Research in Physical Education on Display at the National Annual Conference

Lorraine Cale
Loughborough University
afPE Research Committee

Introduction

The poster presentations have now become an established and valued feature at the afPE National Physical Education and School Sport Conference and a record number of posters were on display at this year's event. The presentations offer an opportunity for researchers, both new and more experienced, to share their research with delegates in a relatively informal and relaxed setting. The research might be completed or represent work in progress, and centre on any topic which broadly fits into the conference themes of pedagogy, leadership or health.

The posters generated a good deal of interest and facilitated some very useful discussion and exchanges of ideas over the course of the three days. Indeed, the professional dialogue that they stimulated illustrates the interest of the profession and afPE members in engaging in and with research, in an effort to inform and impact upon policy and practice. There is clearly the need to continue to develop and grow an active and effective research community within afPE, and the conference provides a key forum in which to do this.

The process of presenting a poster at the annual conference is straightforward and details are posted on the afPE web site well ahead of the event each year. Those interested are invited to submit a short abstract for consideration, including a brief overview of the aims, methodology, findings and conclusion(s) of their research, and identifying their work with one of the key conference themes.

Based on the submissions received, a total of 17 posters were accepted this year with the majority being in the pedagogy category, three relating to health, and one focusing on leadership. Amongst these, it was also encouraging to see work from higher education institutions, schools and other organizations, and from the United Kingdom, Ireland, and Australia. It would be great to continue this trend and to receive an even greater number of submissions from a range of organizations and places next year!

My thanks goes to the conference organising team for their support in facilitating the process, to Perkins Slade for sponsoring the presentations, and to the volunteer judges of the poster competition, Brian Delaney and Alan Lindsay, who gave generously of their time during the conference to review the work. The prize for the 'best' poster this year went to Anna Leyshon and colleagues from UWIC and Sport Wales for their poster entitled 'Young people's participation in extra-curricular school sport and physical activity: An analysis of Wales' '5x60' project, 2007-2009' (see below).

What follows is just a selection of the poster abstracts that were received to give a feel for the range of research on display at the conference. Examples of the topics addressed by the posters were: primary and secondary ITT, learning styles, talent identification of elite performers with disabilities, hypermobility and hypermobility syndrome training for physical education teachers, promotion of physical activity within schools, young people's participation in extra-curricular school sport and physical activity, sport education,

assessment in physical education, physical literacy, and personal learning and thinking skills.

Pedagogy Posters

Title: Young people's participation in extra-curricular school sport and physical activity: An analysis of Wales' '5x60' project, 2007-2009.

Authors: Leyshon, A., Bolton, N., Fleming, S., Hughes, R., Mattingley, R. & Rotchell, J, UWIC and Sport Wales.

The growing concern about health, obesity and social exclusion (Department of Health, 1992; Health Education Authority, 1998; Bramham, 2008), together with the recognition of sport's wider role (Coalter, 2001) has resulted in the prioritisation of physical activity engagement for young people (Department of Culture Media and Sport, 2002; Welsh Assembly Government, 2005). This study is the second phase of a PhD project funded by Sport Wales[1]. The '5x60' initiative was launched in September 2006 in Welsh secondary schools with the intention of contributing towards the Welsh Assembly Government's targets for pupils to achieve 60 minutes of sport and physical activity five times a week. The '5x60' initiative is delivered through '5x60' Officers with the purpose of increasing extra-curricular physical activity opportunities for non-active pupils.

Field work included an in-depth study between January 2008 - June 2008 at two schools. Data were obtained from a mixed method approach of focus groups with pupils, classroom activities with pupils, interviews with staff and observations. The classroom activities were a new and valuable data-collection approach that helped identify different groups of young people: the Leisure, Sporty, Sporty-Arty and Arty pupils. The classroom activities also proved to be a useful tool to get to know and establish rapport with the young people.

