

Worth A Thousand Words – How Drawings Provide Insight into Children’s Attitudes and Perceptions of Physical Education

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Abstract—The benefits of physical activity for children are promoted widely and well understood; however factors which impact on children’s beliefs and attitudes towards physical education need to be explored in more detail. The purpose of this study was to evaluate how primary school children value and perceive their involvement in physical education (PE) classes through the use of drawings. While this type of data collection has been used previously to determine a child’s response to specific health education classes, such as drug education, to the best of our knowledge it has not been used in the context of PE. Results from this study showed that kindergarten children found PE classes fun and engaging. Children in Year 4 and Year 6 were less satisfied with PE classes because of the activities offered, the lack of opportunity to play sport, and perception that teachers did not appear to value this area of the curriculum.

Keywords—attitudes, physical education, primary school children, write and draw

I. INTRODUCTION

QUALITATIVE research with children has previously used emoticons as a measure of a child’s response to a given question or situation. Emoticons, as depicted by smiley faces, have been found to be an effective method of gaining insight into children’s reactions to their involvement in an activity or an event; their likes and dislikes; or their attitude towards, and understanding of, education, social issues and community values [1] [2]. Emoticons provide a safe and easy method for young children to express their opinions. However, the data collected are limited by the researcher’s ability to provide a sufficiently wide and varied range of facial expressions that may reflect the opinion of the child, as well as images with which they can identify. Opendakker [3] found emoticons, used in text messaging and emails, may have different culturally significant meanings. The use of emoticons as a method for gathering and interpreting information from children may be problematic if they interpret the symbols in a different manner to that meant by the researcher. This research considers a more developed system of gathering information about how primary school children value and perceive their involvement in physical education classes through the draw and write data collection method.

This type of data collection has been used previously to determine children’s response to specific health education classes, such as drug education. However, it has not been used in the context of physical education [4].

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With the health of children high on the Government’s agenda, schools have been identified as playing an important role in providing an environment that encourages children to be physically active. There is consensus amongst researchers that the development of children’s fundamental motor skills is an essential component of physical education classes and a valuable factor in promoting confidence to participate in physical activity as a teenager and later as an adult [5], [6],[7], [8].

Children with poor fundamental motor skills often have poor coordination, which may result in social isolation as they lack the self-confidence to participate in physical activities, particularly where participation is public such as at school [9]. Wakely et al. [10] found that many school children lacked the ability to perform fundamental motor skills even though teaching these skills was part of the school curriculum [11]. Lack of opportunity to develop skills may result in children using strategies to avoid being active participants. Parents can contribute to this negativity by providing excuses for their children to sit out of these classes [12].

Morgan et al. [13] found that positive or negative experiences in physical education classes impact a child’s belief in his/her ability to participate in physical activity and sport. Of particular importance is how children define physical fitness and activity, how their class experiences effect their perceptions of fitness and how this shapes their activity choices. Landry et al. [14] investigated how fifth grade students define physical fitness, what fit and unfit individuals look like, and what fit and unfit children do in physical education classes. They found children defined physical fitness in a number of ways including physical appearance, excellence in sport, athletic ability and other health-related definitions. Boys more than girls tend to associate physical fitness with sporting achievement. These findings are relevant because physical education should be linked to a child’s understanding of physical fitness concepts to encourage greater active participation by all students. Therefore it is important to gain a greater understanding of how children perceive themselves within the context of a physical education class.

II. METHOD

Qualitative research is used to study human behaviour, however the usual methods used to collect the data may sometimes not be appropriate for or easily understood by children. As such it is often parents or guardians who provide responses to child-focussed research through surveys, interviews and focus group discussions on the children’s behalf. We need direct input from children to research which may affect them directly rather than through others such as

parents and teachers. The data collection method used in this research, "draw and write", has been previously used by Whetton and McWhirter [15] to identify how children perceive other health related issues such as drug abuse. Drawings can be used as a record for comparison if the exercise is repeated at a later date. Whetton and McWhirter [16] believe the draw and write method provides a realistic view of how children respond to particular tasks. We believe this is the first study to use this method of data collection to determine children's perception of their involvement in physical education classes. The study was conducted at two well established primary schools in Canberra, the national capital of Australia. Primary schools are well situated throughout Canberra, each one servicing a number of suburbs all within easy access for children via walking or public transport. Class sizes are normally 23 – 30 children with the total population of the school generally numbering 300 – 400 students. Children from kindergarten to year 6 are required to participate in 25 – 30 minutes of physical activity per day [17]. This study focussed on children in kindergarten and grades four and six, because these age groups represent key milestone ages in the growth and development of children.

