Alberta Physical Education Study (ALPES): Final Report

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ABSTRACT

Limited data is available on the delivery of school physical education (PE) in Alberta. The purpose of this study was to assess the status of PE prior to the implementation of a new provincial curriculum in the fall of 2000. A representative sample of Alberta schools participated with 169 principals and 481 teachers providing information on their PE programs. Data collected included who is teaching PE, the amount of PE instruction offered in the timetable, the activity dimensions taught, and factors affecting the PE program. PE-Specialist teachers made up approximately half the teacher sample. Of the 1272 PE classes reported in this study, approximately 80% were taught by PE-Specialist teachers at the secondary level as compared with approximately 33% being taught by PE-Specialist teachers at the elementary level. PE-Specialist teachers reported significantly higher levels of being prepared to teach PE, enjoyment for teaching PE, and confidence for teaching PE compared to non PE-Specialist teachers. Principals considered teacher training for PE as an important factor in determining who teaches PE. Approximately 8.6% of the school timetable was devoted to PE on average (excluding semestered PE). The seven activity dimensions of the curriculum receiving the most time were: team games, followed by dual/4 games and third by individual activities for both elementary and secondary grades; fourth was gymnastics for elementary grades and outdoor pursuits for secondary; fifth was outdoor pursuits for elementary and dance for secondary grades; sixth was dance for elementary and gymnastics or aquatics for secondary grades, and the least taught dimension was aquatics for elementary and junior high grades and gymnastics for high school grades. Approximately 50% of teachers indicated that off-site facilities were used. The most popular extracurricular activities offered were basketball, volleyball, badminton and track & field while varied activities, volleyball, and floor hockey were the most popular intramural activities. Lack of funding and preparation time were perceived as having a negative impact on PE programs. Over 40% of teachers and principals rated access to equipment for special needs students as poor or lacking. Over 40% of teachers and principals rated indoor and outdoor facilities and equipment for PE as very good or excellent. Key recommendations include, 1) conducting a follow-up study to assess the implementation of the new PE curriculum and to obtain information on the extent that children are achieving the stated outcomes in the time allotted to PE in the school timetable; 2) the promotion of initiatives such as the Ever Active Schools Program and the Alberta Initiative for School Improvement to encourage more schools to increase the amount of physical activity in the school environment; and finally 3) to increase the use of PE-Specialist teachers, particularly at the elementary grade levels.

This report documents a study of school physical education programs in Alberta with data collected over a two-year period from 1998-2000. Several investigators from various stakeholder groups initiated discussions prior to 1998 and continued their work detailing the study until such time that a descriptive survey was initiated. Most public school districts in Alberta willingly participated in the study (approximately 45 out of a possible 63) and the results herein capture the views of principals and teachers who were involved in delivering the physical education programs in Alberta schools. We express gratitude to all investigators, research assistants and professionals in schools who contributed much of their time and effort to assist in the data collection and completion of this report. Finally, thanks are extended to the funding agencies who made this study possible.

INTRODUCTION

There is increasing concern that a sedentary lifestyle poses significant health risks to Canadian children. Recent reports by the Heart and Stroke Foundation of Canada (1998) and the US Surgeon General (U.S. Department of Human Services, 1996) reveal that many children are not active enough to experience the beneficial effects of physical activity. The Canadian Fitness Lifestyle Research Institute (Craig, Russell, Cameron, & Beaulieu, 1999) highlights the sedentary lifestyle patterns of Canadians and calls for people of all ages to increase their physical activity levels. Approximately one- to two-thirds of Canadian children are not engaging in adequate amounts of physical activity. Sedentary living is epidemic in North America where television watching is the number one leisure activity for children based upon hours of participation. Unfortunately, television watching is negatively correlated with physical activity (DuRant, Baranowski, Johnson, & Thompson, 1994). A recent study in the United States (Andersen, Crespo, Bartlett, Cheskin, & Pratt, 1998) found that children who watch 4 or more hours of television daily had greater body fat and a greater body mass index than those who watched 2 hours per day. These data clearly show that sedentary lifestyles are threatening the current and future health of our children. Overall, data suggest that children and youth are less active as they age and even a small increase in daily activities would result in health benefits.

In both Canada and the United States, quality physical education has been recommended as an important vehicle for enhancing and increasing children's physical activity experience. School physical education is a primary societal institution that can promote physical activity in children. A major recommendation of the Surgeon General's report is for schools to offer quality, preferably daily, K-12 physical education classes and hire physical education specialists to teach the program. The Canadian Association for Health, Physical Education, Recreation, and Dance (CAHPERD), has echoed these recommendations for Canadian schools by advocating Quality Daily Physical Education (QDPE) in every school. Recommendations proposed to the Alberta Government by the Alberta Active Living Task Force (1998) specified that a revised curriculum with an "active life skill focus" be developed and implemented, that every school in Alberta have access to a specialist physical education teacher, and all Alberta schools create an environment that provides encouragement and opportunities for students to be physically active during each school day (e.g., instructional time for physical education be allocated daily for a minimum of 30 min. per day).

Although some Alberta schools have received the CAHPERD Recognition Award Program for offering QDPE programs (123 in 1997-98 and 173 in 1998-1999), little is known about the physical education programs being offered in most schools in the province. In Alberta, physical education is a core subject compulsory to completion of Physical Education 10 (Luke, 2000). However, there is no required amount of time allotted per week to instruction other than a general guideline that 10% of the school program be devoted to health and physical education. Much variation occurs throughout the province as to weekly frequency, class duration and type of activities offered in the instructional physical education program offered to children.

Despite the known benefits of regular physical activity limited data exists on school physical education programs in Alberta. Most of the survey information available is from national studies and although useful, specific information on the Alberta sample of children and youth is limited or difficult to determine. There is a need for a clear picture of Alberta school physical education programs. In response to the Alberta Active Living Task Force recommendations, a new physical education curriculum was developed that advocates an active lifestyle approach (Alberta Learning,

2000). In September, 2000, this new Physical Education (PE) curriculum for grades K - 12 was implemented in schools across the province of Alberta. A unique opportunity was available in which baseline data on the status of physical education programs in Alberta prior to implementation of the new curriculum could be obtained. This information will help to systematically study the impact of a new curriculum and to compare this with current baseline data.

Purpose of the Study

The purpose of this study was to assess the status of school physical education (PE) programs in Alberta prior to the implementation of a new provincial PE curriculum. To address this purpose, information was gathered on who is delivering the PE programs (PE-Specialists or non PE-Specialists), the amount of PE instruction children receive (frequency and duration of PE instructional classes), the content of the curriculum (what is being taught in PE classes), and factors that affect the implementation of the PE curriculum. Principals and teachers who teach PE were asked to provide information about the PE program(s) in their school.

Method

A representative sample of Alberta schools was obtained through a stratified random selection technique. After receiving ethical approval, school board superintendents were asked if principals who had been randomly selected to participate in the study could be approached. Permission was granted to allow 407 school packages to be sent to principals across Alberta. Each package contained a covering letter, ethics form, one principal questionnaire and 5 teacher questionnaires. Upon receipt of the package, the principal was asked to complete the principal questionnaire and to give up to five teacher questionnaires to different teachers who teach PE in the school.

A total of 169 principal questionnaires were returned (41.5% of total possible). Approximately 47% of the principal questionnaires were returned from rural settings and the average school size indicated by the principals was 363 students (min = 4, max = 1670). A total of 481 (210 M, 270 F) teacher questionnaires were returned. Table 1 reports demographic information about schools by division level. Of all the elementary schools (Division I & II) involved in the sample, approximately 45% were urban and 55% were rural schools. Of all the secondary schools (Division III & IV), approximately 43% were urban and 57% were rural schools. Division I includes grades 1 to 3, Division II includes grades 4 to 6, Division III includes grades 7 to 9, and Division IV includes grades 10 to 12.

Results

Who is teaching PE?

