



# Physical Activity for Preschool Children

A Research Project developing Three methods of Dissemination, and an evaluation of 1st year practicum students' experience with their practicum placements in child care centers before they incorporate a resource Tool Kit to aid in implementing physical activity for preschool children.

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## Abstract

**Objectives:** We sought to explore Early Learning and Child Care students' experiences with adult lead physical activity in the child care practicum placements.

**Methods:** We conducted a pre survey administered to the students' to be completed before using the created tool kit in their placements.

**Results:** Responses from the survey indicated that children in child care settings are not receiving the recommended amounts of physical activity they require for healthy development. Factors appear to be ages of the children, and also the experience level of the early learning students. Other possible factors may be the knowledge and training surrounding implementing physical activity with children.

**Conclusions:** Child care workers require more education and training regarding physical activity and a child's healthy development. We suggest further research be conducted around: children three years and under, why care givers with more experience tended to lead less physical activity with the children, and the two categories of free play and structured (adult led) play.

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Physical Activity levels that children receive while in child care centers are the focus of our research project. Following up with the project that started last year, we are now working with the research assistant to create three pre and three post surveys that will be used to gather information regarding physical activity in child care centers. For the purpose of our role in the research project, we will be focusing on the information that we receive from practicum students in the Early Learning and Child Care program at Mount Royal College.

The practicum students were required to implement activities from the created Tool Kit into their practice with the children in their care. A pre survey was handed out to evaluate the level of physical activity currently going on in the students' placements. Then a post survey was conducted calculating the possible changes that may occur in their placements after the use of activities from the tool kit. The larger research project will continue on towards looking at and evaluating how the Tool Kit was implemented into child care centers, and if there were any beneficial results. The researchers will be providing workshops to child care centers after they have received the Tool Kit. Further surveys will then be created, and evaluated to gather further data from child care centers and the staff on the importance of physical activity and how the staff may plan and implement activity into their work with children.

For our role in the research project we have posed a question to help guide our research. Our research question is: How effective has the created Tool Kit been in helping Early Learning Students to increase and implement Physical Activity into their practice with children? The purpose of our research is to: Evaluate whether or not the created Tool Kit was beneficial in assisting Early Learning Students to plan and incorporate more physical activity with the children in child care centers where they are conducting their practicum placements. We then provided this data to the researchers so that they may implement the tool kit with staff in child care centers in Calgary Alberta. The overall goals of the

research project are to provide staffs in child care centers with workshops on physical activity, alongside the created tool kit so that children in child care centers will receive more daily physical activity, and staff in child care centers will be more informed and empowered to implement more physical activity with young children in child care centers. The aims of the research project are for the health and well being of children in child care and for children to be receiving the recommended guidelines of 60 minutes of daily physical activity, for healthy living.

### **Literature Review**

The purpose of this document is to assist the researchers in creating six surveys that will help to gather needed data. Our role is to review literature regarding creating and implementing effective surveys, and the purpose and value in administering workshops to child care workers. In order to create change in practice, we have identified factors that may assist in creating effective surveys, the proper questions to ask regarding survey research, the process of conducting self administered and mail out surveys, how to encourage a better response rate, how to minimize bias and errors, and how surveys are effective in helping with the research process. For our literature review on workshops we will be focusing on: group administered and hand delivered surveys methods, workshops as a method of professional development for child care, the advantages and disadvantages of workshops that incorporate active learning, as well as creating successful workshops.

## Surveys

A Survey is a formal systematic method of gathering information from a defined population in a specified geographical area. This method of information gathering includes interview surveys, telephone surveys, and mailed (self administered) questionnaires. These are among the most common and reliable methods of obtaining data for a needs assessment (City of Calgary Community and Social Department, 1997. P.40).

### *Creating Effective Surveys*

According to the City of Calgary Community and Social Development Department Surveys are only successful when they are carefully designed and administered. There are six steps to follow when conducting a survey: choose your survey approach, design the questionnaire, pilot test the questionnaire, distribute the questionnaire, collect data, and finally analyze the data (City of Calgary, 1997).

When creating the survey the document should state the purpose of why it is being done, who is conducting it, and how the information will be used. The respondents also need to be assured that the confidentiality of their responses will be kept. Survey instructions and questions must be clearly stated in simple language, and be easily understood (City of Calgary, 1997).

For the purpose of our role in the research project we will attempt to assist with the methods of dissemination such as surveys, workshops, and a standard mail out. Each method technique will have advantages and disadvantages, but for the purpose of our role in the research we will outline the advantages and disadvantages of mailed surveys, or self administered questionnaires. According to The City of Calgary Community and Social Development Department, (1997), advantages of mailed surveys are that they are the most efficient means of distribution. They enable respondents to complete the



survey when it's convenient for them, the process allows for anonymity, and they are less costly and time consuming than other survey methods. Disadvantages of mailed surveys are as follows. They often elicit a low response rate (usually 25-35% at best). They can be misplaced, and there is also a lack of opportunity to examine the complex issues with this method (City of Calgary, 1997).

This information will be given to the researchers to consider in the greater evaluation of the research process, and in the data analysis that will follow up with the gathered research data from the pre and three post surveys from the ELCC students, as well as care givers in various child care facilities in the City of Calgary.

#### *Self Administered Surveys and Mail out Surveys*

“Self administered questionnaires are one of the most frequently used methods for collecting data in research studies” (Bourque, Fielder, 2003, p. 1). For the purpose of our role in assisting the researcher to evaluate data from the ELCC students a self administered survey will be given out to the students by the researchers in their practicum class. This data will then be analyzed and given to the researchers. In future, mail out surveys will be given to various chosen child care facilities around Calgary.

With regards to self administered surveys Bourque and Fielder (2003) state that self administered surveys must be shorter than questionnaires administered in other ways. Self administered surveys must be made up of closed ended questions. Respondents may be less likely to answer open ended questions. It is important to remember too that lengthy responses to open ended questions take a lot of time to write, so there will be a substantial amount of missing or irrelevant data. One other point to remember with self administered surveys is the issue of primacy effect. This is when questions and lists are burdensome for respondents to read, assimilate and select from. Respondents

will have a tendency to select the first response that reflects how they feel or behave even if it is not the best or most representative response available. One of the greatest tasks in creating the survey questionnaire is for it to be completely self explanatory. This will help respondents to be able to answer questions to the best of their abilities (Bourque & Fielder, 2003).

#### *Proper Questions for Surveys and the Content of the Survey*

According to Bourque and Fielder (2003) self administered questionnaires more than any other type of questionnaire, must maximize user friendliness. Questionnaires need to also provide instructions for respondents that are clear and sufficient. Every effort must be taken to avoid projecting personal bias into the wording of questions and answer categories. The questions should be as short as possible and specific to what they are referencing. The questionnaire should be careful to avoid double barreled questions. That is when the question will ask more than one thing (Bourque & Fielder, 2003). Bourque and Fielder (2003) also state that surveyors must also be careful to minimize the use of abstract terms or jargon. When designing questionnaires questions should begin from the easiest questions and then proceed to more complex or sensitive questions.

According to Fink (2003) surveyors need to follow certain guidelines in asking survey questions. The first is to ask purposeful questions that are logically related to the survey's objectives. Second is to ask concrete questions. A concrete question is one that is precise and unambiguous. More detailed questions help to produce reliable answers. Following these guidelines while creating surveys may prompt better results in your research findings.

*Minimizing Bias and Errors in Survey Research*

Avoiding biases and errors in the research process is of the utmost importance. Biasing words and phrases may have little to do with the issues addressed by the survey (Fink, 2003). They may trigger emotional responses or prejudice, and this may be considered a bias. Biases may also arise in your survey if you do not fully understand the culture and values of the respondents and ask questions that are inadvertently offensive (Fink, 2003). Reviewing questions and pilot testing them before may avoid this possibility. One other consideration in regarding biases in surveys is to avoid using negative questions; Fink (2003) states that because of the logical thinking involved negative questions may be difficult to answer. Some respondents may fail to read the negative word, so make sure if they are used that you emphasize the negative word.

According to Westerfelt & Dietz (2005, p.80) when revising the draft of your survey you should be able to answer “yes” to these principles in your questionnaire. Is the survey uncluttered? Is it as brief as possible? Is the order appropriate? Are appropriate “skip” questions used so that people are not asked irrelevant questions? Have you formatted the questionnaire in a way that will be easy for you to analyze and tabulate? Is the language appropriate for the participants? And at what reading level is the questionnaire written?

All of these considerations should be taken into account when creating the survey questionnaire for the ELCC students in their practicum placements, as well as for staffs in various child care facilities in the City of Calgary which will be conducted in the months to come. For the purpose of our role in the research project we hope that this information will be valuable and assist the researchers. We also hope this information will assist us in creating strong surveys for gathering the wanted data. With the created

surveys we hope to evaluate the effectiveness of the created tool kit with student's implementation of physical activity in their practice with children.