Five operational themes emerged from the data and included: the social contact with the officer, the experience of the club/activity, the activities themselves, leadership and competitions/festivals. These findings have important implications for the '5x60'initiative in terms of any future management arrangements and its long term sustainability.

Title: To what extent do primary trainee teachers feel prepared to teach physical education? A case study of PGCE students' perceived confidence and the reported contributory factors.

Author: Leverne Barber, University of Worcester.

This study focused on the complex nature of trainee teachers' confidence to teach primary physical education and the contributory factors to the development of this self-belief. It focuses on the experiences of a primary Post Graduate Certificate in Education (PGCE) cohort (*n* = 89) during their one year course, ascertaining the extent to which they felt confident to teach physical education and identifying the factors that influenced their perceptions.

A multi-method approach was employed and data were collected via questionnaires and interviews at the outset and again at the end of the PGCE course. The findings indicated that there was a significant correlation between trainees' perceived confidence to teach physical education and their prior personal experiences of the subject. However, despite

[1] This project was funded by the Sports Council for Wales which since April 2010 has been re-named as Sport Wales.

different perceptions about physical education initially, by the end of the training the majority of students did feel confident to teach dance, games and gymnastics. There was less confidence to teach athletics, outdoor and adventurous activities and in particular swimming, which were not part of the PGCE PE course content. Other significant contributory factors in terms of gains in confidence were school placement opportunities to observe and teach physical education. Gender differences were highlighted, with males having considerably higher levels of perceived confidence at the beginning of the course than females. However, by the end of the year there was much less gender variation in terms of overall confidence to teach physical education.

Recommendations that emerged from this study include: differentiated physical education content, building on strengths and weakness identified by the students on entry to the course; greater consistency of opportunity for students during school placements, with a minimum number of lesson observations and teaching experiences; and increased time allocation to enable more activity areas to be covered during the physical education aspect of the PGCE course.

Title: Preferred learning styles: Implications for teaching children.

Author: Dominic Cunliffe, Southampton Solent University.

Introduction

Physical education teachers appear to be using the same strategy, teaching through direct movement (Mohnson, 2008), because of an assumption that this style is the preferred method for learning for all children. This style obviously appeals more to the kinaesthetic learner, but it also neglects those who prefer other styles of learning. The more we are able to understand about the different developmental dimensions of a child the easier it is for physical education teachers to educate them. By doing so, educators are able to heighten the motivation to learning and achieve higher academic results whether these are transfer of knowledge or physical literacy movements, (Henderson, 2009). Therefore, the aim of this study was to investigate whether there is a singular preferred learning style for children across school years 7-11.

Methods

One school from the South West of England was chosen, and permission was granted to assess the preferred learning styles of each pupil across school years 7-11 (n=220). The VAK Learning Styles Questionnaire (Honey & Mumford, 2000), was selected as it splits preferred learning styles into three distinct categories, either visual, auditory or kinaesthetic learners. The VAK was administered to all pupils in October (Test 1), and then again one month later (Test 2). All pupils who exhibited a difference in results (e.g. had a different preferred learning style from Test 1 to Test 2) were eliminated from this study (n=9%).

Findings

The percentage for each preferred learning style for all children across all five year groups was: visual (25%), aural (25%), kinaesthetic (30%) and combined (i.e. those who had a mixture of preferred learning styles) (20%). When differences in preferred learning styles were analysed across all age groups, the results indicated that there was no difference in kinaesthetic preference between the five year groups ($F=.799$, $p=0.528$). However, there were significant differences between age groups for auditory preference ($F=2.900$, $p=0.025$), and differences approached significance for visual preference ($F=2.172$, $p=0.076$).

Conclusions
Whilst these results do support the work of physical education teachers who educate children through the practical delivery of kinaesthetic movements, it must also be stressed from this study that only using this teaching method could alienate the learning of, on average, 2/3 of all learners across all ages of children in secondary education. Therefore, physical education teachers need to ensure they select a differentiated delivery strategy to allow all learners to learn together without disadvantage.