One of the questions this study sought to answer was "Who is teaching PE?" The average number of years of teaching PE across all teachers was 11.7 with a range of 1 to 34 years. A total of 13.6% of teachers had a degree in PE (and teaching certification) while 83.2% had an Education degree. Thirty-nine percent of the teacher sample had a major in PE while 8.4% had a PE minor. Of those

who responded, 49% focused on elementary grades during University, 39% had a secondary focus, and 12% had a focus across all grades. Approximately half (i.e., n = 240) of the teachers were classified as a PE-Specialist (137 M, 103 F). A PE-Specialist was classified as a teacher who had either a degree, major or minor in PE during their university degree program. Table 2 provides information for teacher demographics by division level taught. Of all PE classes (n = 1272) reported by teachers in this study, 71.1% were taught by a PE-Specialist teacher. Significantly ($\chi^2_{(1,1271)}$ = 213.03, $p < .0001$) more PE classes were taught by specialists in Divisions III and IV (i.e., Grades 7 - 12) than in Divisions I and II (i.e., Grades K - 6). Table 3 presents the number of classes taught by PE-Specialist and non PE-Specialist teachers by division level.

Teachers were asked about their perceptions of being prepared to teach PE, their enjoyment for teaching PE, and their confidence for teaching PE. Table 4 illustrates the mean scores for teacher perceptions for teaching PE. Significant differences were noted when comparing the PE-Specialist with the non PE-Specialist teachers. The PE-Specialist teachers reported significantly higher levels for being prepared to teach PE ($F_{1, 1269} = 513.11$; $p < .0001$, $eta^2 = .29$), enjoyment for teaching PE ($F_{1, 1270} = 189.61$; $p < .0001$, $eta^2 = .13$), and confidence for teaching PE ($F_{1, 1268} = 515.93$, $p < .0001$, $eta^2 = .29$) as compared with the non PE-Specialist teachers. Figures 1, 2, and 3 provide comparisons of teacher perceptions for teaching PE by the division level and whether the teacher was a PE-Specialist or non PE-Specialist. Elementary non PE-Specialist teachers (Division I and II) felt less enjoyment for teaching PE less and felt less confident to teach PE as compared with the Secondary non PE-Specialist teachers (Division III and IV). Secondary non PE-Specialist had lower ratings for being prepared to teach PE than did the Elementary non PE-Specialist teachers.

Principals were asked about factors they consider for making decisions about who teaches PE classes. The most important consideration was whether the teacher had PE training and the least important factor or factor not taken into consideration was teacher availability during a certain time slot. Homeroom teachers in Division I and II (elementary) were often considered but this was not as important in Division III and IV (secondary). Teacher interest was also a factor often considered at all division levels. Table 5 reports factors considered by principals when deciding who teaches PE by division levels.

How much time is devoted to instructional PE?

A total of 1272 physical education classes were included in the sample, as reported by teachers who responded. Of those, 22% were Division I, 25% were Division II, 32% were Division III and 16% were Division IV. Approximately 4% of the rest of the classes represented other mixes of grades and divisions (e.g. K – 9). Of all the classes, 83.4% were co-ed and had an average class size of 26.6 students. The average time for a PE class across all classes was 45.5 minutes (see Figure 4). Given that there are no standardized timetable rotations for Alberta schools, it is difficult to determine how many minutes per week are devoted to PE. For example, one school may have a 6-day rotation where every six days the school timetable re-starts, whereas another school may have a 5-day rotation where every five days the school timetable re-starts. For purposes of this study, the total time devoted to PE in a school's timetable per rotation was divided by the total number of minutes in that school's rotation to come up with an average. For the total sample, it was found that on average 9.9% of a school timetable was devoted to PE. However, when semestered high school classes (15.9% of all classes) were taken out, approximately 8.6% of the total minutes in the school rotation were devoted to PE . This is almost identical to the average (M = 8.5%) provided by the

principals on their questionnaire. A greater percentage of time was devoted to PE in the timetable when the class was taught by a PE-Specialist teacher ($F_{1, 1183} = 49.18$; $p < .001$, $eta^2 = .04$). As depicted in Figure 5, a greater proportion of time was devoted to PE in the timetable for Division III and IV classes as compared with Division I and II classes ($F_{4, 1180} = 170.14$; $p < .001$, $eta^2 = .37$).

What is being taught in PE?

For each PE class they taught, teachers were asked to indicate the approximate percentage of the total year plan devoted to each of seven activity dimensions (i.e., outdoor pursuits, gymnastics, dance, games A - team, games B - dual/4's, individual activities, and aquatics). Figure 6 provides a breakdown of the types of activities taught in PE by division. Overall, across all divisions the activity ranked as receiving the most amount of time was games A (Team) lessons, followed by games B (dual/4) lessons, and third by individual activities. The fourth ranked activity in Division I and II (elementary grades) was gymnastics activities and in Division III and IV (secondary grades) it was outdoor pursuits. The fifth ranked activity in Division I and II was outdoor pursuits and in Division III and IV it was dance. The sixth ranked activity in Division I and II was dance, in Division III it was gymnastics and in Division IV it was aquatics. The type of activity ranked lowest was aquatics in Divisions I, II and III and gymnastics in Division IV.

Analysis of Variance indicated significant between division differences in the percentage of time devoted to the Gymnastics ($F_{4, 1100} = 94.0$; $p < .01$), Dance ($F_{4, 1136} = 17.16$; $p < .01$), Games A (Team) ($F_{4, 1167} = 26.3$; $p < .01$), Individual Activities ($F_{4, 1153} = 7.69$; $p < .01$), and Aquatics ($F_{4, 998} = 9.76$; $p < .01$) dimensions. Tukey post hoc analysis demonstrated that more time was devoted to Gymnastics in Division I as compared to Divisions II, III, and IV, in Division II as compared to Divisions III and IV, and in Division III as compared to Division IV. In addition, more time was devoted to Dance in Divisions I and III compared to Divisions II and IV. More time was also devoted to Dance in Division II when compared to Division IV. In Division II, III, and IV more time was devoted to Games A (Team) compared to Division I classes. Classes in Divisions I and IV tended to devote more time to Individual activities when compared to Division II and III classes while those in Divisions I, II and IV tended to devote more time to Aquatics than those in Division III.

Teachers were also asked to indicate the type of off-site facilities they used throughout the year for their PE program. Approximately 50% of teachers indicated that facilities such as swimming pools, arenas, parks, and playgrounds were used a few times a year, used occasionally, or used on a regular basis. Facilities such as the bowling alley, fitness centres, tennis courts, climbing facilities, and activity centres were not used as often. Figure 7 illustrates the types of facilities and their use for PE classes.

In terms of assessment of students in PE, attitude and social skills were used to determine approximately 42% of the marks. Physical skills were used to determine approximately 26% of students' marks. Knowledge and understanding (M = 18.19%) and physical fitness ($M = 15.38\%$) usually reflected a smaller proportion of the marks. In the lower grades (Div. I & II) a bit more emphasis was placed on physical skills and attitude and social skills while in the upper grades more emphasis was placed on knowledge and understanding and physical fitness. Non-PE specialists were more likely to focus on attitudes and social skills than PE specialists ($F_{1,1221} = 8.93$; $p = .003$, $eta^2 = .007$).

What factors affect the implementation of the PE program?

Teachers and principals were asked to rate the extent that various factors had as a negative or positive impact on their PE programs. Over 40% of teachers felt that the amount (or lack) of funding, preparation time available and preparation time required for other subjects had a negative impact on their PE programs. Alternatively, a majority of teachers felt that the administration, availability of equipment and facilities, professional development opportunities, and their level of expertise had a positive impact on their PE program. Principals felt that positive factors impacting the PE program were the expertise on staff, equipment and facilities, professional development opportunities for teachers and having PE a priority. See Figure 8 for the proportion of teachers reporting negative factors relating to implementation of PE programs.

Teachers and principals were also asked to rate the quality of their equipment and facilities, storage space, access to community resources, and access to equipment for students with special needs (see Figures 9 & 10). Over 40% of teachers and principals rated their indoor and outdoor facilities, and equipment for PE as either very good or excellent. Over 40% of teachers also rated access to community resources as very good or excellent. Alternatively, over 40% of teachers and principals rated access to equipment for students with special needs as very poor or somewhat lacking. Over 40% of teachers also felt storage space and equipment for PE was very poor or lacking.

Student participation in PE, extracurricular activities, and intramural activities

Division I, II, and III schools reported above 94% of the student population as being involved in the physical education program. Only 69% of students in Division IV were involved in school PE programs. Although not always directly related to the PE instructional program, principals were asked to indicate how many students participate in extracurricular and intramural activities and to list the type of activities in which students in the school participate. On average, approximately 12.4% of the student population participated in extracurricular activities while approximately 31.4% of the student population participated in intramural activities. Table 6 provides a list of the most frequently mentioned type of activities reported by principals that were part of the extracurricular or intramural programs in their schools.

