.-9. vuosiluokkalaisille tarjolla kerhotoimintaa?)

no *(ei)* yes *(kyllä)* → ☐☐ yearly week lessons, and part of
(vuosiviikkotuntia, josta)

extracurricular sports is *(liikuntakerhotoimintaa on)* zero lessons *(ei yhtään tuntia)* yes ☐☐ lessons *(kyllä… tuntia)*

PE contents *(Liikunnanopetuksen sisällöt)*

27. Choose alternative which describes your opinion the best of the question
(Valitkaa seuraavista se vaihtoehto, joka vastaa parhaiten omaa käsitystänne asiasta)

1 = I definitely not agree *(täysin eri mieltä)*
2 = I don't agree *(eri mieltä)*
3 = I agree *(samaa mieltä)*
4 = I totally agree *(täysin samaa mieltä)*

	1	**2**	**3**	**4**
PE is expensive compared to other subjects *(Liikunnanopetus on kallista muuhun opetukseen verrattuna)*	○	○	○	○
Optional PE courses should be given more money *(Liikunnan valinnasikurssien järjestämiseen tulisi antaa nykyistä enemmän resursseja)*	○	○	○	○
Schools' extracurricular sports are necessary *(Koulun liikuntakerhot ovat tarpeellisia)*	○	○	○	○

PE teacher questionnaire

Background information *(Taustatiedot)*

1. Gender *(sukupuoli)* ⬭ male *(mies)* ⬭ female *(nainen)*

2. Age *(ikä)*: ☐☐ years *(vuotta)*

3. Professional qualification (ammatillinen peruskoulutus)

LitM/LitK (Master's degree)

LiK/LitK (Bachelor's degree)

VO

classroom teacher, specialification_____ and _____

(luokanopettaja, erikoistumisaineenani)

PE instructor (liikunnanohjaaja)

other

4. I have been worked as a teacher
(Olen toiminut opettajana)

⬭ under 4 years *(alle 4 vuotta)*
⬭ 4 - 6 years *(4 - 6 vuotta)*
⬭ 7 - 18 years *(7 - 18 vuotta)*
⬭ 19 - 30 years *(19 - 30 vuotta)*
⬭ over 30 years *(yli 30 vuotta)*

5. Amount of PE teaching lessons in a week (current year average)
(Opetettavien liikuntatuntien määrä viikossa, kuluvan vuoden keskiarvo)

☐☐ lessons/week*(tuntia/viikko)*

6. How many days have you took part in in-service education in last two calendar years (2008-2010)? *(Kuinka monta päivää olet osallistunut täydennyskoulutukseen viimeisen kahden kalenterivuoden aikana, 2008-2010)*

☐☐☐ days *(päivää)*

Learning environment *(Oppimisympäristö)*

8. What are your opinions of the conditions of facilities and equipment in your current job? *(Mikä on mielipiteesi liikuntatilojen ja välineiden kunnosta nykyisessä työssäsi?)*

1 = poor *(huono)*
2 = moderate *(kohtalainen)*
3 = excellent *(erinomainen)*

	1	**2**	**3**
indoor facilities *(sisäliikuntatilat)*	⬭	⬭	⬭
indoor equipment condition *(sisäliikuntavälineiden kunto)*	⬭	⬭	⬭
outdoor facilities in spring/autumn *(ulkoliikuntatilat keväällä/syskyllä)*	⬭	⬭	⬭
outdoor equipment condition *(ulkoliikuntavälineiden kunto)*	⬭	⬭	⬭
cross-country facilities in winter *(maastoliikuntapaikat talvella)*	⬭	⬭	⬭
cross-country equipment condition *(maastoliikuntapaikkojen kunto)*	⬭	⬭	⬭
ice sports facilities *(jääliikuntapaikat)*	⬭	⬭	⬭
ice sport equipment condition *(jäälikuntavälineiden kunto)*	⬭	⬭	⬭
swimming hall facilities *(uimahallitilat)*	⬭	⬭	⬭
dressing rooms *(pukuhuoneet)*	⬭	⬭	⬭

8. What are your opinions of PE equipment adequacy in your current job? *(mitä mieltä olet liikuntavarusteiden riittävyydestä tämänhetkisessä työssäsi?)*

1 = inadequate *(riittämätön)*
2 = moderate *(kohtalaiset)*
3 = adequate *(riittävät)*

	1	**2**	**3**
indoor equipment adequacy *(sisäliikuntavälineiden riittävyys)*	⬭	⬭	⬭
outdoor equipment adequacy *(ulkoliikuntavälineiden riittävyys)*	⬭	⬭	⬭
cross-country equipment adequacy *(maastoliikuntapaikkojen riittävyys)*	⬭	⬭	⬭
ice sport equipment adequacy *(jäälikuntavälineiden riittävyys)*	⬭	⬭	⬭

APPENDIX 3

Categories in this research.