According to Wakley et al. [18] kindergarten children aged 5 to 7 years of age have the neurological and anatomical ability to develop all the fundamental motor skills, implying they have the ability to engage in any activity that interests them. It is therefore important to determine children's existing attitudes and perceptions of physical activity before they are influenced by the school environment. At this stage of their development, children's involvement in physical activity has been largely unstructured and non-competitive, and focussed primarily around active play.

By the age of 10 (grade 4) children should have the ability to transfer fundamental gross motor skills into modified games and skills [19]. Children who have developed their gross motor skills are confident, more successful and active participants; because they have established their confidence in physical activity and sport at an early age, they are more likely to continue their involvement in adult life [20, [21].

Children who are leaving primary school (Year 6) to enter high school will have identified clearly where they see themselves in the physical activity continuum with regards to skill. If they have been successful active participants in their primary years they will be more likely to continue their involvement in high school physical education. If they have struggled to participate with their peers, or have not enjoyed their experiences, they are more likely to avoid participation if given a choice. The perception of physical education developed at this age may affect an individual's beliefs and attitudes towards physical activity for the rest of their life [22],[23]. Children from kindergarten and Years 4 and 6 were asked to draw a picture of themselves during a physical education class and describe their picture in words. With all children it was necessary to ensure the words used in the instructions were ones they could understand but that did not influence their response. The children sat in a large group and discussed what types of activities they had done as part of a physical education class. All answers were accepted by the teacher, and all children had a chance to respond. The children were instructed to include themselves in the picture

and to draw a face which showed how they were feeling during the physical education class. The word feeling was further explored through examples of happy, sad, angry and bored. All children were asked to place an arrow pointing to themselves in the picture; they could include their friends and teachers if they wanted. In addition, children from Years 4 and 6 were asked to rank the eight core curriculum areas from most liked to least liked.

Drawings were analysed against the following key themes:

- if the child represented him/ herself as an active or passive participant
- facial expression
- the presence of friends
- the presence of the teacher and their facial expression
- the amount of detail in the picture
- the one sentence descriptor of him/ herself in the picture.

A spreadsheet was developed to record the detail of each picture. An active participant would be recorded if the picture had the student moving (e.g skipping, running, throwing a ball). A non-active participant would be standing apart from the activity (if shown) and/ or not moving. Facial expressions were recorded separately as happy, sad, bored or angry. Very detailed pictures included a number of children in the picture, evidence of some activity and perhaps some landscape.

III. RESULTS

A total of 209 students participated in this study, comprising of kindergarten (n=79), Year 4 (n=68) and Year 6 (n=62) boys and girls.

Kindergarten

All boys (n= 41) and girls (n= 38) participating in the study featured themselves prominently in their picture. Most children sampled (81.5% of both boys and girls) included friends in the picture and most were happy active participants (100% of girls and 87.5% of boys). Very few children included the teacher in their drawing (14.6% of boys and girls), however 50% of boys drew the teacher with an angry rather than happy face. In each of the drawings, there was a lot of attention to detail; a shining sun was a common feature and appeared to be suggestive of a positive experience by both boys and girls. Boys who drew the teacher with an angry expression also drew themselves with the same expression which may just mean this is how they draw faces. Sentences describing their involvement were related directly to the activity, for example, I am skipping, jumping, running or playing soccer (Figure 1).



Fig. 1 Kindergarten boy picture.

Year 4

All year 4 boys (n=33) and girls (n=35) participating in this study featured themselves in their pictures. More girls (80%) than boys (45%) included friends and girls saw themselves as predominately happy active participants. Alternatively only 66% of boys indicated they were happy participating in physical education, with 12% of boys drawing their involvement as passive. The remaining 22% were recorded as non-descript because it was difficult to determine the facial expression or none had been drawn. Only one student included the teacher in the drawing which may be an indication of how children in Year 4 perceive their input into the class activities. In this age group the one sentence descriptors about their involvement provided opportunity for the children to express what they thought about physical education classes. One boy wrote a one page sentence describing his dislike for skipping “ I hate, hate, hate... skipping”.