DISCUSSION

The results of this study provide baseline information, as reported by teachers and principals, on PE programs in Alberta public schools. This information will be useful for future studies investigating the impact of a new PE curriculum. The sample of public (protestant and catholic) schools is representative of the schools in Alberta. The teacher sample is not a random sample of all PE teachers in Alberta. Teachers provided information about their classes and hence, information about what other teachers in their school were doing in PE was not obtained. Previous surveys of physical education in Alberta schools reported sampling bias (Cooney, Bamford, Adams, & Dyck, 1990) or based conclusions on a very small sample of Alberta schools (Wood & Ferrand, 1997).

As expected, since physical education remains a compulsory subject until Division IV, all Division I, II, and III schools reported above 94% of the student population as being involved in the

physical education program. At the high school level students can select to take physical education after completion of PE 10 and results of this study show that only 69% of students in Division IV were involved in school PE programs. These results are similar to a recent Alberta study in which a significant decline in PE enrolment is observed after grade 10 (Spence, Mandigo, Poon, & Mummery, 2001). This lack of involvement in physical education at the high school level is a complex issue that warrants further investigation. A recent study of high school athletics found that school athletes often had higher grades than those who did not participate in school sports and participation in some school sports did not hinder students' interests in other school activities (Poon & Spence, 1997). Since an aim of the new physical education curriculum is to encourage individuals to adopt active healthy lifestyles it seems important in future studies to assess the overall involvement of students in school instructional, intramural and extracurricular PE programs as well as their involvement in community based and leisure activity.

Half of the teachers in this study were trained as PE-Specialists. Most PE-Specialist teachers taught at the secondary school level and most of them reported teaching several classes of PE. Hence, over 70% of the PE classes reported in this study were taught by PE-Specialist teachers. Most non PE-Specialist teachers taught at the elementary school level and most of them reported teaching one or only a few PE classes. Of particular interest were results about teachers in relation to their perception about teaching PE. It appears that the PE-Specialist teachers should be considered for teaching school PE, at the elementary and secondary school levels, because they feel more prepared to teach PE. Also, the results of this study suggest that a PE-Specialist teacher has a positive impact on the PE program in terms of the school timetable. Principals indicated they considered whether they have a PE-Specialist teacher as factor more often than other factors when determining who will teach PE. There are PE-Specialist teachers graduating from university programs in Alberta (e.g., University of Alberta's BPE/BED Combined degrees program for Elementary and Secondary) and it would be interesting to examine the extent of their involvement in Alberta schools after graduation. Perhaps principals need to become aware of the availability and expertise of these Elementary PE-Specialist teachers in particular since fewer specialist teachers were found teaching the elementary grade levels PE in this study. The Elementary PE-Specialist teachers have the ability to be classroom teachers and/or physical education specialist teachers in a school. Future research could examine the extent that PE-Specialist teachers are used as facilitators for generalist teachers in elementary schools as well as how much of the PE program is taught by the specialist teachers.

This study reported that approximately 8.6% of the timetable was devoted to PE (excluding high school semester classes) with the elementary grades allotting less time (approximately 7.4%) than junior high (approximately 10%). Although elementary schools are able to use up to 15% of the timetable at their discretion, and devote additional proportions of time to various subject areas, it appears that PE is seldom allocated any of this extra time (Fishburne, 1983). This raises a concern about what is valued in a child's education and whether there is curricular balance with the child's total development being considered (Fishburne & Haslam, 1992). The Guide to Education: ECS to Grade 12 (Alberta Learning, 2001) recommends that the time allotment for health and physical education combined, for elementary grades be 10% of the timetable, with an additional 15% for optional subjects or additional allocation to core subjects. This guide also recommends that the time allotment for physical education for junior high grades be 75 hours or more (out of a total 950 hours per year this would amount to approximately 8% of the timetable). It has been demonstrated through research that spending more time on physical education does not interfere with academic performance and can result in physical and psychological benefits to students (e.g., Sallis, 1994; Sallis, McKenzie, Kolody, Lewis, Marshall, & Rosengard, 1999; Shephard, 1997). It appears that

elementary school PE programs in Alberta in particular should consider increasing the amount of time in the timetable by using some of the discretionary time available.

This study examined the content being taught by teachers according to the dimensions of activities suggested in the current physical education curriculum at the time of data collection. The findings suggest that game activities dominate the content. However, of particular interest is the finding that gymnastics is taught to a greater extent in elementary grades as compared to secondary grades. Thus certain activity dimensions, which receive less emphasis, need to be assessed to determine if teachers feel prepared and confident to teach them (e.g., gymnastics, dance or aquatics). The new physical education curriculum focuses more on outcomes rather than activity dimensions per se (Alberta Learning, 2000). Future research should not only tap into the percentage of the program being devoted to various activities, but more importantly, should assess how well students achieve the outcomes.

Principals and teachers had similar ratings for positive and negative factors relating to implementation of the PE program. Both rated funding and preparation time (for other subjects or PE) as the most negative factors impacting the PE program. Principals also rated extracurricular demands in the top three negative factors. Both rated teacher level of expertise and equipment available as the factors with the most positive impact on the PE program. Also, many teachers and principals rated equipment for students with special needs and storage space as very poor or somewhat lacking. More principals rated indoor facilities and equipment for PE as very good or excellent than did teachers. More teachers than principals felt that access to community resources was very good. The one area of strong agreement was the lack of equipment for students with special needs, which identifies an aspect of program implementation that could warrant further investigation. This factor may impact the number of special needs students who are involved in regular physical education. Since inclusive programs should be an integral part of education, appropriate facilities and equipment need to be available to foster such programs.

This study did not assess the quality of physical education instruction in schools. Although an estimate of the amount of time children received PE in the timetable was determined, it was not possible to say how active children were in their lessons. Recommendations suggest that children should participate in at least 30 minutes of moderate to vigorous physical activity on most days (Council for Physical Education for Children, 1998) and the school PE program can play a role in providing some of this physical activity. Research over the last decade highlights the lack of moderate to vigorous physical activity of participants in many PE lessons. Recently, it has been demonstrated that a quality physical education program in schools can provide children with substantially more physical activity during PE (Sallis, McKenzie, Alcaraz, Kolody, Faucette, & Hovell, 1997). Improvements made to lessons by reducing management time, modifying curricular content and adjusting class sizes may be obtained with training and feedback to teachers based on observations of lessons (McKenzie, Marshall, Sallis, & Conway, 2000). Future studies of physical education in Alberta schools should include direct observation of students in order to make specific recommendations for improving children's physical activity time during PE lessons.

Extracurricular and intramural PE programs were examined in this study to a limited extent. However, community programs as well as family involvement can also play a role in assuring that children are active daily. Data on children's physical activity involvement during out of school activities should be obtained in future studies in order to better determine whether children are receiving adequate amounts of physical activity. Also, the school can examine its environment and policies to determine ways to promote physical activity. Sallis, Bauman and Pratt (1998) maintain

that physical activity behaviour is done in specific settings and environmental and policy interventions can be designed so that the entire population within the setting (e.g., school) is influenced. Research is being initiated along this line in school environments (e.g., Fein, Plotnikoff, Wild, & Spence, 2000; 2001). The Ever Active Schools Program in Alberta encourages schools to assess what they are doing and develop a "game plan" to improve the amount of physical activity children receive through school based programs (www.everactive.org). The impact of this program should be measured over time and in conjunction with the impact of the new physical education curriculum in Alberta.

Recommendations:

1. Each school should consider the amount of time devoted to instructional physical education in the timetable and attempt to have daily physical activity opportunities for children. With the current guideline of 10% of the timetable being devoted to both health and physical education, there is the possibility that elementary schools in particular will find it difficult to meet the expected outcomes by having such limited amount of time devoted to both subjects in the school timetable. Elementary schools can use some of the discretionary time available for an emphasis on PE rather than other subject areas.

2. Examine whether the learning outcomes are being met in physical education programs. The amount of time devoted to the physical education program is only one factor important to offering quality physical education programs. The new curriculum is focused on what children learn as a result of the time spent.