Categorization of investments made for the school
Under 1000 € 1000 – 1999 € 2000 – 2999 € ≥ 3000 €

Purchased sport equipment	
Ball Games	balls, pucks clubs, rackets, sticks goals
Ice sports	skates helmets
Skiing	ski waxes skis
Fitness gym	rowing ergometer exercise cycle upper body pelt
Track and field	high jump accessories hurdles

In-service education days
0 days 1-5 days > 5 days

Extracurricular sports
0 yearly week lessons 1 yearly week lesson >1 yearly week lessons 2 yearly week lessons

TABLE 1. Basic education schools in 2009 (Finnish National Board of Education 2011a, 45).

	Student amount in school	**Schools**	**Students**
Medium-sized school	Under 50	856	27 326
	50-99	547	38 550
	100-299	1005	188 111
	Total	**2408**	**253 987**
Large-sized school	300-499	534	202 584
	Over 500	164	99 084
	Total	**698**	**301 668**

APPENDIX 5

TABLE 1. Principals' money allocation in last two academic years.

School	Amount of students	Province	Academic year 2008-2009 (€)	Academic year 2009-2010 (€)	Other PE investments (€)	Total investments (€)	Euro/ student
1	71	2	1300	400	.	1700	23,9
2	75	1	100	100		0	2,7
3	121	2	500	800	8000	9300	76,9
4	148	4	1000	300	.	1300	8,8
5	153	2	1500	1000	.	2500	16,3
6	154	2	400	500	.	900	5,8
7	159	3	1000	1000	.	2000	12,6
8	162	3	630	600	.	1230	7,6
9	164	1	100	150	.	250	1,5
10	166	2	200	100	.	300	1,8
11	181	2	700	700	.	1400	7,7
12	182	1	700	1000	.	1700	9,3
13	187	2	300	500	.	800	4,2
14	198	1	500	600	.	1100	5,6
15	201	2	600	600	.	1200	6,0
16	211	5	700	600	.	1300	6,2
17	239	4	700	700	.	1400	5,9
18	239	1	700	200	400	1300	5,4
19	267	2	600	600	.	1200	4,5
20	271	2	600	600	.	1200	4,4
21	288	1	1000	1000	.	2000	6,9
22	301	1	1200	500	.	2700	9,0
23	316	1	300	300	.	600	1,9
24	324	4	1500	1000	0	2500	7,7
25	329	4	.	.	30000	30000	91,1
26	335	2	3000	300	.	3300	9,9
27	350	2	600	600	.	1200	3,4
28	367	3	1600	1600	.	3200	8,7
29	374	4	500	500	.	1000	2,7
30	375	1	400	1600	.	2000	5,3
31	377	1	3400	1600	.	5000	13,3
32	390	1	1000	500	0	1500	3,8

Table 1 continues

33	390	2	500	500	.	1000	2,6
34	390	3	2000	1500	29000	32500	83,3
35	446	3	1000	3500	.	4500	10,1
36	449	1	800	800	.	1600	3,6
37	474	1	3000	3000	.	6000	12,7
38	489	2	900	1000	400	2300	4,7
39	492	2	2700	3400	.	6100	12,4
40	500	1	300	300	22000	22600	45,2
41	510	3	2000	1000	.	3000	5,9
42	525	2	1000	1000	.	2000	3,8
43	565	1	1500	1200	.	2700	4,8
44	580	2	1000	600	0	1600	2,8
45	594	2	1700	1400	.	3100	5,6
46	620	1	1000	1000	.	2000	3,2
47	628	1	870	3000	.	3870	6,2
48	646	1	.	12000	385000	397000	614,6
49	674	5	400	400	.	800	1,2
50	742	1	500	500	0	1000	1,3
51	763	1	1100	1000	0	2100	2,8
Mean/ Standard deviation			972,5/ 770,8	1130,4/ 1741,4	9309,8/ 54054,4	11428,4/ 55455,9	23,68/ 86,61

TABLE 2. PE teachers.

Gender	Age	In-service education days	Province	School size
male	36	0	1	1
female	38		1	1
female	42	6	2	1
male	47	3	2	1
male	47	3	2	1
female	29	2	2	1
female	56	2	1	2
male	59	0	1	2
female	59	2	2	1
male	39	2	2	1
male	44	2	2	2
female	39	4	2	2
male		2	1	2
male	52	4	1	2
female	59	6	1	2
female	44	10	1	2
female	58	0	2	1
male	48	10	2	1
female	48	8	4	1
male	57	0	4	1
male	57	2	2	1
female	35	0	2	1
male	37	2	2	2
female	47	2	2	2
female	42	5	1	2
male	35	2	1	2
female	48	4	1	2
male	28	0	1	2
male	38	0	1	2
female	52	6	1	2
female	43	4	1	2
male	44	10	1	2
male	44	2	3	1
male	41	6	1	2
female	48	8	1	2
male	39	3	1	2
female	42	0	1	2
female	60	0	1	2
male	59	2	2	1
male	35	0	1	2
female	48	4	4	1
male	34	4	4	1
female	53	5	1	2
male	33	6	2	1
female	44	4	2	1
female	43	0	1	1
female	38	3	4	2
male	41	4	4	2
male	31	0	1	2
female	58	0	1	2
male	27	4	4	2
female	29	2	4	2