## **Workshops**

### *Group Administered or Hand-Delivered Surveys in Workshops*

The researchers plan on using workshops to train childcare professionals on how to use the toolkit. At these workshops two surveys will be self administered to those who attend. One survey will be hand delivered to everyone before the workshop begins, gathering information about childcare staff's attitudes towards physical activity. The other survey will be handed out to everyone at the end of the workshop to get an idea of what they learned and how beneficial the workshop was to the childcare staff. The researchers wish to find out if administering the surveys and teaching the toolkit at workshops causes the toolkit to be used more than a different method of dissemination (i.e. mail-delivery) and how to create and implement successful workshops.

Self administered surveys are appropriate for populations in the environment they are currently in, such as workers in an organization (Gray & Guppy, 2003). The surveyor can either distribute questionnaires to a group or arrange for questionnaires to be given to people (Gray & Guppy, 2003). Special attention needs to be given to questionnaire returns (Gray & Guppy, 2003). Thus administering surveys to a live or captured audience, such as a group of students in their classroom, or in our case, a group of professionals at a workshop, is an efficient way to get optimal survey returns.

The advantage to hand delivering surveys is that a personal connection is provided between the researchers and the respondents. Personal contact has two benefits. The first, being that "respondents are more willing to participate when they are asked to do so personally by an interviewer" (Gray &

Guppy, 2003). Second, because respondents can ask questions or have instructions clarified, respondents are more likely to answer all of the questions on the survey (Gray & Guppy, 2003).

#### *Workshops as a method of Professional Development*

A workshop can be defined as “a usually brief intensive educational program for a relatively small group of people that focuses especially on techniques and skills in a particular field” (Merriam - Webster, 2009). Another description of a workshop is a group event at which all participants actively contribute. Instead of a lecture from one person, all are contributing and learning from each other. At the end of a workshop, all participants should be able to do things better than they could beforehand (Bennett, 1993).

The purpose of reviewing literature about workshops is to assist the researchers in determining if workshops are the best method to encourage childcare staff to use the toolkit, as well as how to create successful workshops. The hypothesis is that if the child care providers are personally introduced to the created toolkit and trained how to use it perhaps they will be more likely to use it. The workshops will include various methods of teaching in order to accommodate various learning styles. A verbal and visual presentation will be conducted, as well as discussion and physical activities to ensure all of those attending are engaged and actively participating.

Workshops can be a useful tool in education and professional development. They provide variety for various learning styles of individuals through experiential or active learning. Learning styles are various ways of learning that are particular to an individual, and are presumed to allow that individual to learn best (Bennett, 1993).

Experiential learning is emphasized throughout Bennett’s writing and is described as an “active rather than passive” way of teaching and learning (1993). David Kolb’s Model of Experiential Learning, as

cited in Bennett, 1993, demonstrates different methods of learning. The four categories are: concrete, reflective observation, abstract conceptualization and active experimentation (Bennett, 1993). The Concrete learning experience includes personal involvement in the experience (Bennett, 1993). Reflective Observation involves developing a corresponding picture to the experience as the person attempts to understand the experience. Abstract Conceptualization tests and practically applies the knowledge one has gained (Bennett, 1993).

A similar phrase to experiential learning, which is supported by other articles, is active learning. Active learning involves activities in which participants are “engaged” – they are physically “doing something and thinking about what they are doing,” (Wolfe, p.78, 2006). Active learning supports many different learning styles including “visual, auditory, and kinesthetic, direct participation in activity” (Simmons, p.6, 2008). According to Wolfe (2006), new research indicates that learners remember “10% of what they read, 26% of what they hear, 30% of what they see” (2006, p.78). However, people remember “50 % of what they see and hear, 70% of what they say and 90% of what they say as they do something” (Wolfe, 2006, p.78). She suggests that active learning incorporates various learning styles to help increase individuals’ learning (Wolfe, 2006, p.78).

#### *Additional Advantages of Active Learning Workshops*

Throughout this literature review, many of the authors referred to the old proverb “What I hear, I forget. What I see, I remember. What I do, I understand.” Wolfe, (2006), Simmons (2008) and Jolles (2001) all used it to support active learning. There are many additional advantages to workshops using active learning. One advantage is that it provides practice in thinking, which leads to better and more effective decision making in the workshop. It also requires participants to use a higher level of thinking skills “such as synthesizing and evaluating information, not just memorization and recall” (Wolfe, 2006,

p.79). It improves their confidence and ability to work as a team as they learn from themselves and each other, not just an instructor or speaker (Wolfe, 2006). The final and most important advantage is that active learning has been proven to result in a better understanding of the material (Wolfe, 2006).

#### *Challenges and Considerations of Active Learning Workshops:*

All teaching techniques have some challenges and disadvantages to them. One consideration with active learning workshops is that implementing new techniques requires more time and effort to plan activities. It can take a while to learn how to do it efficiently at first. The technique may not go smoothly every time, and adaptation will be needed to make it more beneficial for all. Resistance from the participants will most likely occur at first, as passive learning may be more familiar and in their comfort zone. Placing them outside of this may cause them to resist and/or complain. It's also important to remember that everyone learns differently so incorporation of a variety of methods and activities are needed (Wolfe, 2006).

#### *Creating Effective Workshops*

Other than active learning techniques, there are other important tips and things to consider when planning and implementing a workshop. For instance, one must consider who their audience is. It is important to know the difference between children and adult audiences/participants. One of the most significant differences is that adults pay more attention to their surroundings. The best atmosphere for an adult workshop is one that is "relaxed yet businesslike" (Jolles, 2001, p.4). If it is too relaxed, the participants may feel a little too comfortable and begin to lose respect for the facilitator. However, if the atmosphere is too rigid, the presenter creates a "threatening environment" and participants may not feel free to contribute to the activities and discussions (Jolles, 2001, p.4). If possible, a balance between relaxed and businesslike is most beneficial. It is also important to "build and maintain interest" (Jolles,

2001, p.6). There may not be interest at first, but the goal is to have their interest by the end of the workshop (Jolles, 2001). One way to do this is to capitalize on the experience of the adult trainees. Everyone has a different history of places they've been, things they've done, people they've met, and so on. Drawing upon these experiences can help everyone learn and remember difficult concepts at a workshop. "It is that common ground of experiences that you must find to facilitate effective learning" (Jolles, 2001, p.9). If these characteristics are incorporated, the facilitator is more likely to create an effective workshop.

Overall, workshops are an effective tool. They offer a prime environment to administer surveys due to personal contact and a promising return rate. Workshops also provide an opportunity to offer professional development in a way that engages staff and encourages active participation. Although active learning workshops may include extra work for the facilitator and possible resistance from trainees, the literature appears to indicate that workshops remain beneficial.

This literature review focused on surveys and workshops. The surveys section highlighted ways to create effective surveys, information about self administered surveys and mail-outs, proper questions and content for the survey, as well as minimizing bias and errors for research. The literature that was reviewed on the subject of workshops emphasized group administered or hand-delivered surveys, workshops as a method of professional development, advantages of active learning workshops, challenges and considerations of active learning workshops, and creating effective workshops. The purpose of reviewing this literature is to assist the researchers in developing the best methods of dissemination and training possible in regards to the created toolkit. This increases the likelihood that the toolkit will be used by staff with the children in daycare, and returned surveys will help to improve the toolkit even more.



### **Design and Methodology**

Physical activity levels of children in child care settings were evaluated in the prior components of this research project. It was discovered that children in child care settings are not receiving enough of the recommended daily physical activity levels for healthy living. The previous research efforts have developed a tool kit of age appropriate activities for care givers to use with children in child care centers. For our role in this phase of the research project, we assisted the researchers in developing and implementing surveys to assess whether or not the tool kit was informative and of value to the students' practice with children. The purpose of this study is to evaluate three forms of dissemination, and of those three forms, which one has the greatest value. The researchers wish to find out, how it will be best to introduce the tool kit to staff in child care with the combination of workshops. The purpose of our research is to evaluate whether or not the created tool kit was beneficial in assisting Early Learning students to plan and incorporate more physical activity with the children in child care centers where they are completing their practicum placements. It is the researchers' hopes that staff will take on learning opportunities for education in regards to incorporating more physical activity for children, and that children will begin to receive the recommended guidelines for healthy living.

#### *Definition of terms*

For the purpose of the study, quantitative research methods will be used. We will be administering survey questionnaires to the ELCC students in hopes of assessing any changes that take place in their placements. Quantitative research is considered to be a traditional approach to research, and data is reported in terms of numbers or quantity. The data is considered to be objective. The data will measure something that is out in the real world, and is independent of the researcher. All

researchers would see the same results. Quantitative Research is considered the most valid because data can be easily verified.