References
Honey, P., & Mumford, A. (2000). The Learning Styles Helpers Guide. Maidenhead: Peter Honey Publications Ltd.
Henderson, P. (2009). All we need to know about childhood development, ASCA newsletter, Issue 1, p 17.
Mohnsen, B. (2008). Teaching Middle School Physical Education: A Standards Based Approach for Grades 5-8. Third Edition. Champaign IL: Human Kinetics.

Title: Physical education students' sources of perceived "PE worth" and "PE ability": A qualitative approach.

Authors: Toni A. Hilland, Nicola D. Ridgers, Gareth Stratton, Stuart J. Fairclough, Liverpool John Moores University.

Research aims
The primary purpose of this study was to explore and understand students' thoughts and feelings about school physical education. A secondary aim was to provide information regarding students' sources of perceived "PE worth" and "PE ability" in physical education.

Methodology
Twelve in-depth focus group interviews were conducted in three secondary schools in the North West of England. Fifty-four students (38 girls, 16 boys; aged 12-14 years) were purposefully selected to participate in this study, based on their teachers' normative ratings of their physical education ability. Therefore, four groups from each school, comprising between 4 – 5 students, took part in this qualitative study. Focus group topics were developed from Welk's (1999) Youth Physical Activity Promotion Model. Interviews lasted between 30-60 minutes and the discussions were recorded by dictaphone and later transcribed verbatim. Analysis was carried out using NVIVO and thematic analysis was employed to interpret the data. The project received institutional ethics committee approval.

Findings
Analyses revealed sources of positive perceived "PE worth" included: competition, inherent physicality, intrinsic enjoyment, social aspect, autonomy and choice, physical education teacher/coach, perceptions of competence and positive feedback. Reasons for negative perceptions of perceived "PE worth" involved: lack of/too much physicality, perceptions of incompetence, negative feedback and experiences, lack of time for changing, repetitive/boring, self-consciousness and the environment. Furthermore, sources of positive "PE ability" comprised of: positive feedback, prior knowledge/experience, being selected, improvement, enjoyment, success and comparisons to peers. Finally, negative perceived "PE ability" themes consisted of negative feedback, a lack of enjoyment, perceptions of incompetence and comparisons to peers and physical education teachers.

Conclusions
The detailed data suggest both boys and girls utilise a wide range of sources to determine their perceptions of "PE worth" and "PE ability. Key themes to emerge from the focus groups involved enjoyment, feedback, competence and improvement. On this basis of these findings, physical education teachers should provide their students with enjoyable and successful experiences, positive feedback, autonomy and choice. In addition, a classroom climate is needed that fosters learning and improvement, rather than competition and winning. A number of *reinforcing* variables of parents, family and peers were furthermore highlighted as central to the students' physical activity interests and participation (Welk, 1999). Therefore, future work is needed to unravel the complex interrelationships of *reinforcing* factors on students' thoughts and feelings about school physical education.

Title: Sport Education and the secondary National Curriculum: Developing social skills and reflective learning through teamwork.

Authors: Tami Scoular, Rushey Mead School, Leicester; Dr Louisa Webb, Loughborough University.

A new secondary National Curriculum was developed after the review of the secondary curriculum in 2007. A concern of the new curriculum was to prepare young people for the future, including developing essential qualities and skills for learning, life and employment; with the ultimate aim of securing national success in the competitive global economy (Gravells, 2010). Personal, Learning and Thinking Skills were subsequently included in the new curriculum. Pupils developing these skills are described as Independent Enquirers, Creative Thinkers, Reflective Learners, Team Workers, Self-managers and Effective Participators (QCDA, 2008). This project investigated the potential to address components of the new secondary National Curriculum through Sport Education.