Table 2 continues

female	51	5	2	2
male	34	2	2	2
male	42	2	2	2
female	35	2	2	2
female	32	2	2	1
male	41	0	2	1
female	62	8	3	1
male	42	10	3	1
male	48	0	3	1
female	37	2	2	2
male	50	4	2	1
female	43	4	1	1
male	30	0	1	1
female	32	0	3	2
male	40	3	3	2
female	45	3	3	2
male	44	2	3	2
female	50		1	1
male	35	0	1	1
male	33	2	1	2
male	28	0	1	2
female	44	8	1	2
female	30	0	1	2
male	34	0	1	2
female	36	10	2	2
male	53	8	2	2
male	31	0	2	2
male	30	18	4	1
female	59	2	3	2
male	26		3	2
female	54	4	2	1
male	34	7	2	1
female	41	2	4	2
male	40	5	4	2
female	32	16	1	1
male	33	0	1	1
male	40	0	1	1
female	54	12	4	2
male	60	2	4	2
male	39	5	3	2
female	46	2	3	2
female	56	5	3	2
male	45	2	2	2
female	41	6	2	2
male	33	0	2	2
female	46	20	2	2
female	45	4	2	2
male	45	10	1	2
female	60	12	2	1
male	46	8	1	1
female	59	10	1	1
female	33	5	2	1
male	29	4	2	1
female	31	4	2	2
male	45		2	2
female	50	9	2	2
male	39	4	2	2
male	44	10	1	2

Table 2 continues

female	44	10	1	2
Mean/ Standard deviation	43 years/ 9,295 vuotta	4,07 pvä/ 4,022 pvä		

Province: 1= Southern Finland
2= Western Finland
3= Eastern Finland
4= Northern Finland

School size: 1= Medium-sized school
2= Large-sized school

APPENDIX 7

Facility conditions of PE

TABLE 3. PE teachers' evaluations of indoor and outdoor facility conditions (n=111).

Evaluation of PE facilities		Outdoor PE facility conditions							
		Poor		Satisfying		Excellent		Total	
		n	%	n	%	n	%	n	%
Indoor PE facility conditions	Poor	5	5	7	6	0	0	12	11
	Satisfying	6	5	45	41	19	17	70	64
	Excellent	0	0	16	15	12	11	28	26
	Total	11	10	68	62	31	28	110	100

χ^2 =20.72, df=4, p=.000

APPENDIX 8

PE teacher in-service education possibilities by principals

TABLE 4. Opinions of the PE in-service education possibilities of principals' (n=51).

In-service education possibilities	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
Weak	2	10	3	17	0	0	0	0	5	29
Mediocre	11	55	11	61	6	100	3	43	31	61
Good	7	35	4	22	0	0	4	57	10	10
Total	20	100	18	100	6	100	7	100	51	100

χ^2 =8.26, df=6, p=.220

TABLE 5. In-service education possibilities of PE teachers in different school sizes. (n=51)

In-service education possibilities	School size					
	Medium-sized school		Large-sized school		Total	
	n	%	n	%	n	%
Weak	1	5	4	13	5	10
Mediocre	16	76	15	50	31	61
Good	4	19	11	37	15	29
Total	21	100	30	100	51	100

χ^2 =3.62, df=2, p=.163

APPENDIX 9

In-service education days of PE teachers

TABLE 6. PE teachers' in-service education days in different school sizes (n=107).

In-service education days	School size					
	Medium-sized school		Large-sized school		Total	
	n	%	n	%	n	%
0 days	11	28	14	21	25	23
1-5 days	16	41	38	56	54	51
Over 5 days	12	31	16	23	28	26
Total	39	100	68	100	107	100

χ^2 =2.20, df=2, p=.334

APPENDIX 10

Extracurricular PE in schools

TABLE 7. Extracurricular PE of schools in different provinces (n=51).

Extracurricular PE (yearly week lessons)	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
0	10	50	5	28	3	50	0	0	18	35
less than 1	3	15	2	11	0	100	1	14	6	12
1	6	30	9	50	1	17	5	72	21	41
2	1	5	2	11	2	33	1	14	6	12
Total	20	100	18	100	6	100	7	100	51	100

χ^2 =11.85, df=9, p=.222

APPENDIX 11

Optional PE courses in schools

TABLE 8. Differences in school sizes in optional PE courses of schools (n=49).

	Optional PE courses			t-measure	statistical significance
	n	m	sd	t	p
Medium-sized schools	21	2.95	1.396	-2.442	.018
Large-sized schools	28	3.89	1.286		

TABLE 9. Optional PE courses in different provinces (n=49).

Optional PE courses	Province of the school									
	Southern Finland		Western Finland		Eastern Finland		Northern Finland		Total	
	n	%	n	%	n	%	n	%	n	%
No courses	1	5	0	0	0	0	0	0	1	2
One course	0	0	2	11	0	0	1	14	3	6
Two courses	3	16	2	11	0	0	4	58	9	18
Three courses	5	26	5	28	1	20	0	0	11	23
Four courses	3	16	2	11	2	40	1	14	8	16
More than four courses	7	37	7	39	2	40	1	14	17	35
Total	19	100	18	100	5	100	7	100	49	100

χ^2 =16.75, df=15, p=.334