#### *Limitations of the study*

Limitations of this study are the following. Our sample will be made up of the first year practicum students and the child care settings that they are placed in. There is a limited time frame placed upon the study. For our role in the research, by the end of March we evaluated the pre and post surveys completed by the students. We looked for changes and other possible findings from the surveys. After this semester, the researchers will be carrying on with the project, and evaluating the completed surveys from other participating child care centers around Calgary, Alberta. Our population is limited to the ELCC students who are in their first year of study and their first practicum. We assume that there will be great differences in the two populations who are participating in the study, the ELCC students and the other child care centers across the city of Calgary. The data that is received from the ELCC students will vary compared to the data received from the various participating centers with child care staff from around the city of Calgary. For our role, the sample population focused on the ELCC students.

#### *Significance of the study*

Previous phases of the study have already discovered that only 14% of preschool children receive 60 minutes of physical activity per day in their child care center. This data has caused great concern for the researchers, and change is being attempted. Recommendations have been made by the researchers. One is to develop and organize a resource kit to assist staff in helping children to develop physical literacy. With the developed resource tool kit, workshops are being created to help teach concepts to staff. The research project's aim is to facilitate learning with staff and care givers in child

care settings, and to start making change for children. In the future the project recommends collaborative efforts between Calgary and Area Child and Family Services and Early Childhood networks.

### *Collaborating Agencies*

Integrative Health Institute of Mount Royal College- The Integrative Health Institute of Mount Royal College is the fiscal agent involved in the project. The first phase of the project was a collaborative partnership under the direction of the Integrative Health Institute, and the Calgary Health Region. The Integrative Health Institute of Mount Royal College is dedicated to alternative health and education practices.

Alberta Association of College and Technical Institutes (AACTI) - the second phase of the project's research funds were provided by AACTI.

Health Quality Council of Alberta provided the studentship

Alberta Health Services- is committed to the health and welfare of Alberta's citizens.

ELCC Practicum Students in their participating agencies- The students play an important and vital role in the project. It is through the students that the researchers will be able to test pilot the effectiveness of the Tool Kit.

Phases one and two of the project looked at uncovering knowledge and educational levels of caregivers, and the beliefs and attitudes of caregivers. With the lack of physical activity found in centers recommendations were created. These recommendations' were compiled into a resource tool. Future recommendations were compiled, and it is with these future recommendations alongside the data collected in this phase of the project that will continue to advance.

### *Research Questions and Design*

How effective has the created tool Kit been in helping early learning Students to increase and implement Physical activity into their practise with children? We would like to find out, with the assistance of books, equipment options, and planned activities; can these make positive changes, and increase activity in child care centers? Through the use of post surveys, we will be asking students what was successful, and what was not successful. What other options could increase success? The design of the surveys will be quantitative data. We will be asking a range of questions regarding the tool kits effectiveness. We will also be asking the students how the tool kit was used, if they are more or less comfortable, and if they saw improvements and changes in the children they work with.

The rationale for why we are doing this is to calculate any changes that may take place in the beginning of the students' placements, and after some time had gone by. We are looking for positive changes, and any other changes that may happen while the students are incorporating the tool kit into their practises. Activities that we have outlined in our research contract are as follows: complete a Literature Review on the development of surveys and workshops, Research Design and Methodology, six Pre and Post Surveys for the research assistant's use, Findings and Results of the completed surveys, only from the ELCC students, a Final Report and a Poster Presentation.

### *Variables in the Study*

Independent variables: The Independent variable in this research project is the Tool kit of activities that the ELCC practicum students are required to use in their placements. The other Independent variable for the researchers will be the child care settings that receive a work shop on physical activity alongside the Tool kit, compared to the staff in child care settings that receive no workshop, and just the Tool Kit. These variables are the manipulated variables.

Dependent variables: The outcomes of the Independent variables are the learning opportunities that the practicum students as well as the staff's will take place. Outcomes may be that more physical activity takes place in the child care setting. The children may have positive social and emotional reactions to more physical activity. A closer relationship between staff and children may be a result of more adult led activity. Staff may take more priority in their program planning and program delivery.

Intervening variables: The staff of the child care centers were from various child care centers in Calgary. We have no way of knowing who the Child care workers will be. Age, gender, income, education levels, language and literacy levels, and work experience will vary. These variables will create differences among the data that we receive back. The ELCC students will share similar age, similar education backgrounds, and similar work experience. These factors may also affect the data that we receive back.

### *Ethical Considerations*

While creating the surveys for the toolkit, certain measures were taken to ensure ethical concerns were taken care of. To secure confidentiality, the surveys have been administered to the childcare centre directors and the ELCC instructors. The applicants are not required to put their name or any personal information on the survey. We then receive the completed surveys from the directors and instructors. These steps ensure the anonymity of the participants.

Informed consent was done orally at the same time as the nature of the project was explained to the participants before they actually completed the questionnaire. Also, the ELCC students signed consent forms before completing the surveys. Childcare staff and ELCC students can both be vulnerable populations. Often, childcare workers have a low level of post-secondary education, or English is their second language. The majority of ELCC students also don't have very much post-secondary training yet, and may have little experience working with children professionally. Both childcare staff and ELCC

students may have little knowledge about physical activity and its impact on a child's development. Considering these vulnerabilities, we were careful with the wording of the surveys we created. We ensured that the questions were clear, that our vocabulary didn't include jargon and was simple, and we explained what words meant to insure they understood the meaning we intended. Also, the ELCC students were given guidance throughout the duration of the research project. The students in this course were participants in the research as part of the experiential learning focus of their ELCC practicum. Ethics approval was not required for our part in this project, because this is an evaluation of the resource toolkit.

#### *Data Collection Procedures*

For the purpose our role in this study, our data came from a questionnaire that was delivered through directly to ELCC 1st year practicum students. A total of 6 surveys were created and distributed for our research. 3 Pre Surveys were administered before the participants were given the toolkit, and three Post Surveys were administered after they had used the toolkit.

The focus of our questionnaires was to measure the effectiveness of the toolkit for the children and for the adults implementing the toolkit activities. Our questionnaires covered demographics of the students, children, child care centres, equipment, and attitudes. They also centred on how comfortable the adults were in leading the activities and the amount of physical activity the children were participating in daily. The use of equipment, resources and space in childcare centre was also measured. Any changes observed in the children after using the toolkit were also addressed.

The survey was not piloted but was extensively reviewed at Mount Royal College by our instructor, Dr. Dawne Clark and Lynsey Anderson who is our supervisor for this project. They read over

the survey and gave us constructive criticism. We made revisions where needed and the surveys were reviewed again. Once no more changes were needed the surveys were sent out to the participants.

### *Description of the Sample*

The sample of our surveys is assumed. The participants are either first year ELCC students or childcare workers. To be a childcare worker, you must be at least 18 years of age and are mostly female although there may be a few males. Similarly, the ELCC students will be 18 or over and female for the most part, with a potential of some males. The education level is either one year of the ELCC program, and/or Level 1, 2 or 3 in childcare for all participants. The children in the childcare centers are boys and girls aged 2-5.

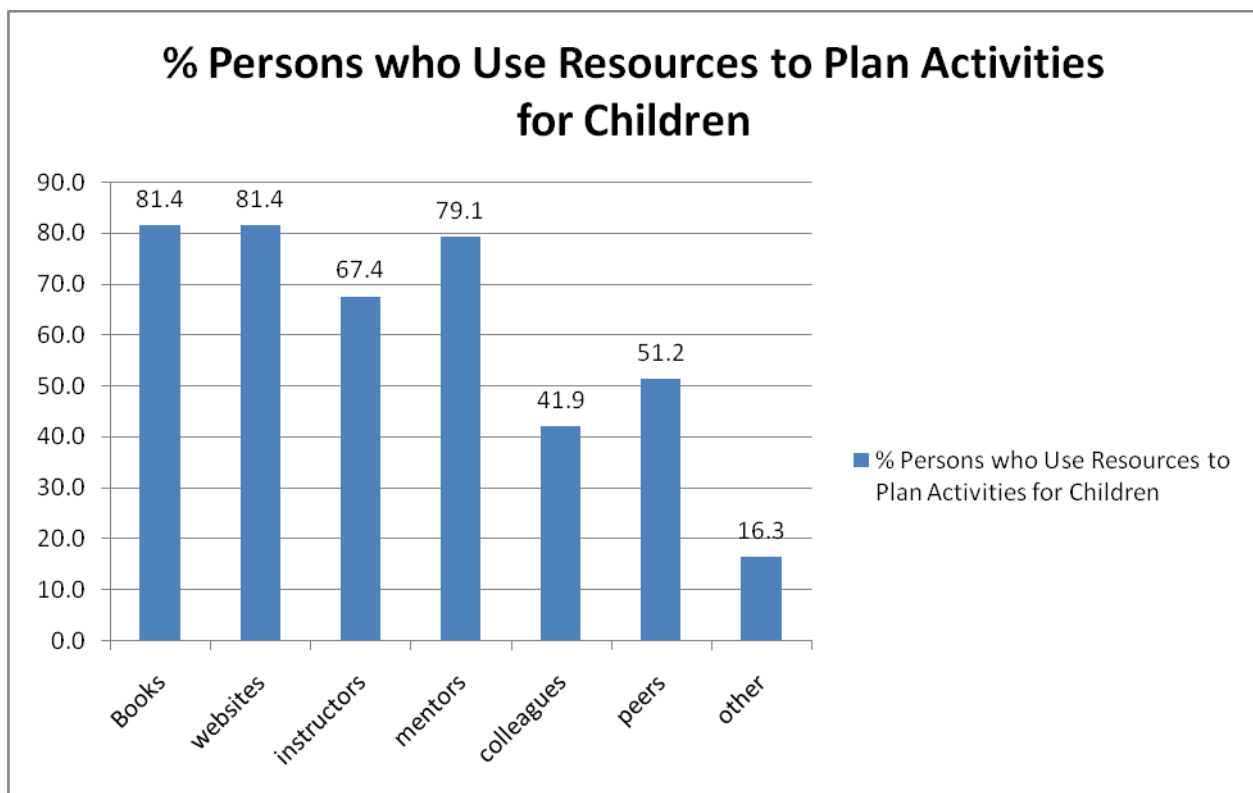
The participants were recruited by mail outs, workshops, and through the ELCC Practicum program. The incentive given to the participants after they complete the survey is the toolkit (for free). Phone calls were made encouraging directors to set up times for the child care professionals to fill out the questionnaire.