3. Examine and promote leisure time activities of children and the opportunities for children to be engaged in physical activity at school outside of instructional physical education classes. The instructional PE program is only one opportunity for children to be active during the day. There is a need to assess how active children are in other ways to better determine how much and what type of physical activity opportunities are needed in the school environment. It is also important to promote improvement of existing school-based physical activity programs. Approximately 19 schools have accessed Alberta Initiative for School Improvement funding to improve various aspects of their programs, to hire a PE-Specialist, or to improve facilities, equipment and/or use of the community. Approximately 40 schools are using the Ever Active Schools Program to identify a game plan to improve both the instructional PE and other school-based physical activity opportunities provided to the school population. These initiatives are admirable but only touch a very small proportion of the schools in the province. More of these initiatives or broader use of these initiatives is recommended.

4. Since this study suggests that teachers and principals feel teacher expertise is a positive factor in PE programs, it is recommended that Elementary schools in particular have at least one PE-Specialist teacher on staff. A teacher shortage is looming and teacher turnover is great (Canadian Teachers' Federation, 2000). Alberta teachers have stated the top three factors impacting teacher shortages over the next five years include the perceived increase in students with special needs, more teachers reaching retirement age and fewer graduates from teacher education. PE-Specialist teachers feel more prepared to teach PE and may be willing to work on inclusive instructional PE

programs as well as the other physical activity opportunities a school provides its school population.

5. Lastly, it is recommended that a follow-up study be conducted to examine changes in physical education programs in Alberta schools in 3 to 5 years. This study accomplished a survey of principals and teachers who taught PE and lacked information on the children themselves. It is recommended that a future study include assessment of similar questions posed by this study, but also include measures of student learning in relation to the outcomes stated in the new physical education curriculum and leisure time activity patterns of children.

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Table 1. Information about schools by division provided by principals

	Location of Schools				School Population		Students in PE	
	Urban		Rural					
	n	%	n	%	mean	range	mean	%
Division								
I & II	55	45.8	65	54.2	306.4	50-810	298.1	98
III	10	43.5	13	56.5	386.3	4-1400	357.6	94
IV	6	42.9	8	57.1	676.5	145-1670	411.9	69
I, II & III	8	100			139.5	18-290	135.7	99
III & IV	1	100			155.0		142.0	92

Table 2. Teacher demographics by division

	Gender				Classes Taught By			
	Male		Female		PE-Specialist		Non PE-Specialist	
	n	%	n	%	n	%	n	%
Division								
I	32	19.6	131	80.4	55	33.7	108	66.3
II	63	46.0	74	54.0	49	35.5	89	64.5
III	65	67.7	31	32.3	79	82.3	17	17.7
IV	36	66.7	18	33.3	46	85.2	8	14.8
Other	14	46.7	16	53.3	11	36.7	19	63.3

Note: A PE-Specialist was a teacher who has a degree in physical education/kinesiology and/or a major/minor in physical education as part of an education degree. To interpret the table, look across the row for a specific division level (e.g., of the teachers who taught Division II, 46% were male while 54% were female and 35.5% were PE-Specialists while 64.5% were non PE-Specialist teachers).

Table 3. Number of PE classes taught by PE-Specialist and non PE-Specialist teachers by division level.

	PE-Specialist	Non PE- Specialisit
Division I	142	143
Division II	177	143
Division III	370	38
Division IV	185	21

Table 4. Teacher perceptions about teaching physical education

	Prepared	Enjoyment	Confidence
Division			
I	2.99	4.27	4.13
II	3.01	4.33	4.35
III	3.42	4.44	4.69
IV	3.50	4.61	4.77
Other	2.75	4.26	4.01

Note: Score are based on a 5-point rating scale where 1 = not at all/none, 2 = minimal/very little, 3 = medium/adequate, 4 = considerable, 5 = high.

Table 5. Factors considered by principals when deciding who teaches physical education

	Total respondents	Homeroom Teacher	PE Specialist	Interested Teacher	Teacher Available
Division	n	mean	mean	mean	mean
I & II	109	2.29	1.62	2.44	3.29
III	21	3.19	1.09	2.40	3.40
IV	14	3.74	1.14	2.72	3.52
I, II & III	3	2.6	1.2	2.60	3.20

Note: Scores are based on a 4-point rating scale where 1 = most important consideration, 2 = often considered, 3 = least important consideration, 4 = not taken into consideration.

Table 6. Top ten extracurricular and intramural activities offered by schools and the percentage of schools which offer the activity

Extra Curricular Activities			Intramural Activities		
Rank	Activity	%	Rank	Activity	%
1	Basketball	62%	1	Varied Activities	47%
2	Volleyball	59%	2	Volleyball	43%
3	Badminton	46%	3	Floor Hockey	40%
4	Track & Field	43%	4	Basketball	37%
5	Cross Country	34%	5	Soccer	23%
6	Golf	12%	6	Badminton	21%
7	Soccer	12%	7	Baseball	12%
8	Curling	11%	8	Flag Football	11%
9	Wrestling	8%	9	Drop-in Gym	10%
10	Football	7%	10	Handball	8%
	Softball	7%			
	Journal Games	7%			

Note: The percentages represent the proportion of schools which offer the type of activity.

Figures

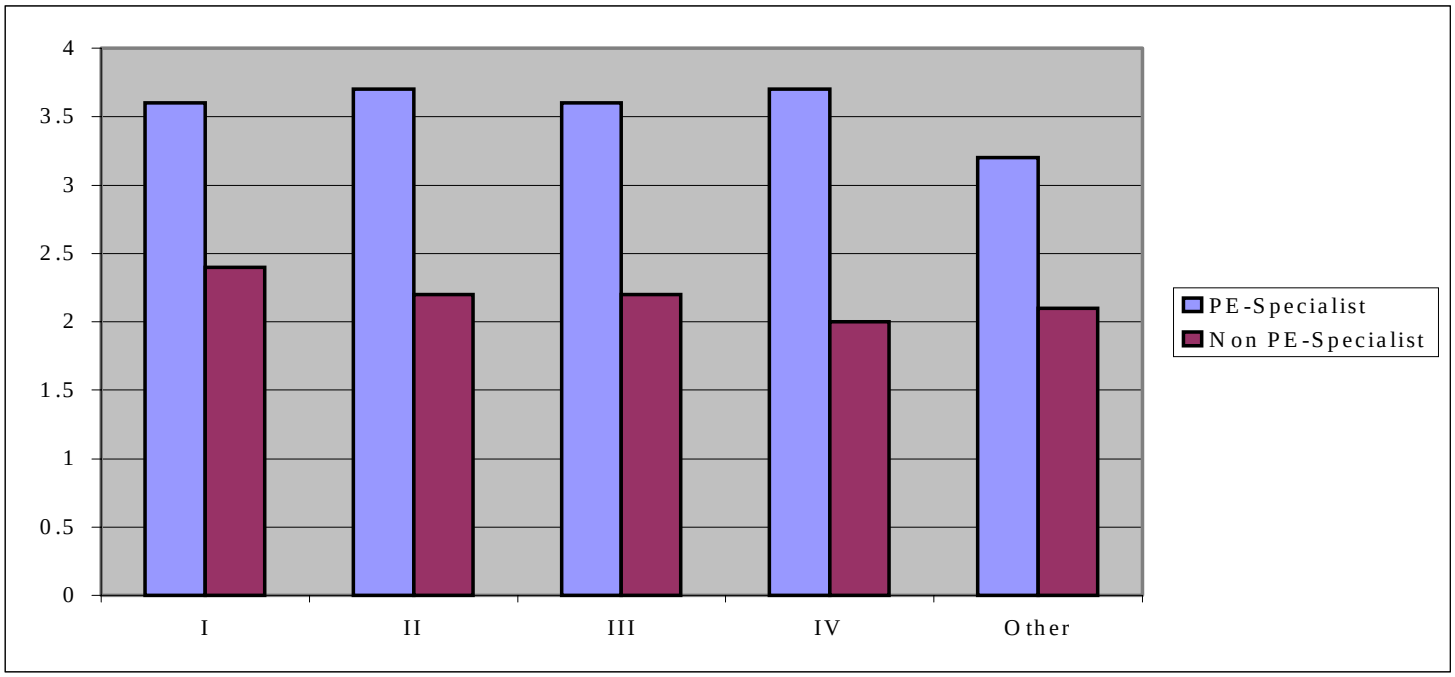

Figure 1. Teacher perceptions of being prepared to teach PE by the division level and whether the teacher had PE-Specialist or non PE-Specialist training.
Note: Rating scale included 1 = not at all (none), 2 = minimal (very little), 3 = medium (adequate), 4 = considerable, 5 = high.