Year four boys did not appear to enjoy physical education classes as much as the girls did. Generally boys were less active, and more uninterested with few including their friends in the pictures. Girls seemed more engaged in physical education and many identified their friends as part of this involvement. Teachers seemed to have little impact, with only one student including them in their picture. Both boys and girls who drew themselves as an active participant also drew themselves as the dominant player. For example, they were the ones scoring the goal, leading in a race or positioned in the centre of the page, larger than their friends or peers around them.

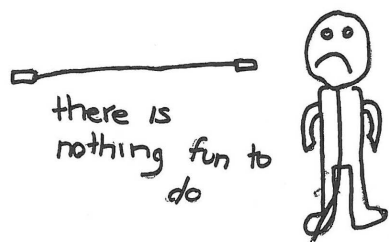


Fig. 2 Year 4 boy picture. Note the disengagement of the child, lack of detail in the picture and the expression of misery on the face

Year four and year six students who completed ranking of the core curriculum areas from most liked to least liked ranked physical education and health as number one.

Year 6

A total of 62 Year 6 students, boys (n=32); girls (n=30) participated in the study. Boys featured themselves as active participants (93.7%) with 75% including their friends in the picture. Girls provided very detailed pictures, featured themselves as active participants (73%) and most (80%) included their friends. However, it should be noted that more girls (13%) included sad faces in their drawings than did boys (3%). In comparison, more boys (28%) than girls (13%) provided non-descript facial expressions. Few students included the teacher in their pictures (9.3% of boys and 6.6% of girls). However all boys who included the teacher did not include any facial expressions, leaving them in the background, whereas all girls who included teachers in their pictures drew them with angry faces. Descriptor sentences in this age group provided more insight into the attitudes of both genders towards physical education. Some children used the picture opportunity to draw pictures that showed how they dealt with confrontation. Other children took the opportunity to write more than one sentence about their frustration at not being able to enjoy a wider range of activities and how often they would have to miss out on doing physical education. For example Figure 4 is from a young girl who is bullied because she is an active participant, yet continues because she enjoys playing.



Fig. 3 Year 6 girl not participating in physical education and trying to avoid involvement

Most Year 6 students drew themselves as active participants of a physical education class. More girls than boys indicated their involvement as passive and showed themselves as sad participants. Boys who included teachers in their drawings did not provide any facial expression to indicate their involvement in the class, while girls who included them always drew them with an angry facial expression. This may be because they do not like the teacher, or get annoyed when the teacher encourages them to be active participants. Boys may not

recognise the teacher as part of the overall physical education experience, and have included them because they know they are present but do not recognise them in a leadership role.



Fig. 4 Year 6 girl who is bullied by other girls if she does participate

IV. DISCUSSION

This study used the draw and write method to gain a greater understanding of children's attitudes towards physical education, and how they perceive themselves within this context. This study found that as children progressed from Kindergarten through the school system their enjoyment for physical education classes diminished. Most Kindergarten children enter school with little pre-conceived ideas about the curriculum areas in which they will be participating. Even if they have older siblings who attend school, they remain open and positive to new experiences. Children do not usually start school saying they hate maths or English for example, because they do not have a benchmark from which to measure these subjects. This indicates schools need to develop and teach curriculum in a way that continues to stimulate and reward students as they mature and their interests change and develop. If students are facilitated to maintain the same level of engagement they enter school as kindergarten children with they are more likely to remain positive, active learners. It appears physical education is one area of the curriculum that is not maintaining student interest, despite the fact that it is a preferred learning area for children.

One of the many challenges teachers face is keeping children focussed and interested when they are outside and in an environment in which they may be easily distracted. Organising a group of children who each may have specific preference for games, or satisfying children with dominant personalities while still involving the whole group, can be demanding, particularly for teachers who do not have a preference for physical education. However, despite these complexities, teachers need to put effort into this area of the curriculum.

It is accepted by teachers that children need to be physically active every day. Healthy, active children are more confident, have greater social skills, and are less disruptive in the classroom [24]. However, even though this is known, physical education does not appear to be valued by the teachers. Many students complained that often physical

education classes were missed for the week because the teacher used it as a form of punishment for poor behaviour in the classroom. Others mentioned teachers using the excuse they were too busy that week to go out for physical education as they had other identified school priorities such as music, science week or learning journey. It would not be acceptable practice for maths, English or the other core curriculum areas to be avoided for a week or weeks due to teachers being too busy or as punishment for poor behaviour by the group. This is significant because the teacher is reinforcing the message to children that being physically active is not important, that if you are busy or you do not feel like it, it is reasonable to avoid it for a few weeks.