There is no representative sample because we were trying to sample the whole population. The sample can also be considered biased because some centers chose not to respond. It is likely that the ones who participated in the survey were more willing to implement and participate in physical activity with the children at their centre.

### **Findings**

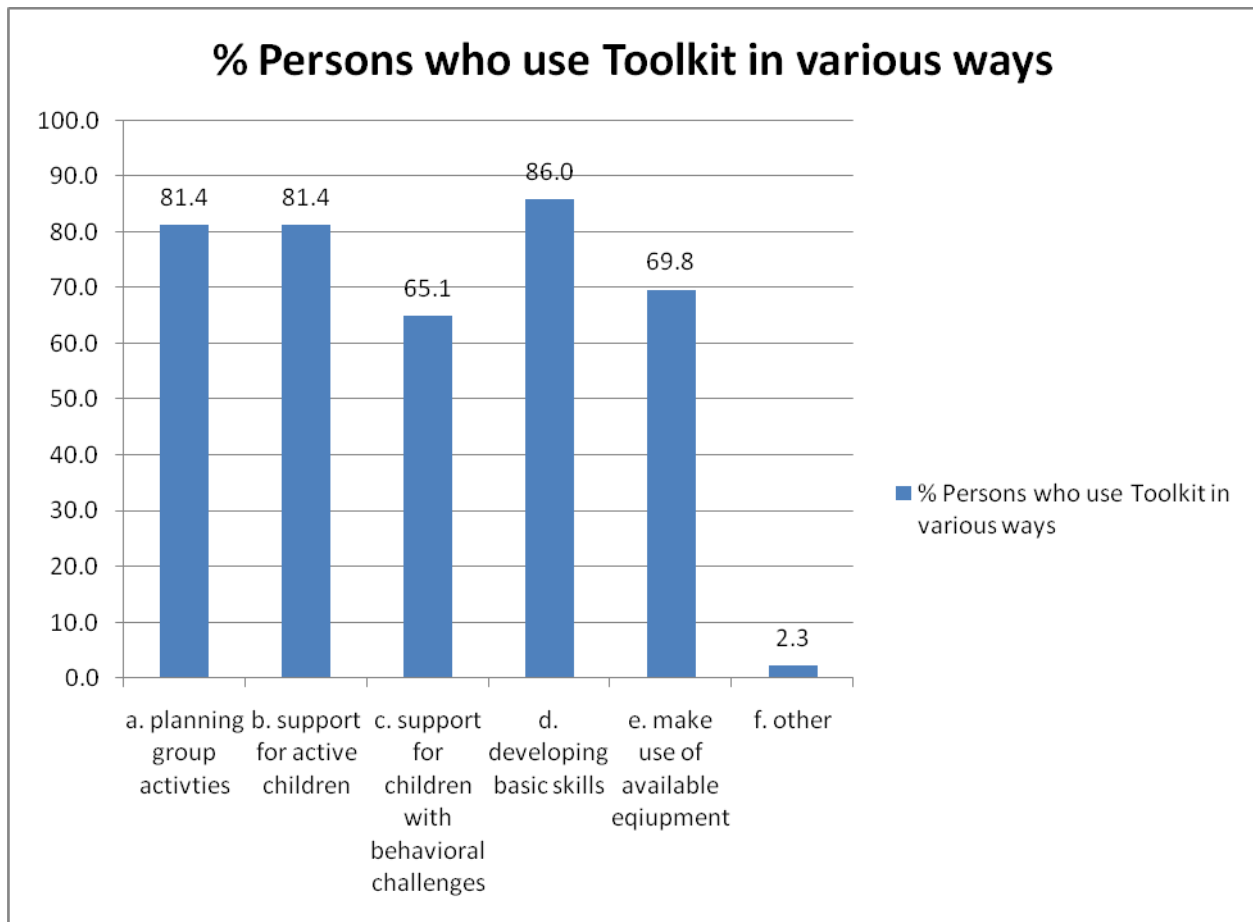
Early Learning students were provided with a pre survey on physical activity in their practicum placements. The purpose of the survey was to gain understanding of students' knowledge and experiences regarding physical activity with the children in their child care centers. Questions regarding demographics were asked. These were the age of the children in their care, and also the level of

experience each student had going into their practicum. Beliefs regarding the importance of physical activity for young children were also asked. Students were also asked how much physical activity is currently happening in their centers, and if they think that a tool kit of resources would be valuable in assisting their planning and program development. A list of resource items was presented in the survey, and students' were asked to respond to what materials they have available to them and also what materials are actually being used by the children in the child care center.

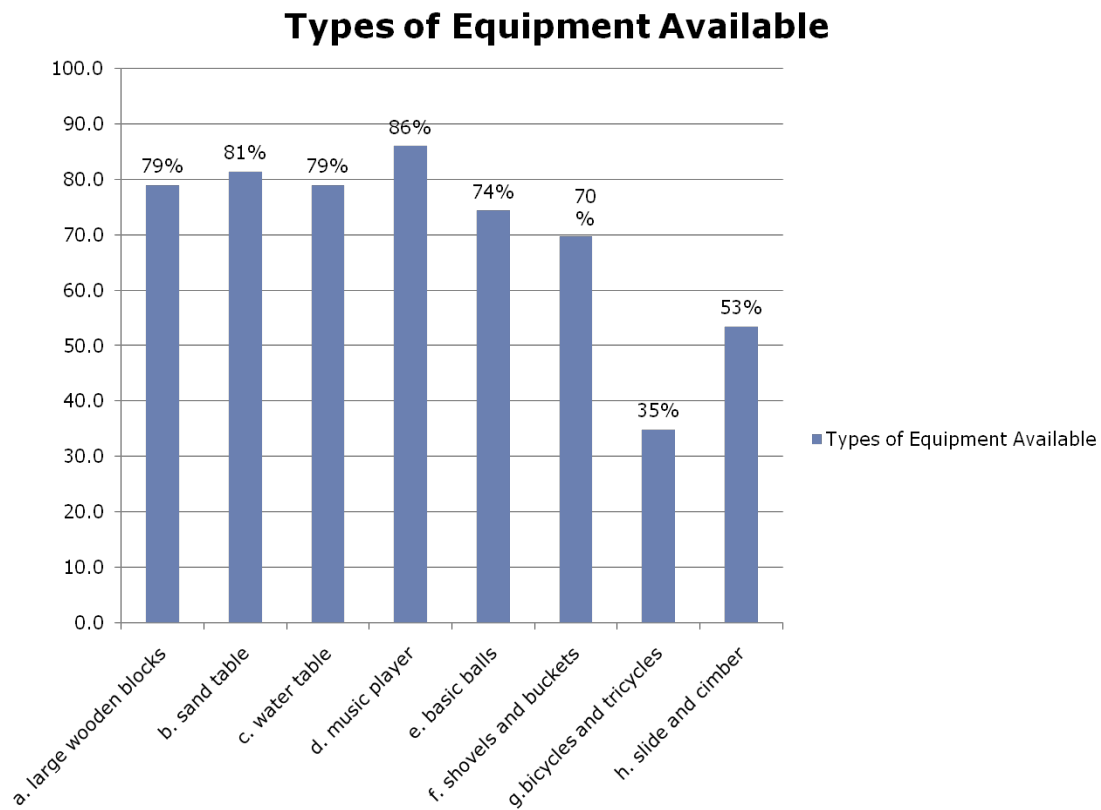


Early Learning students were asked what types of resources they currently use in order to plan activities for the children in their child care center. This graph is showing us that the majority of Early Learning students (81%) prefer to refer to books or websites as their main resource when planning physical activities for children. However, only half of those students said they refer to colleagues (about 42%).