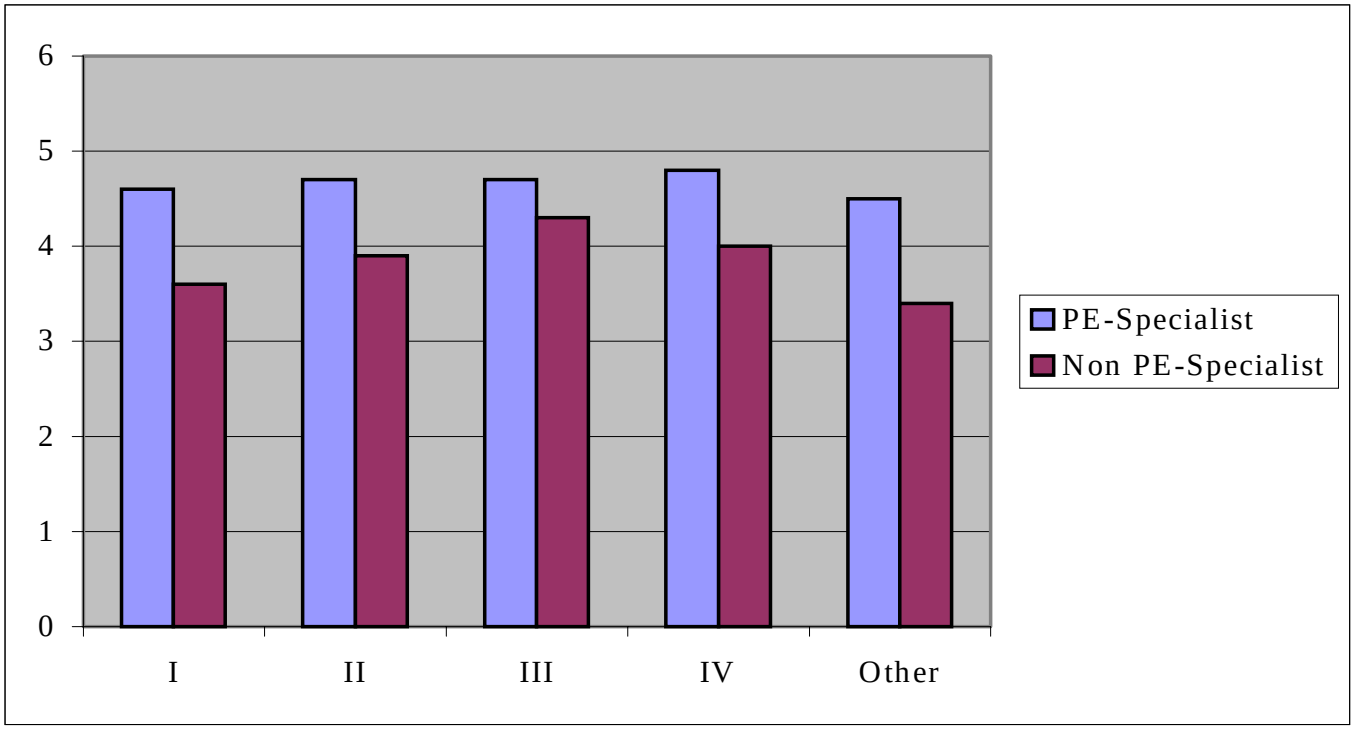

Figure 2. Teacher perceptions of being confident to teach PE by the division level and whether the teacher had PE-Specialist or non PE-Specialist training.
Note: Rating scale included 1 = not at all (none), 2 = minimal (very little), 3 = medium (adequate), 4 = considerable, 5 = high.

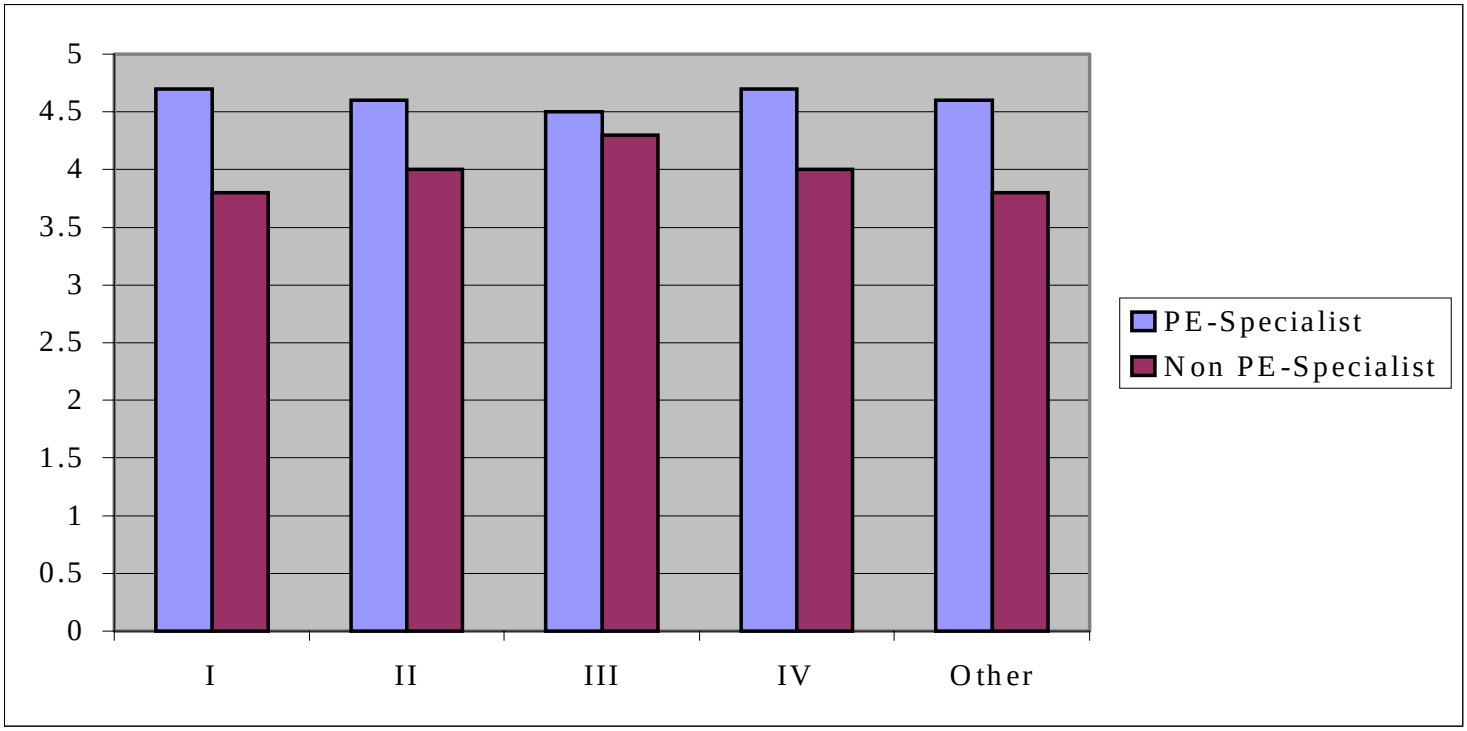

Figure 3. Teacher perceptions of enjoyment for teaching PE by the division level and whether the teacher had PE-Specialist or non PE-Specialist training.
Note: Rating scale included 1 = not at all (none), 2 = minimal (very little), 3 = medium (adequate), 4 = considerable, 5 = high.