The Kindergarten children in this study seemed to enjoy the opportunity to draw a picture of themselves. They used bright colours, included their friends and the sun shining in the corner, suggesting that days when they participated in physical education were associated with happy days. The pictures from the children in Year 4 were less encouraging with some identifying how much they disliked the physical education class activities with sad faces, hiding from the teacher and long sentences of disapproval. This dislike for the activities on offer increased with the children from Year 6. The children complained about the lack of variety in the activities offered. Many boys and girls like competitive games and like to be physical. It may be that teachers lack the skill and expertise required to organise games on both an individual and team level. This lack of confidence could translate into safe options in physical education classes involving more basic activities such as skipping and running around the oval. This would alleviate the teachers from having to demonstrate a gross motor skill or assess and modify a child's execution of a gross motor skill. While skipping may be an appropriate activity there is little scope for children developing game sense and other gross motor skills which will allow them to participate in a more diverse range of activities. Perhaps it is the fear of the school being sued for negligence if a child is injured that keeps less competitive or active games out of the physical education classes. What should not be overlooked is the need for children to be stimulated and challenged by a range of activities, some of which may create noise and energetic actions. Being in a continuously regulated environment, without the freedom to run, chase and exert physical energy, may contribute to inattentive and restless children in the classroom. Another major issue arising from the pictures was that active girls who enjoyed participating might be bullied by other girls in their class. This may be due to some girls needing to shift attention away from themselves because they do not have the same skill set or do not feel competent enough to join in. The concern lies with the impact this may have on the student being bullied and the possibility she/he may become less engaged in physical activity as they get older to avoid the torment. If this is a regular occurrence, teachers need to develop strategies that encourage all students to be involved at a range of levels that suit everyone in the class. An example of such a strategy may be to rotate opportunities for all students to display their skills through different games and sport in front of their peers or to engage students in developing their own set of rules and guidelines for the games they play.

Some girls perceive involvement with physical education as sweaty and tiresome, preferring to escape involvement and sit with friends. We assume this disinterest is because they lack confidence to participate at a reasonable level. However, children like being active, but they want to be good at it and be part of the group. This is why it is so important for teachers to maintain the enthusiasm of children in Kindergarten by keeping them interested and ensuring each gross motor milestone in a child's development is reached. Those children not engaged in Year 4 will still not be engaged by Year 6. These are critical periods of time in a child's development whereby if they have not already gained the basic gross motor skills involving kicking, running, jumping, throwing and catching they will lack the confidence to be active participants. If the children in this study completed the same exercise two years from now their perception of and attitude towards physical education would probably not change and if they were already disinterested or starting to avoid involvement in physical education this would still be evident.

The pictures drawn by the children raised some thought provoking issues especially for teachers. It is important how teachers deliver this area of the curriculum instilling in children the importance of living an active life and providing them with the support and skills to participate at a level of their choice.

V. CONCLUSION

The pictures provided a platform for students to express their feelings about participating in physical education. Children want change and the pictures provided them with an opportunity to contribute to that change. Limiting children to a small range of activities in physical education classes does not allow them to develop their physical and mental capacity associated with being active, game sense and sport. Teachers need to accept that physical education is a core curriculum area and one that contributes to a child's mental and physical development. It is not an area of education that should be avoided or used as punishment. Children should not be denied the opportunity to fully develop their gross motor skills.