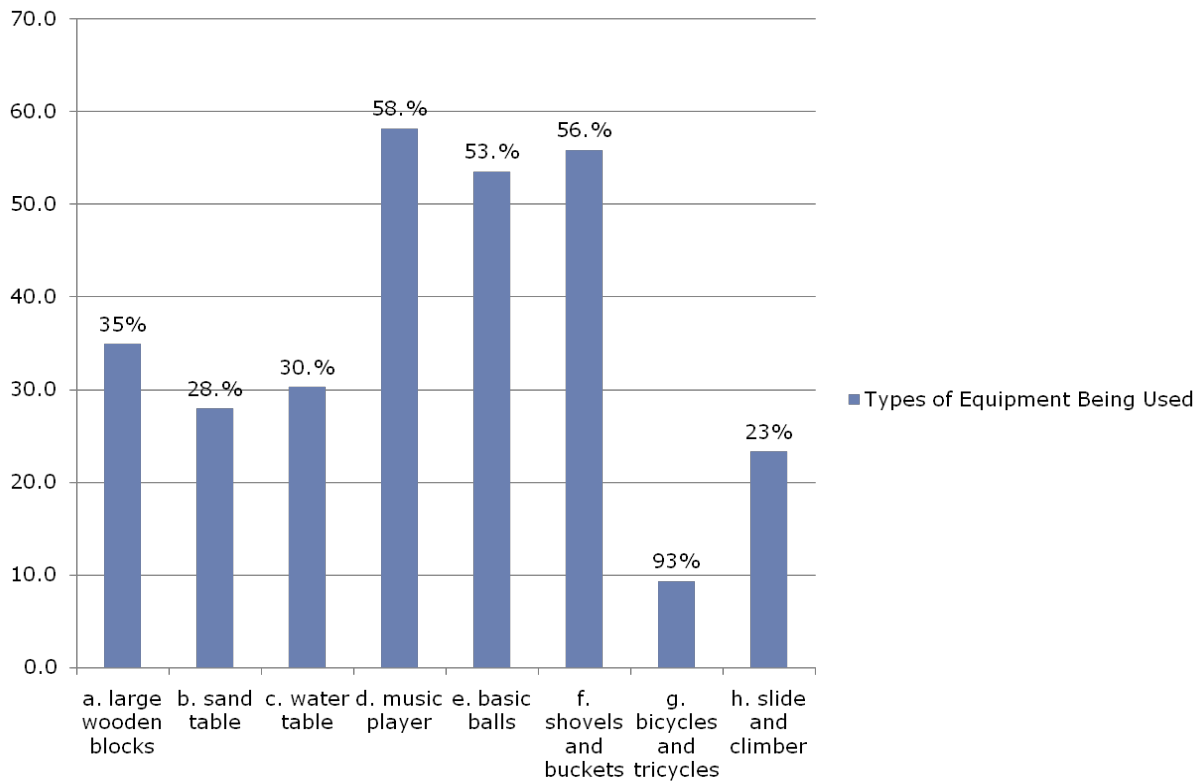


For this question students were asked in what way (s) they think a tool kit of physical activity resources would be useful for them in their practicum placements. Around 81% of the students said that they would use a tool kit to plan group activities, and the same amount of students said that they would use it as a support for active children.



For this question students were asked what items do they currently have access to in their practicum placements. The results of the survey show about 81% of students have access to sand tables. Only 35% have access to bicycles & tricycles.

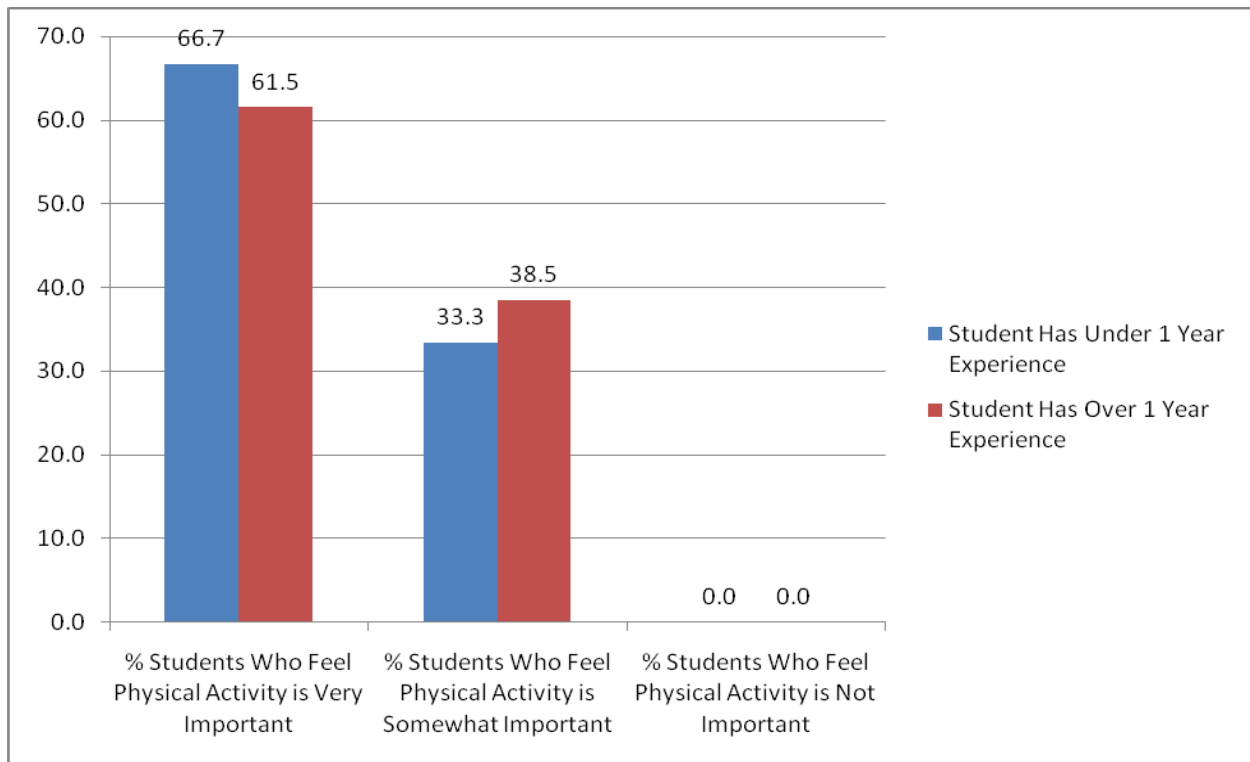
### Types of Equipment Being Used



This graph depicts which pieces of equipment the students are currently using with the children during adult lead activity. While in the previous graph 81% of students said they had access to a sand table, only 28% said they were using the sand table. The results also showed that 35% of the students had access to bicycles and tricycles, and here the graph shows that only 9% were currently using them in their centers.

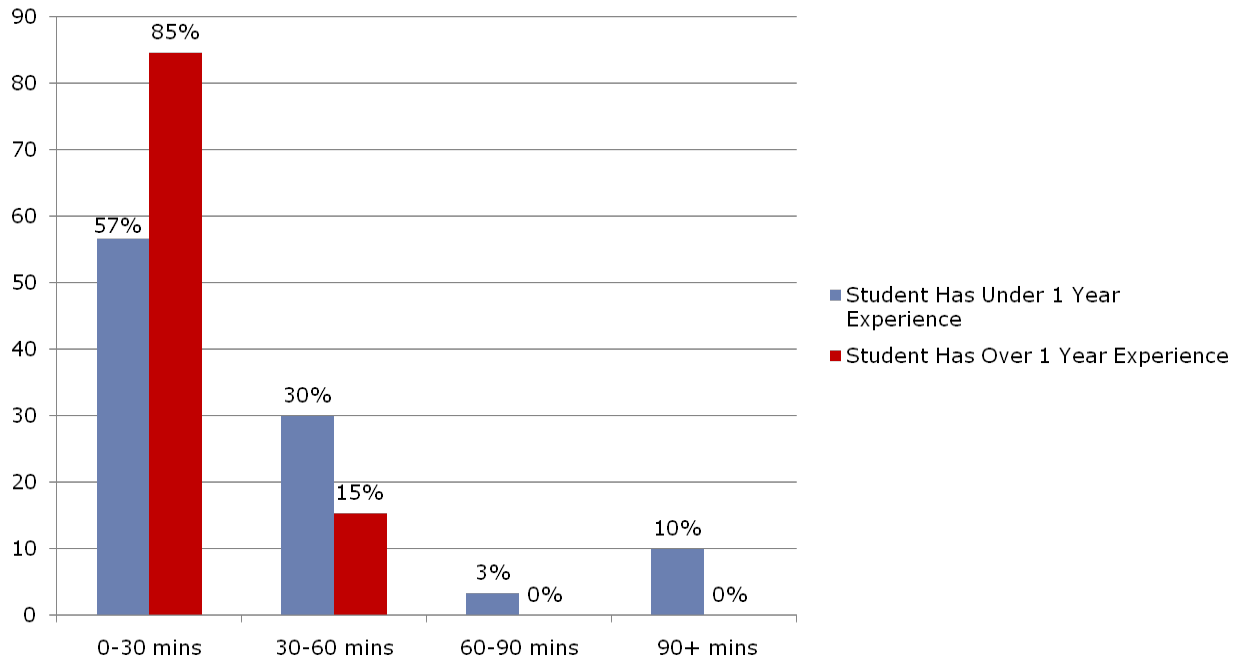
The following graphs were the result of cross-tabulating various questions from the Early Learning Students Survey on Physical Activity in their Practicum Placement. The questions chosen to be compared are centred around the students' amount experience in child care, their beliefs around physical activity, their personal amount of daily physical activity, the age of the children, and the amount of adult led physical activity done with the children each day.