Sport Education is a pedagogical model with an emphasis on Authentic Learning. (Penney, Clarke, Quill & Kinchin, 2005). Sport Education combines the positive aspects of organised "real world" sport with an emphasis on a greater responsibility for learning transferred from the teacher to teams and individual pupils. Pupils belong to a team that practices and plays together over a 'season'. The aim of Sport Education is to help students become both skilled sports participants and 'good sports'. Rather than simply teaching the basic skills, Sport Education involves students in all aspects of their selected sport. They learn to play, coach, referee, and manage.

Built into the Sport Education model is the opportunity for pupils to reflect on their cooperation, teamwork, decision-making and the ways in which they take on responsibility. The focus of this project was to provide an opportunity for pupils to reflect more formally through written worksheets (Bolton, 2010). The importance of this reflection was built into the scoring system of the Sport Education model. The aim of the project was to investigate the potential for developing pupils as "Reflective Learners" as a parallel process through their reflection upon their teamwork.

The project was conducted during February and March 2010 and the pupils completed reflection worksheets during 7 lessons throughout the unit. The pupil responses were converted to electronic format and managed using a qualitative data analysis package (NVivo, 2008). The pupil response data were analysed using techniques appropriate to the qualitative research paradigm - an inductive approach using constant comparison and

theme analysis. The learning theory guiding the research was social constructivism (Illeris, 2009).

Data were analysed for evidence of the characteristics of "Reflective Learners". Reflective Learners assess themselves and others, identifying opportunities and achievements; set goals with success criteria for their development and work; review progress, acting on the outcomes; invite feedback and deal positively with praise, setbacks and criticism; evaluate experiences and learning to inform future progress; and communicate their learning (QCDA, 2008). The pupil responses revealed their increasing understanding of reflective learning over time through comments such as "I communicated and cooperated, sharing ideas and listening to other people's ideas" and "We spoke about tactics we could use next week by evaluating the team that we will be playing" (review progress, acting on the outcomes; evaluate experiences and learning to inform future progress).

References

Bolton, G. (2010). Reflective Practice: Writing and Professional Development. New York: Sage.
Gravells, A. (2010). Delivering Employability Skills in the Lifelong Learning Sector. Exeter: Learning Matters.
Illeris, K. (2009). Contemporary Theories of Learning. New York: Routledge.
Mills, G.E. (2000). Action research: Accountability, responsibility and reasonable expectations. Educational Researcher, 32(7), 3-13.
Penny, D., Clarke, G., Quill, M. & Kinchin, G. (2005). Sport Education in Physical Education: Research-based Practice. New York: Routledge.
Qualifications and Curriculum Development Agency (2008). Personal, Learning and Thinking Skills. London: Author.

Title: What has assessment got to do with Primary Physical Education?

Authors: Ann-Maria Shortt[1], Catherine Mulcahy[2], Déirdre Ní Chróinín[3], Elaine Murtagh[3], St Anne's Primary School[1], Monaleen N.S.[2], Mary Immaculate College[3].

Introduction

The Irish Primary School Curriculum (1999) recognises that assessment is an integral part of teaching and learning. The National Council for Curriculum and Assessment (2007) published detailed guidelines on assessment to support teachers that highlights the importance of using a range of assessment tools (NCCA, 2007). Assessment can enhance the teaching and learning process within a primary school context (James et al, 2005). Research in an Irish context also suggests that engaging teachers with assessment can provide a pathway to promote learning (MacPhail & Halbert, 2010). However, reviews of curriculum implementation (NCCA 2005; 2008) highlight that teachers have difficulty finding time to assess in an 'overloaded' curriculum and have particular difficulty assessing in some practical areas.

Purpose

This study examined the impact of a range of assessment tools on teaching and learning in primary physical education.

Methodology

Two generalist primary teachers used a variety of assessment tools in physical education with their class. Aoife taught her class of 26 girls games for six lessons and Kate taught her co-educational class of 28 children gymnastics for eight lessons (year 4 and 5). The

teachers planned a variety of assessment strategies for their context including teacher-led methods, peer-assessment and self-assessment to examine different aspects of the children's learning. Both teachers kept a reflective electronic journal which they completed after each lesson. The journal questions prompted the teachers to consider the successes and drawbacks of using assessment tools as well as the impact on teaching and the children's learning. Children's work samples, interviews with the children and the teachers' reflective journals were analysed qualitatively through reading and re-reading and constant comparison (Miles & Huberman, 1994).