REFERENCES

- [1] Pell T & Jarvis T ,2001, *Developing attitude to science scales for use with children of ages from five to eleven years*, International Journal of Science Education, Vol 23 Issue 8 pg 847-862
- [2] Livingstone, Sonia and Bovill, Moira, 2001 *Families and the internet: an observational study of children and young people's internet use*. Media@LSE, London, UK. Accessed on line 3rd October 2011
- [3] Opendakker, Raymond,2006, *Advantages and Disadvantages of Four Interview Techniques in Qualitative Research*, Forum: Qualitative Social Research, Vol.7, No.4 accessed on line 8th August 2011.
- [4] Wetton., N & McWhirter, J., (1998) *Images and Curriculum Development in Health Education*: Chapter 17, in McWhirter, J, *Getting it Right. The Case for Risk Education*. Accessed online through Sage Publications hej.sagepub.com/cgi/content/refs/63/4/307 10 October 2008.
- [5] Morgan, P, 2008, *Teacher Perceptions of Physical Education in the Primary School: Attitudes, Values and Curriculum Preferences* , Physical Educator, Vol. 65, Issue 1, pg 45 – 56.
- [6] Hands, B & Martin, M, 2003, *Fundamental movement skills: children's perspectives*, Australian Journal of Early Childhood, 28.4; pg: 47 – 53
- [7] Bunker, L.K , 1991, *The role of play and motor skill development in building children's self-confidence and self-esteem*, The Elementary School Journal, Vol 91, Issue 5, 467 – 471
- [8] Ulrich, D.A, 1985, *TGMD Test for Gross Motor Development*, Pro-ed, Texas.
- [9] Miller, J, 2006, *Can't catch, can't throw! Assessment of primary school-aged children's fundamental motor skills and coordination levels*, Research Series, Vol 2, No. 1, Armidale NSW.
- [10] Wakley, J., Holland, B., Treloar, R., & Probyn-Smith, H., 1993, *Fundamental motor skill proficiency of children*, the ACHPER National Journal, Vol. 40, No. 3, Spring
- [11] Semmler, A & Dickson, S, 1994, *Age appropriateness for the acquisition of specific rugby league skills in primary school children*, paper presented at the Australian Association for Research in Education Conference, Newcastle.
- [12] Ntoumanis N, Pensgaard A-M, Martin, C and Pipe K, 2004, *An Idiographic Analysis of Amotivation in Compulsory School Physical Education*, Journal of Sport and Exercise Psychology, Issue 26 pg 197-214 Human Kinetics
- [13] Morgan, P., Bourke, S & Thompson, K., 2002, *Physical Educators' Perceptions about Physical Education: an Analysis of the Prospective and Practising Teacher*, Paper presented at The Annual Conference of the Australian Association for Research in Education, Brisbane.
- [14] Landry, J.B., Solmon, M.A, Afeman, H., Rukavina, P., Hill, K., and Harrison, L, 2001, *Children's Definitions of Physical Fitness*, Research Quarterly for Exercise and Sport, March, 2001, pg 71 - 73
- [15] Wetton., N & McWhirter, J., 1998 *Images and Curriculum Development in Health Education*: Chapter 17, in McWhirter, J, *Getting it Right. The Case for Risk Education*. Accessed online through Sage Publications hej.sagepub.com/cgi/content/refs/63/4/307 10 October 2008
- [16] Wetton., N & McWhirter, J., 1998 *Images and Curriculum Development in Health Education*: Chapter 17, in McWhirter, J, *Getting it Right. The Case for Risk Education*. Accessed online through Sage Publications hej.sagepub.com/cgi/content/refs/63/4/307 10 October 2008
- [17] *Physical Education and Sport Policy* 2009, Department of Education and Training, www.det.act.gov.au accessed on line 8 August 2011.
- [18] Wakley, J., Holland, B., Treloar, R., & Probyn-Smith, H., 1993, *Fundamental motor skill proficiency of children*, the ACHPER National Journal, Vol. 40, No. 3, Spring
- [19] Ulrich, D.A, 1985, *TGMD Test for Gross Motor Development*, Pro-ed, Texas.
- [20] Miller, J, 2006, *Can't catch, can't throw! Assessment of primary school-aged children's fundamental motor skills and coordination levels*, Research Series, Vol 2, No. 1, Armidale NSW.
- [21] Bunker, L.K, 1991 *The role of play and motor skill development in building children's self-confidence and self-esteem*, The Elementary School Journal, Vol 91, Issue 5, 467 – 471
- [22] Morgan, P, 2008, *Teacher Perceptions of Physical Education in the Primary School: Attitudes, Values and Curriculum Preferences* , Physical Educator, Vol. 65, Issue 1, pg 45 – 56.
- [23] Silverman, S & Subramaniam, P.R, 1999 *Student attitude toward physical education and physical activity: A review of measurement issues and outcomes*. Journal of Teaching in Physical Education, Vol.19 (11), pg 97 - 125
- [24] Cleland, V., Venn, A., Fyrer, J., Dwyer, T and Blizzard L., 2005, *Parental exercise is associated with Australian Children's extracurricular sports participation and cardiorespiratory fitness: A cross-sectional study*, International Journal of Behavioural Nutrition and Physical Activity, Vol 2. Issue 3.