## Experience vs. Importance placed on Adult Led Physical Activity



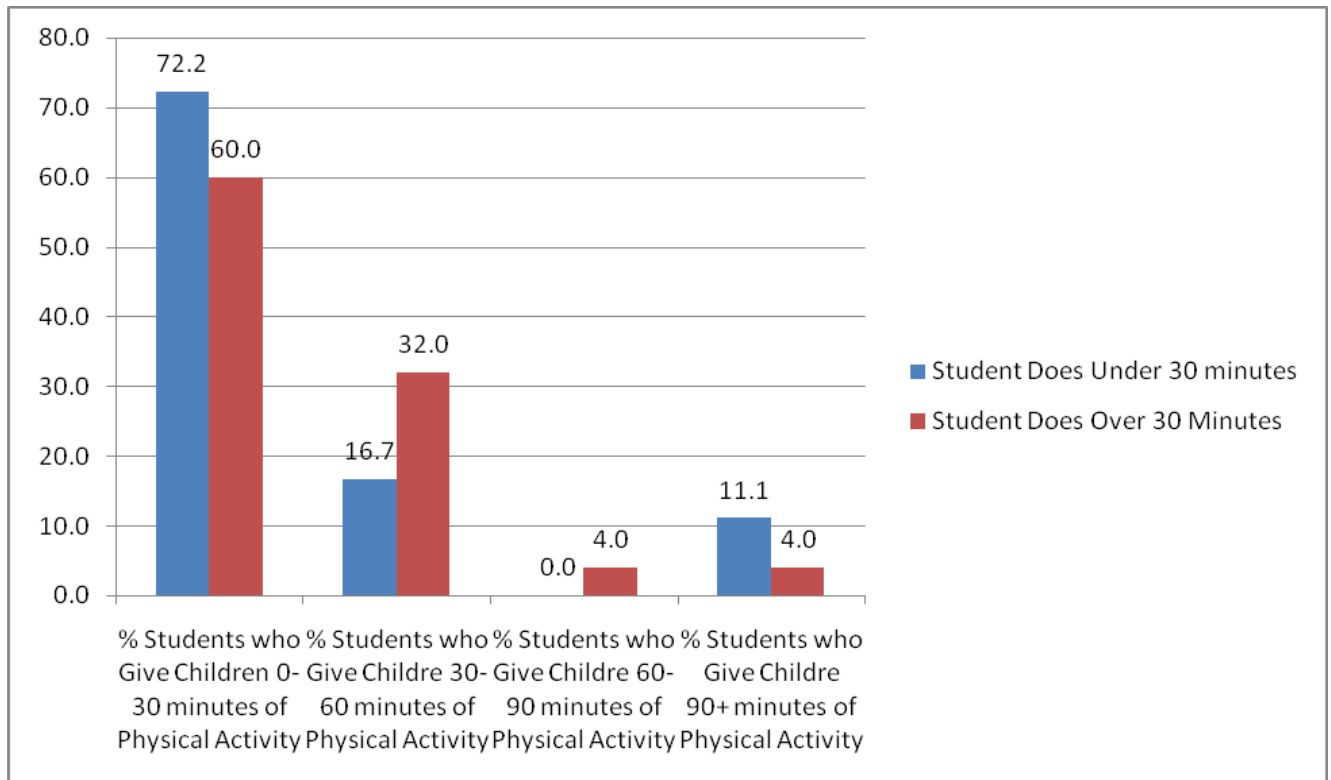
This cross-tabulation assessed two questions. The first question is “How much experience have you had working in a child care centre?” The second question is “how important do you feel adult led physical activity is in child care?” This graph compares those who had *under* one year of experience those who had *over* one year of experience in child care. The results show that 66.7 % of students with *under* one year experience felt that adult led physical activity is *very* important in child care, while only 61.5 % of students with *over* one year of experience felt it is *very* important. Of those students with *over* one year of experience, the remaining 38% felt that adult led physical activity with children is *somewhat* important, while 33.3% of students with *under* one year felt that it is somewhat important.

## Experience vs. Amount of Adult Led Physical Activity



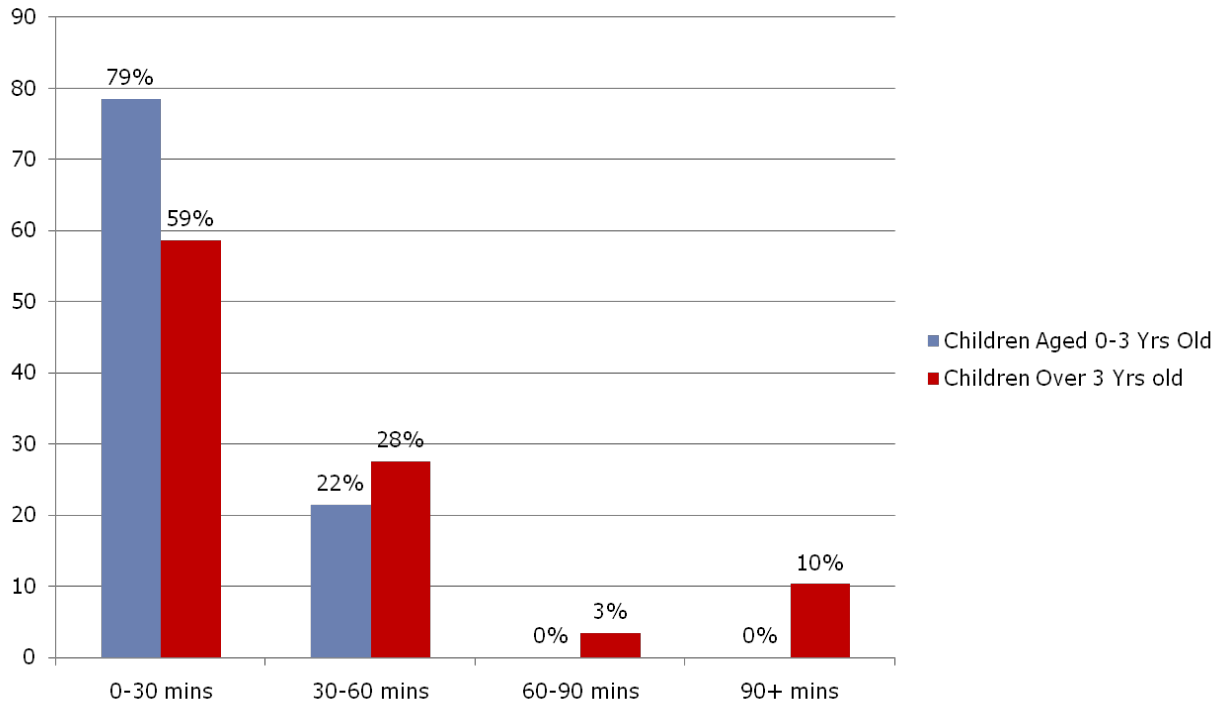
This cross-tabulation contrasted the question “How much experience have you had working in a child care centre?” with the question “How many minutes daily are the children in your practicum participating in adult-led physical activity?” None of the students with *over* 1 year of experience led over 60 minutes of physical activity. The majority of them (85%) led only 30 minutes or under daily. However, 40% of the students with *under* 1 year of experience led 30-90+ minutes of physical activity with the children, with only 57% who led 0-30 minutes.

## Student's Personal Physical Activity vs. Adult Led Physical Activity



This cross-tabulation compared the following two questions: “How much time do you, personally, spend a week doing cardiovascular activities (ex. Walking, jogging, running, swimming or biking)?” And “How many minutes daily are the children in your practicum participating in adult-led physical activity?” The findings show that 72.2% of students who do under 30 minutes of physical activity daily only do 0-30 minutes of adult-led physical activity with the children daily. In comparison, of those that personally do over 30 minutes daily, 60% led under 30 minutes of physical activity with the children and 32% led 30-60 minutes of physical activity with the children.