Findings

Engagement with assessment strategies impacted positively on teaching and learning. Use of teacher-led assessment, including the use of observation checklists by the teacher, helped focus both the teacher and the children on the specific learning intentions of the lesson. Peer-led assessment included the use of partner observation checklists. This strategy engaged the children actively in learning and provided plenty of feedback opportunities. Self-assessment strategies included journaling and conferencing and the children recorded entries in their journal after every lesson. This supported them to reflect on their progress, be accountable for their learning and consider strengths and weaknesses. It also allowed the teacher to track progress as a basis for future learning. Conferencing provided an opportunity for the children to rate their own learning and discuss their learning in an informal way with the teacher. This provided a supportive and focused learning environment where effort could be acknowledged.

Conclusion

This study demonstrates that the use of assessment can have a significant impact on teaching and learning. It highlights the importance of supporting teachers with information and samples of assessment tools aligned with content to promote the use of assessment in primary physical education.

References

Government Publications. (1999). Primary School Curriculum, Introduction. Dublin: The Stationary Office.

James, A. R., Griffin, L. L. & France, T. (2005). Perceptions of assessment in elementary physical education: A case study. Physical Educator, 62(2), 85-95.

MacPhail, A. & Halbert, J. (2010). 'We had to do intelligent thinking during recent PE': Students' and teachers' experiences of assessment for learning in post-primary physical education. Assessment in Education: Principles, Policy & Practice, 17(1), 23-39.

National Council for Curriculum and Assessment. (2007) Assessment in the Primary School Curriculum, Guidelines for Schools. Dublin: National Council for Curriculum and Assessment.

National Council for Curriculum and Assessment. (2005). Primary Curriculum Review Phase 1, Final Report. Available at: www.ncca.ie

National Council for Curriculum and Assessment. (2008). Primary Curriculum Review Phase 2, Final Report with Recommendations. Available at: www.ncca.ie

Health Posters

Title: Development of a Hypermobility and Hypermobility Syndrome Training Programme for Physical Education Teachers.

Authors: Simmonds, J.V.[1, 2, 4], Hickman, J.[3], Bell, C.[2], Beeton, K.[1], Keer, R.[4], Grahame, R.[4, 5]

[1]University of Hertfordshire, [2]Middlesex University, [3]Strategic Schools Improvement Service, London Borough of Enfield, [4]Hospital of St John and St Elizabeth, London, [5] University College London.

Background and Aims

Hypermobility is a phenomenon where most of an individual's joints move beyond the normal range of movement and is influenced by age, gender and ethnic background. Hypermobility may be an asset for some individuals, allowing them to excel in gymnastics, ballet, music and other performance activities where flexibility is considered a key component. However, for other less fortunate individuals, hypermobility may predispose them to injury, pain, fatigue, delayed healing and a wide range of other health problems. In such cases, the Hypermobility Syndrome (JHS) is said to exist. The symptoms of JHS commonly commence in childhood and adolescence with the potential to extend into adult life.

Research and patient claims have reported that hypermobility and JHS are frequently overlooked, underestimated and poorly managed by the medical and physiotherapy professions. In response to this need, educational books and clinical papers have been published and Masterclass workshops have been implemented. This project sought to extend this educational work, to include physical education teachers who are in a unique position to promote health and optimize performance in the young. The aim of the project was to develop a hypermobility and JHS training programme specifically for physical education teachers and to inform a model for future education within an interprofessional working framework. The project was situated within the political context of key government and world health organization objectives of improving children's health through interprofessional collaboration.