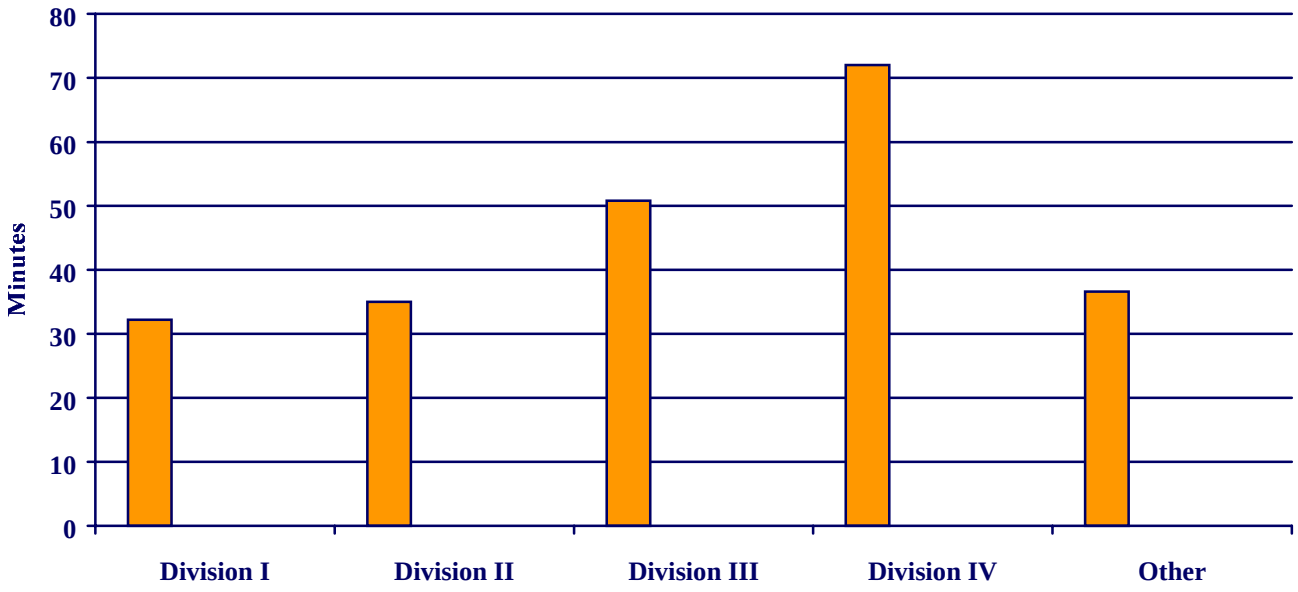

Figure 4. Average number of minutes for PE classes by division level.

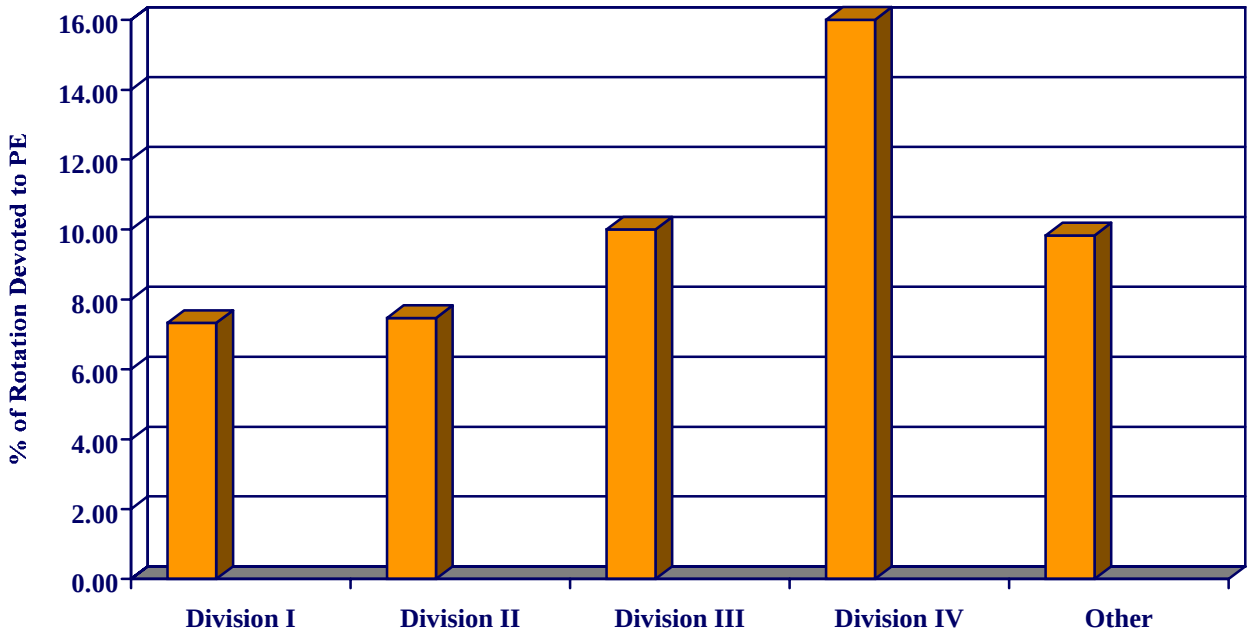

Figure 5. Average percentage of time devoted to PE in the timetable by division level.

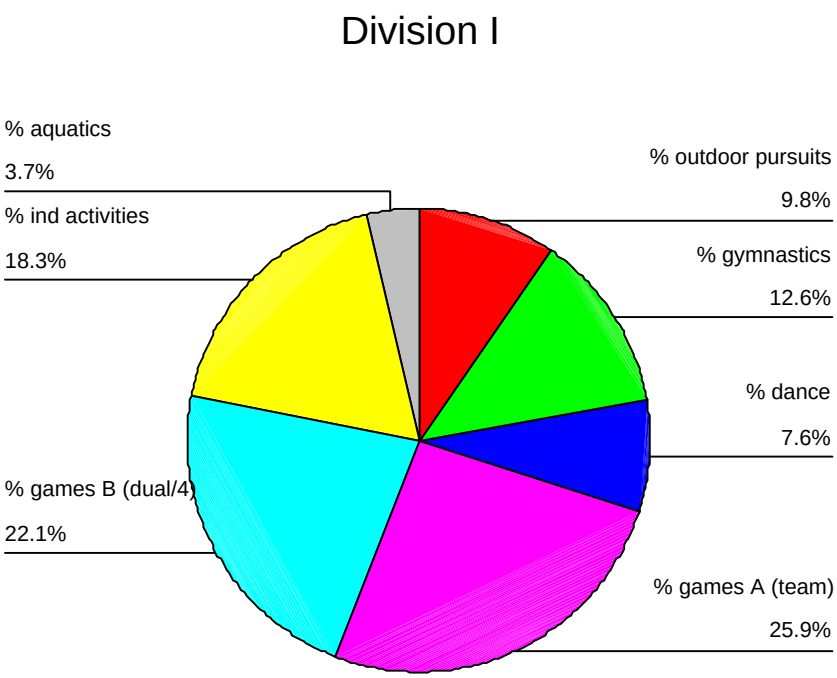

Figure 6a. Types of activities taught in PE classes by division level – Division I.

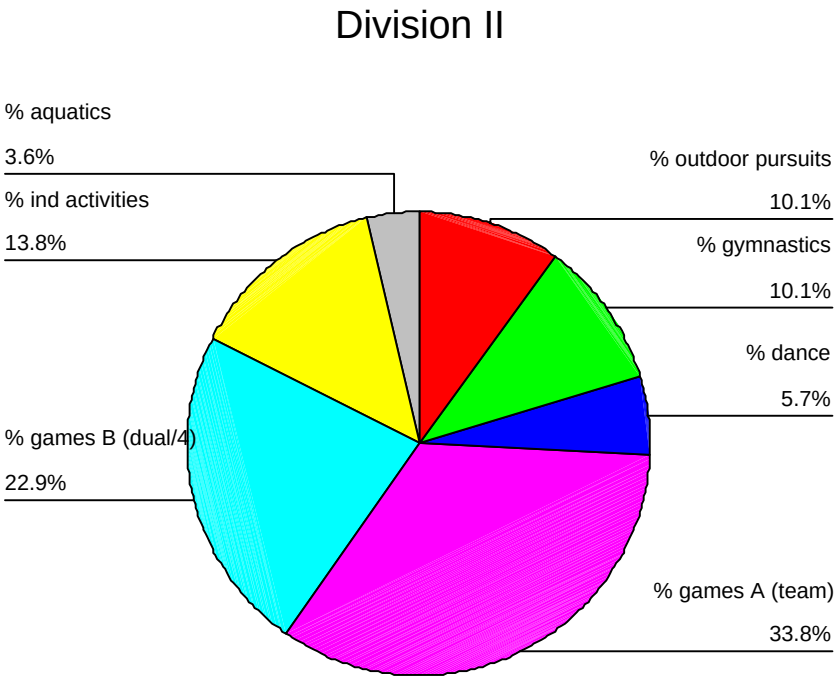

Figure 6b. Types of activities taught in PE classes by division level – Division II.