## Age of Children vs. Amount of Physical Activity



This cross-tabulation compared the question “What is the age group of the children in your practicum play room?” with the question “How many minutes daily are the children in your practicum participating in adult-led physical activity?” The results show that the majority of children under 3 years old are getting only 30 minutes or less per day. Only a small amount (21%) of those under age 3 are receiving 30-60 minutes per day, and none of them are receiving over 60 minutes in a day. For the majority of children aged 3+, they are also receiving less than 30 minutes per day. The main difference is that 13% of the children aged 3+ are getting 60 minutes or more of adult lead physical activity.

## Discussion

### *Interpretation of the Findings*

Originally, our research question was, “How effective has the created Tool Kit been in helping Early Learning Students to increase and implement Physical Activity into their practice with children?” However, due to a lack of time, we were unable to receive the post toolkit survey from the Early Learning students. So our role was mainly to design & distribute a survey to the students to measure the amount of adult led physical activity occurring in childcare centres for preschool children before using the toolkit. The pre survey helped us to assess if there is a need for resources and training about leading physical activity with children, as well as other factors which affect the amount of physical activity being done in the child care centers.

Our findings informed us that the majority of Early Learning students (81%) prefer to refer to books or websites as their main resource when planning physical activities for children. However, only half of those students said they refer to colleagues (about 42%). This information may imply that there is a need for more training and resources about leading physical activity with preschool children in a way that promotes their development for childcare workers of multiple levels of experience.

When asked which ways the students feel that a toolkit would be useful, 86% of them chose developing basic skills, and about 81% said they would use it for planning group activities and supporting active children. However only 65% of students said they would use it for supporting children with behavioural challenges. This may indicate that students are learning about the impact of physical activity on basic skill development, and less about the impact of physical activity on behaviours of children. Or, perhaps they feel the toolkit, in particular is more suited for developing basic skills than as a way of dealing with behavioural challenges.



The National Association for Sport & Physical Education (NASPE) Guidelines clearly state that children should get at least 60 mins of structured physical activity daily as well as 60+ mins of unstructured physical activity. There are some factors which appear to affect the level of physical activity being led in child care centers: the age of the children, the use of available equipment, and the length of experience the student has.

When comparing the age of the children in the playroom to how much physical activity is being lead, we found that children are not getting enough physical activity at their child care centers, especially those under 3 years of age. The results show that the majority of children under 3 years old are getting only 30 minutes or less per day. Only a small amount (21%) of those under age 3 are receiving 30-60 minutes per day, and none of them are receiving over 60 minutes in a day. For the majority of children aged 3+, they are also receiving less than 30 minutes per day. However, 13% of the children aged 3+ are getting 60 minutes or more of adult lead physical activity, which is more activity than children under 3 years old are receiving.

We wanted to know if the low activity levels of the children was being affected by the equipment that they had access to in childcare centers. The results showed that although they had equipment available, child care centers don't always make use of it. The percentage of those who have access to equipment was much higher than the percentage of those who actually use the equipment. One of the largest differences was that 81% of students said they had access to a sand table, and only 28% of them said they were using the sand table. Another example was the bicycles and tricycles. The results show that 35% of the students had access to them, and only 9% were currently using them in their centers. These results show that perhaps a problem isn't a lack of equipment in the child care centers, but a lack of using the equipment available during physical activity. Also, in regards to the bicycles and tricycles, the season may effect how much the children use the piece of equipment. This

survey was distributed in winter, with more snow than usual, so the children simply may not have been able to use the equipment.

When cross-tabulating the students experience in child care with the amount of adult led physical activity for children, we were somewhat surprised to find that the students with *more* experience actually led *less* physical activity. None of the students with *over 1 year* of experience led over 60 minutes of physical activity. The majority of them (85%) led only 30 minutes or under daily. However, 40% of the students with *under 1 year* experience led 30-90+ minutes of physical activity with the children, with only 57% who led 0-30 minutes. This may be due to the environment of the staff at child care centers, expectations of the director at the centers, or a lack of ideas and resources.

### *Implications*

We have hopes that the research being conducted currently will help to raise awareness about the realities of physical activity in child care centers in Calgary and also Canada. Young children are not receiving any where near the recommended amounts of physical activity required for healthy development. We hope that more training and awareness will be created for people in the child care field. Further work needs to be done, to educate, and train child care workers about the importance of physical activity for young children.

### *Recommendations*

1. Diploma Programs that offer a three credit course emphasizing physical activity and development. This is due to previous research done in the larger project showing that students requested that more education be given on physical activity for children aged 6 and under.
2. Organize a collaborative between Calgary and Area Child and Family Services, early childhood networks, and colleges to work with government licensing to increase standards. This will help

to encourage child care professionals to implement the required amount of physical activity needed to foster healthy development for young children.

3. Further encourage workshops for care givers to support and develop knowledge and skills surrounding physical activity. This would help care givers to have more knowledge and resources and hopefully increase the amount of physical activity that they implement with the children at their child care centres.
4. Create other surveys to measure seasonal changes and effects on physical activity for children in child care settings. Physical activity may be negatively affected by the winter season in which our surveys were distributed. Perhaps the results such as equipment used might change if these surveys were distributed in summer as well.

#### *Limitations*

One of the limitations we had was a time limit. We began our part of the project in January 8, 2009 and were required to complete our research on April 8, 2009. This limited the amount of surveys we could receive back and analyze in time for our due date. Due to time limitations as the semester closed, we were unable to collect data from care givers in various child care centers. This narrowed our results that we were able to collect and analyze.

Another limitation was the time of year. Physical activity levels may be lower in winter due to being able to do fewer activities outdoors and the effect that winter can have on energy and emotional levels. It also may prevent certain pieces of equipment, such as the bicycles and tricycles from being used as often. Results could have been impacted by the time of year. Another impact on our results may have been that the equipment the students have access to in the child care facility may or may not be used for adult led physical activity. One student commented in the survey that the equipment is “being used by the children alone during free play, and not necessarily during adult led physical activities.”

Working with the ELCC students had some challenges. Due to the students being in their first year, with limited amounts of experience in child care, our results were impacted. The students may have possibly been hindered by the child care center they were working in, and the available equipment and possible supports. For the students that had limited experience working with young children their skills and practices may have not been fully developed.

#### *Suggestions for Future Research*

Findings from our data analysis have prompted us to suggest more research be conducted around children three years and under, to determine why these children are not receiving the required amounts of physical activity for healthy living. Data collected shows that care givers with more experience tended to lead less physical activity with the children in the child care centers. We suggest further research be conducted to find out why this is happening.

More research could be conducted around the two categories of free play and structured (adult led) play. Many of the students commented in the survey that the children were quite active, but there was not a high level of adult led physical activity done in their centre. For example, one student who worked with children 4-5 years of age said, "There really isn't adult led physical activity done in my practicum. Only once did I observe an adult led physical activity." Another student commented, "Most of the activities are led by the children's free play."

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**Appendices***Appendix A**Appendix B*Early Learning Students Post Survey on Physical Activity in their Practicum Placement

For the purpose of this survey physical activity will be defined as the movement of the body in a way that promotes the use of various body parts, such as the body's muscles and heart. For the following multiple choice questions please circle all that apply.

1. How important do you now feel that adult led physical activity is in child care?

- a) Very important
- b) Somewhat important
- c) Not important

2. While you were using the tool kit, how easy did you find the listed activities to understand and implement with the children?

- a) Very Easy
- b) Easy
- c) Difficult
- d) Very Difficult

3. How engaged were the children while you implemented the activities from the toolkit?

- a) Very engaged
- b) Somewhat engaged
- c) Hardly engaged
- d) Not engaged

4. How comfortable are you with participating in the physical activities listed in the toolkit?

- a) Very Comfortable
- b) Somewhat Comfortable
- c) Not comfortable

5. How many minutes are the children in your centre participating in adult led physical activity now that you have implemented the toolkit?

- a) 0-30 mins
- b) 30-60 mins
- c) 60-90 mins
- d) 90 + mins

6. Do you feel that the toolkit has further increased the use of your ideas and resources?

- a) Yes
- b) No

7. In what way(s) have you found the Tool Kit useful in your practicum?

(Please circle all that apply.)

- a) Planning group activities
- b) A behavioral aid
- c) Developing basic skills
- d) Make use of available equipment
- e) None of the above

8. Now that you have used the toolkit, how often do you use the equipment in your centre?

(For example: Large wooden blocks, Sand table, Water table, Music player, Basic balls, Shovels & buckets, Bicycles & tricycles, Slide & climber)

- a) More often
- b) They are used the same amount as before
- c) Less often

9. Did you feel that the activities in the toolkit were age-appropriate for the children you work with?

- a) Very appropriate
- b) Somewhat appropriate
- c) Not appropriate

10. To what extent have you observed changes in the children's basic gross motor skills?

(Ex. running, jumping, kicking, throwing, catching.)