Methodology

An exploratory case study design using mixed methods within a qualitative paradigm was utilized. The case study involved physical education teachers working within a large, multi ethnic school in London. The research entailed an initial exploration of the teachers' knowledge, perceptions, experiences and professional practices with regard to hypermobility and JHS utilizing self-administered questionnaires. The findings were used to inform a suitable training programme which was implemented by a specialist physiotherapist. The training programme was then evaluated using questionnaires and a focus group interview.

Findings

Key findings from the initial questionnaire revealed that the teachers had very limited knowledge of hypermobility. The post intervention questionnaire demonstrated improved physical education teacher knowledge and awareness of the key issues associated with

hypermobility and JHS. Five core themes emerged from the focus group interview, which included;

- Hypermobility: a hidden phenomenon
- Hypermobility: a performance liability or asset?
- Physical education teacher engagement with hypermobility and JHS
- Managing hypermobility and JHS in schools
- Future education and training: preferred modes and methods

Key findings from the focus group revealed that hypermobility was a hidden phenomenon, especially amongst Asian, female students. Hypermobility was frequently considered to be a gift or talent, although for some individuals it was considered a liability. Pathways for identifying and managing hypermobility and JHS were identified within the physical education curriculum and for utilising an interprofessional referral mechanism where appropriate.

Conclusions

This research has been used to inform a training DVD for physical education teachers and a model for undergraduate and post graduate future inter-professional collaborative education, research and working between physical education teachers, physiotherapists, doctors and nurses.

Title: Making Tracks: Moving (the curriculum) to Connect Community.

Authors: Justen O'Connor and Laura Ward, Monash University, Australia.

In both the United Kingdom and Australia, there is evidence to suggest that, in the past three decades, most journeys by children between school and home have become increasingly dependent upon motor vehicles (Office for National Statistics, 2010; Australian Bureau of Statistics). Increasing dependence upon motor vehicles can negatively affect children's health, as well as limit their capacity to independently travel, play and connect with their local places, spaces and communities. This is an ongoing research project entitled 'Making Tracks: Moving to Connect Community', which is being carried out in a town in Victoria, Australia. The broad aim of the project is to promote active transport (including walking and cycling) to and from school within a targeted area, acknowledging that this may have multiple benefits on personal and local levels.

Adopting a socio-ecological frame, a sequential explanatory mixed method research design was employed, whereby a primary quantitative analysis of participant perceptions about active travel informed a secondary qualitative study. Other methods included GIS (Geographic Information Systems) mapping, objective traffic accounts and route audit data. A total of 272 students from three primary schools and 407 from one secondary college completed a paper survey and this was followed by focus-group interviews with parents (n=21), pupils (n=39) and community members (n=4).

Findings from the survey and focus groups suggest that approximately half (52%) of the primary students constituted a target for intervention because they lived within four kilometers of their school and relied on motor vehicle travel to get there. Given the choice, primary students tended to prefer more dynamic forms of locomotion such as cycling and scooting to school, but the main barriers were parental fears of 'stranger danger', safety

and knowing whether their child had arrived at school. With regard to the secondary college, 12 per cent of the participants lived within four kilometers from their school and relied on a motor vehicle for travel, with safety, weather and time efficiency being the most influential factors in choosing to do so. Interestingly, nine per cent of the students reported they would prefer to switch modes of travel from active to motor transport, making them targets for sustaining their current travel behaviours.

The role schools can play in breaking down barriers associated with independent mobility through the adoption of place-based pedagogies and integrated learning was explored. It is argued that by bringing children out of the classroom and into the community, they will become more knowledgeable about their local communities and will be better equipped to negotiate risk and make informed decisions when travelling to and from school. As well as having a positive impact upon health and the environment, independent and active transport provides children with opportunities to explore local environments, compete with its risks, and develop environmental and social competence, self efficacy and resilience. The research is currently in a phase of community-driven intervention which includes: i) changing policy and introducing School Travel Plans; ii) implementing changes to the built environment; iii) working with teachers to develop an integrated curriculum.