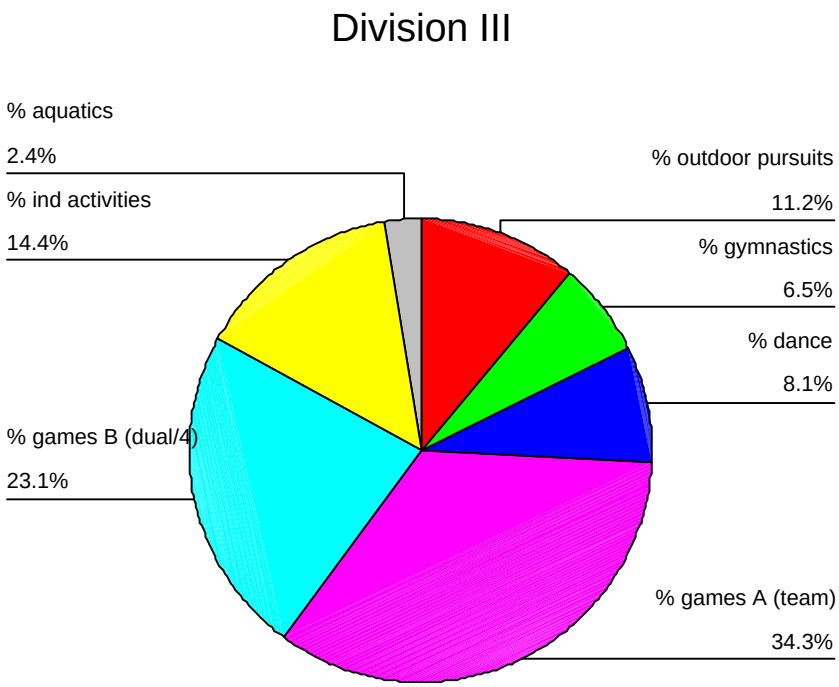

Figure 6c. Types of activities taught in PE classes by division level – Division III.

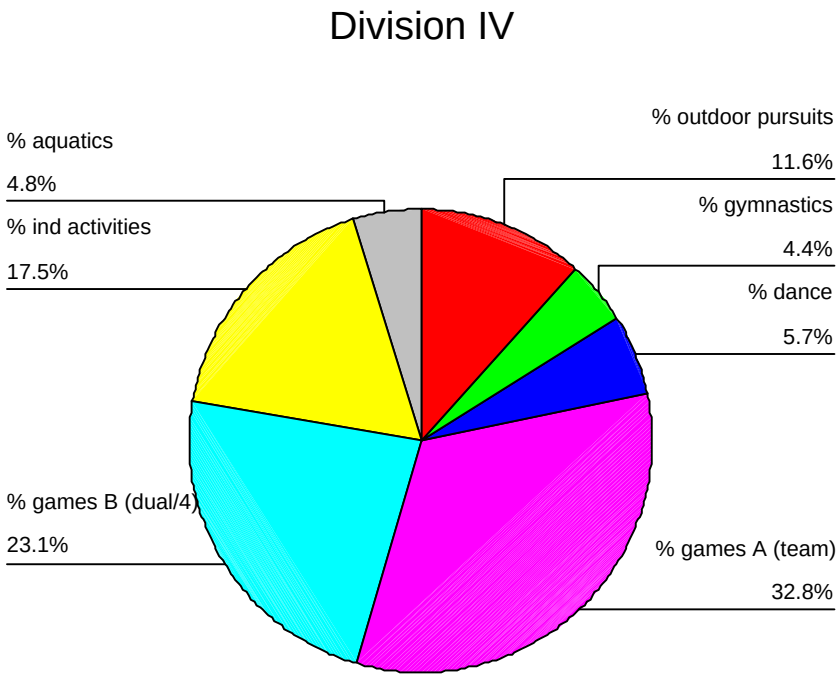

Figure 6d. Types of activities taught in PE classes by division level – Division IV.

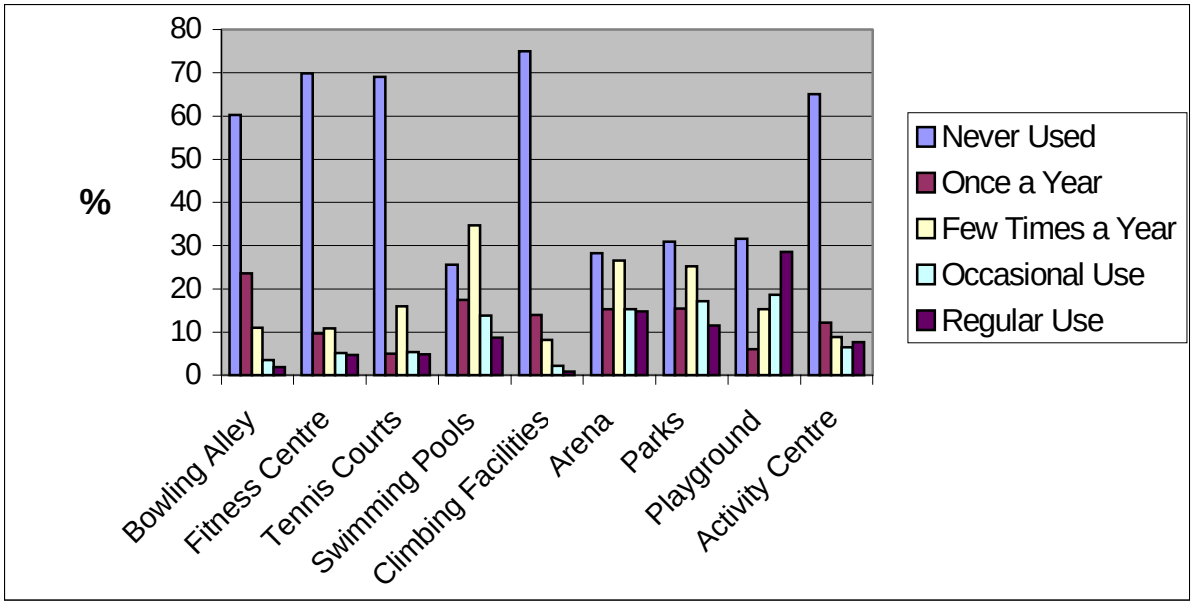

Figure 7. Proportion of teachers reporting use of extra facilities for PE classes.

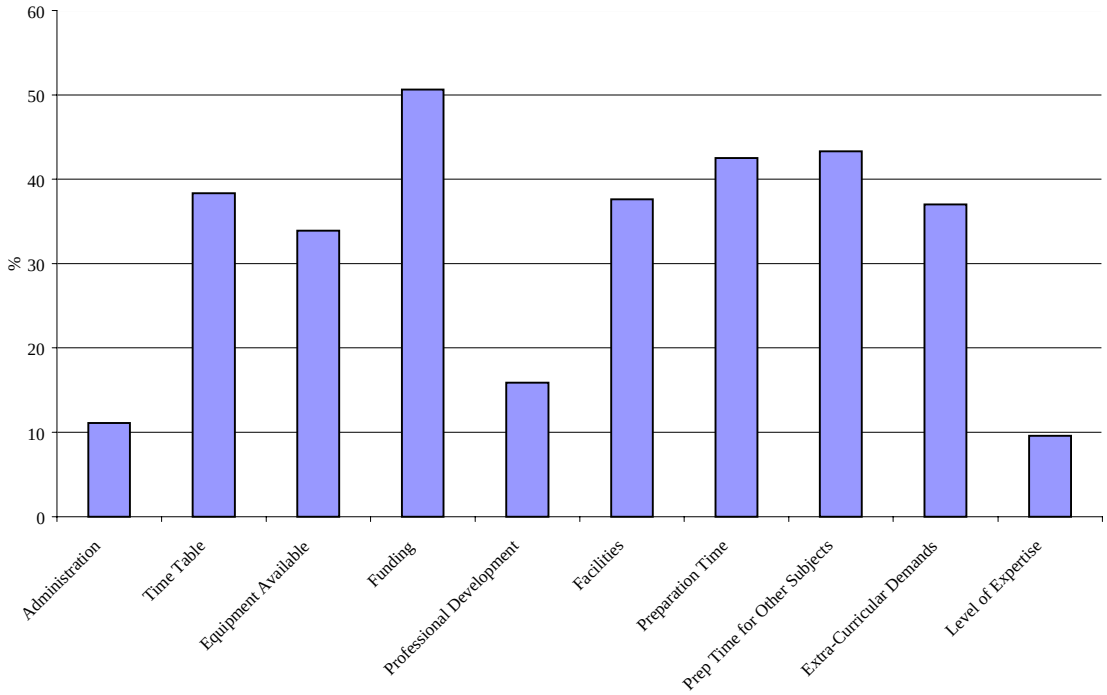

Figure 8. Percentage of teachers reporting negative factors relating to implementing the PE program.