- a) Great improvement
- b) Some improvement
- c) No improvement
- d) Less improvement

11. Have you observed any other changes in the children? (Please circle all that apply.)

- a) Confidence with peers
- b) Less distractibility
- c) Better emotional self-regulation (anger management, using words to communicate, etc.)
- d) More regulated biological patterns (sleeping, eating, bowel movements)
- e) Positive mood
- f) No changes

12. **Additional comments:**

Please feel free to comment on any changes that you would make to the toolkit or discuss any activities you particularly found successful and why. Thank you.

*Appendix C***Pre Survey: Physical Activity Workshops for Childcare Professionals**

This survey is to be completed before the workshop is implemented. For the purpose of this survey physical activity will be defined as the movement of the body in a way that promotes the use of various body parts, such as the body's muscles and heart. Please circle the most appropriate answer.

1. What is your age?
  - a) 17-25
  - b) 26-35
  - c) 36-45
  - d) 45+
  
2. What year did you complete your childcare education?
  - a) 1969 or earlier
  - b) 1970-1979
  - c) 1980-1989
  - d) 1990-1999
  - e) 2000-2009
  
3. What country did you complete your childcare education in?
  - a) Canada
  - b) U.S.A
  - c) Other. Please specify: \_\_\_\_\_
  
4. Do you believe that those who are training to become child care professionals should have access to more education such and resources (such as workshops, courses and books) regarding physical activity with children?
  - d) Yes
  - e) No

If yes what kinds of resources?

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5. What level of childcare education do you currently hold?
  - a) Working towards Level One
  - b) Level One Certificate
  - c) Level Two Certificate

d) Level Three Certificate

6. What are the ages of the children in the playroom that you currently work with? (Circle all that apply)
- a) 0-1 year
  - b) 1-2 years
  - c) 2-3 years
  - d) 3-4 years
  - e) 4-5 years

7. How do you define physical activity?

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8. On average, how many minutes do *you personally* spend engaging in physical activity each week?
- a) 0-20 minutes
  - b) 20-40 minutes
  - c) 40-60 minutes
  - d) 60 + minutes
9. Is it easy for you to *plan and lead* physical activity *for the children* at your centre? For example, preparing adult-led games and activities indoors and outdoors?
- a) Yes
  - b) No

If yes, how so?

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10. Are you comfortable *participating* in physical activity *with the children*, such as running, jumping, skipping, and hopping?
- a) Yes
  - b) No

Comment:

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11. What do you see as the benefits of adult led physical activity for children? (Please circle all that apply)

- g) Confidence with peers
- h) Less distractibility
- i) Better emotional self-regulation (anger management, using words to communicate, etc.)
- j) More regulated biological patterns (sleeping, eating, bowel movements)
- k) Positive mood
- l) Healthy body weight
- m) Practice and refinement of fine and gross motor skills (such as: running, jumping, skipping etc.).

12. How much **outdoor** physical activity do you believe preschool children require daily to maintain an active lifestyle?

- a) 0-30 minutes
- b) 30-60 minutes
- c) 60-90 minutes
- d) 90+ minutes

Why and where do you get this information from?

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13. How much **outdoor** physical activity are the children that you work with currently participating in?

- a) 0-30 minutes
- b) 30-60 minutes
- c) 60-90 minutes
- d) 90+ minutes

14. How much **indoor** physical activity do you believe preschool children require daily to maintain an active lifestyle?

- e) 0-30 minutes
- f) 30-60 minutes
- g) 60-90 minutes
- h) 90 +minutes

Why and where do you get this information from?

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15. How much **indoor** physical activity are the children that you work with currently participating in?

- a) 0-30 minutes
- b) 30-60 minutes
- c) 60-90 minutes
- d) 90 + minutes

16. Are **all** children participating in physical activities at your center such as games that involve moving their bodies, or have them using equipment such as balls, music, skipping ropes, hula hoops, or bicycles?

- f) Yes
- g) No

If not what are the barriers?

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**If no please answer question 17. If yes skip to question 18.**

17. If children are not participating in physical activity why not?

- a) Disability
- b) Low energy levels
- c) Language barriers
- d) New to center
- e) Bullying
- f) Other

18. How often do you use the equipment in your centre during adult led physical activity?

(For example: Large wooden blocks, Sand table, Water table, Music player, Basic balls, Shovels & buckets, Bicycles & tricycles, Slide & climber)

- d) Daily
- e) A few times a week
- f) A few times a month
- g) Never

19. Does your centre provide you with any of the following resources to help you implement physical activity with the children you work with?

- a) Workshops
- b) Resource materials (balls, music, skipping ropes, hula hoops)
- c) Resource library (activity ideas, information sheets, books relating to physical activity)
- d) Modeling
- e) Field trips
- f) Planning time
- g) None of the above

Comment:

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20. Would any of the following resources make it easier for you to provide physical activities to preschool children?

- a) Idea books
- b) Equipment and materials (balls, skipping ropes, bean bags)
- c) Training videos
- d) Music/dance (CD players, tapes, CD's)

21. Do you feel that if your employer was able to offer more education and resources (such as workshops, courses and books), that this would help you implement more adult-led physical activity with children?

- a) Yes
- b) No

Comment:

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22. Do you think that a Tool Kit of resources and pre planned activities would be valuable and help you to plan and organize activities with your group of children you work with?

- e) Yes

f) No

Why or why not:

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**23. Additional comments:**

If there are any changes that you would like to see happen in your centre in regards to physical activity what are they?

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*Appendix D*

**Post Survey: Physical Activity Workshops for Childcare Professionals**

This post survey is to be completed after participating in a physical activity workshop. This survey will help us to evaluate how effective the workshop and toolkit have been. We are trying to find out if it has been helpful for assisting child care workers with leading more physical activity with the children in their centres. For the purpose of this survey physical activity will be defined as the movement of the body in a way that promotes the use of various body parts, such as the body's muscles and heart.

12. What are the ages of the children in the playroom that you currently work with? (Circle all that apply)

- a) 0-1 year
- b) 1-2 years
- c) 2-3 years
- d) 3-4 years
- e) 4-5 years

13. Now that you have had an opportunity to participate in a physical activity workshop, and have access to a toolkit, how important do you feel that adult led physical activity is for children?

- f) Very important
- g) Somewhat important
- h) Not important

Comment: \_\_\_\_\_  
\_\_\_\_\_

14. How often have you referred to the toolkit for physical activity in your childcare centre?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Almost daily

15. How often have you implemented activities from the toolkit?

- a) Never
- b) Rarely
- c) Sometimes
- d) Often
- e) Almost daily

**If you answered "a" on both questions 4 and 5 please skip to question 11 on page 3. If you answered anything else, please continue on to question 5.**

5. How easy did you find the listed activities in the toolkit to understand and implement with children?

- e) Very Easy
- f) Easy
- g) Difficult
- h) Very Difficult

Comment: \_\_\_\_\_  
\_\_\_\_\_



6. How engaged were the children while you implemented the activities from the toolkit?

- g) Very engaged
- h) Somewhat engaged
- i) Hardly engaged
- j) Not engaged

Comment:

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7. How comfortable are you with participating in the physical activities listed in the toolkit?

- a) Very Comfortable
- b) Somewhat Comfortable
- c) Not comfortable

Comment:

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8. How easy was it for you to adapt the activities for the children you work with?

- f) Very easy
- g) Somewhat easy
- h) Not easy

Comment:

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9. How many minutes are the children in your centre participating in adult led physical activity now that you have participated in a physical activity workshop and have access to the toolkit?

- i) 0-30 mins
- j) 30-60 mins
- k) 60-90 mins
- l) 90 + mins

Comment:

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10. In what way(s) have you found the Tool Kit useful in your child care centre?

(Please circle all that apply.)

- h) Ideas and Resources
- i) Planning group activities
- j) Developing basic skills
- k) Make use of available equipment
- l) None of the above
- m) Other: \_\_\_\_\_

11. How often do you now use the equipment in your centre?

(For example: Large wooden blocks, Sand table, Water table, Music player, Basic balls, Shovels & buckets, Bicycles & tricycles, Slide & climber)

- h) More often
- i) They are used the same amount as before
- j) Less often

Comment:

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12. To what extent have you observed changes in the children's basic gross motor skills?

(Ex. running, jumping, kicking, throwing, catching.)

- e) Great improvement
- f) Some improvement
- g) No improvement
- h) Less improvement

13. Have you observed any other changes in the children? (Please circle all that apply.)

- n) Confidence with peers
- o) Less distractibility
- p) Better emotional self-regulation (anger management, using words to communicate, etc.)
- q) More regulated biological patterns (sleeping, eating, bowel movements)
- r) Positive mood
- s) Practice and refinement of gross motor skills (such as: running, jumping, skipping etc.).

Comment:

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