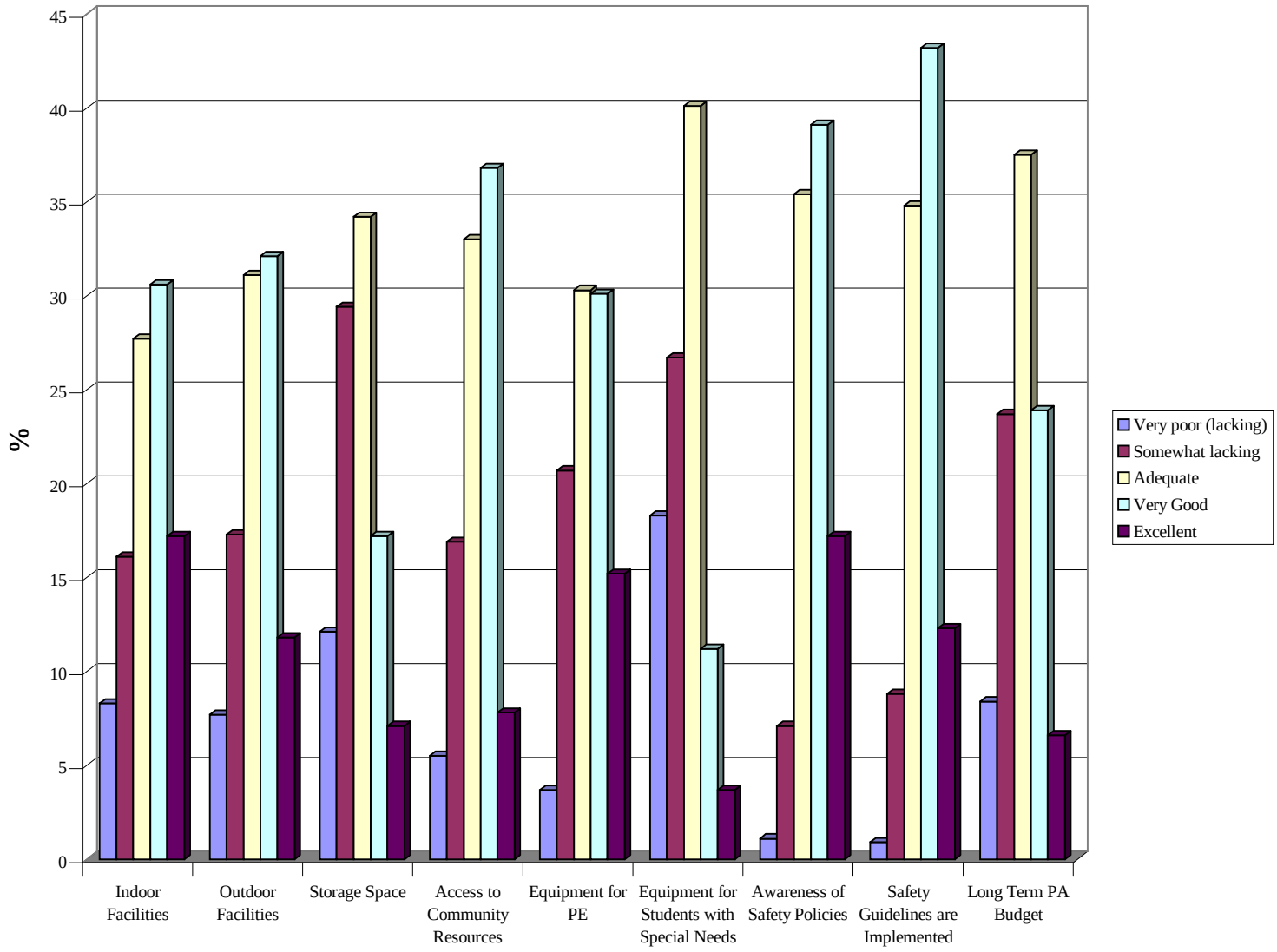

Figure 9. Teacher responses about the quality of facilities for the PE program.

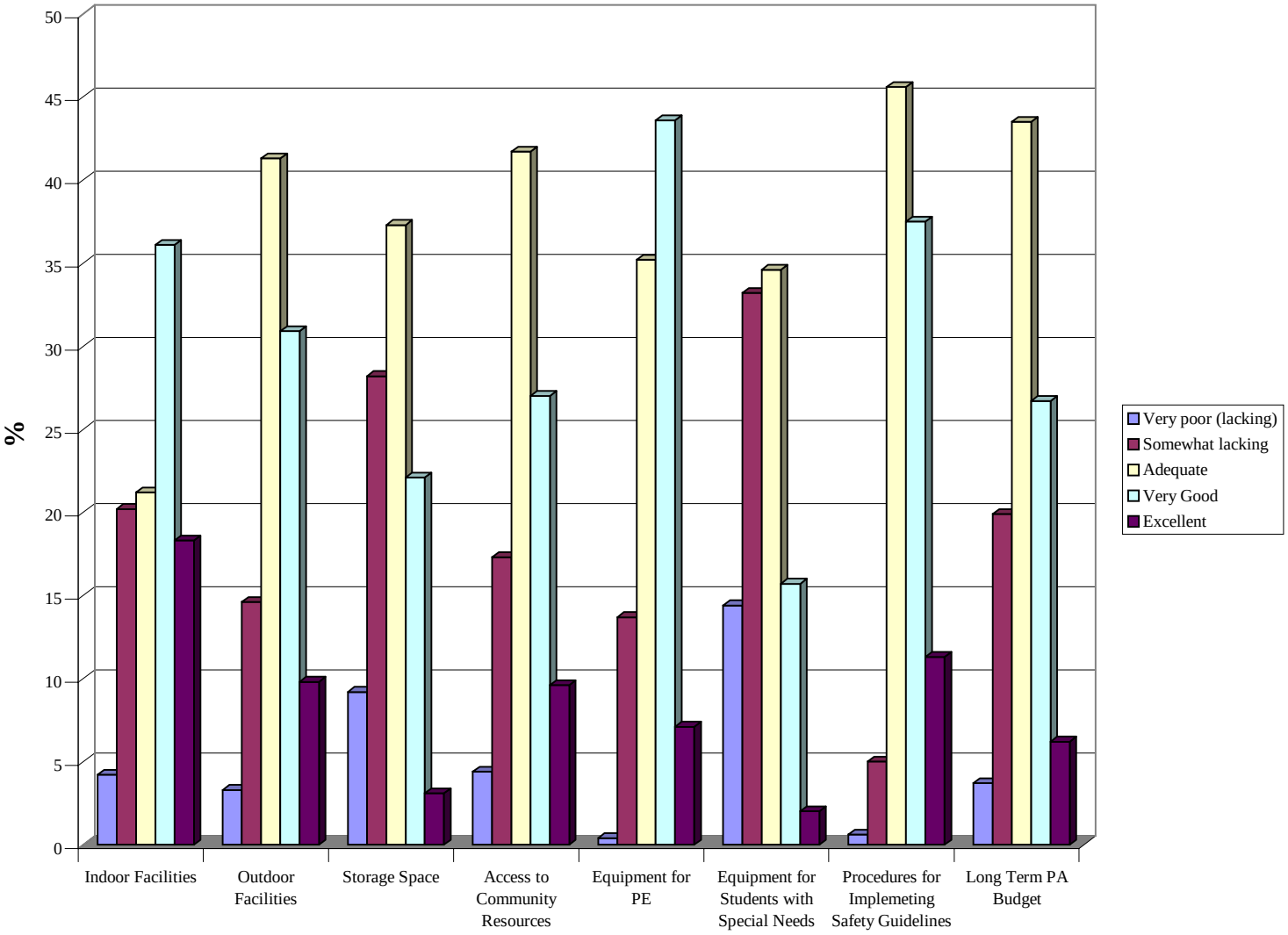

Figure 10. Principal responses about the quality of facilities for the PE program.