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Achieving 'High Quality' physical education: an intervention to facilitate high quality teaching and learning in gymnastics in a city school

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Abstract

Following the government's target of "*increasing the percentage of school children who spend a minimum of two hours a week on high quality sport within and beyond the curriculum from 25% in 2002 to 75% by 2006*", the Department for Education and Skills (DfES) and the Department for Culture, Media and Sport (DCMS) published a guide in 2004 entitled 'High Quality PE and Sport for Young People'. The purpose of the document was to describe what 'high quality' physical education is and to provide guidance in order to help schools (and sports clubs) achieve it. Using this publication as a guide, an intervention to facilitate high quality teaching and learning within gymnastics in a city school in the East Midlands of England is currently being undertaken.

In designing this intervention, two different factors had to be considered. Firstly, it was important to involve the pupils and the teachers in the decision making process. As a result, teacher interviews and pupil focus groups were conducted in April 2005 to identify: how gymnastics was being taught prior to the intervention; what the teachers felt they needed in the way of support; and what the pupils wanted to learn and might enjoy in gymnastics. Secondly, the literature, including the DfES/DCMS guidance was reviewed in order to establish how 'high quality' in physical education could be achieved. A number of physical education teaching 'theories' were considered in terms of what might constitute 'high quality' or effective teaching and learning (including, for example, Mosston, 1966; Hellison & Templin, 1991; Mawer, 1995; Hardy & Mawer, 1999; Silverman & Ennis, 1996; and Siedentop & Tannehill, 2000). Taking into account the teachers' and pupils' views, as well as the literature, a unit of work and associated learning activities were designed which incorporated a number of different teaching strategies aimed at improving motivation, enjoyment and attainment in gymnastics.

Implementation of the unit of work was evaluated through the collection and analysis of data from a variety of complementary sources including lesson observations, lesson evaluations, pupil focus groups, teacher interviews and teacher's personal journals.

The data were analysed thematically and the evaluation established how the unit had been implemented/received highlighting where improvements could be made, and identified whether the notion of high quality physical education had been achieved.

Whilst the findings were numerous and, in many cases complex, the data highlighted a number of areas where the unit of work had been successful as well as identifying aspects where alterations could and should be made. For example, both teachers who taught the new unit felt that their gymnastics teaching had improved in quality, felt more confident teaching gymnastics, and enjoyed teaching it more. Moreover, an analysis of the lesson observation data revealed that the teachers were able to facilitate high quality learning through their teaching and most pupils were achieving a number of high quality outcomes. Potential areas for improvement included shortening the unit of work; tightening the focus on health and fitness; explicitly highlighting the links between the learning activities and the national curriculum aspects; increasing the opportunities for pupils to (a) use apparatus and (b) ICT; improving opportunities for pupils to be involved in decision making and providing better opportunities for differentiation. These areas were then considered in the second phase of the research, which involved further revisions to the unit of work and extension of the research to include year 8 pupils.

Introduction

High quality physical education (PE) should be an aspiration for all schools and considered to be important for many reasons, not least because it may help young people to make informed lifestyle choices. That is, it might help to encourage lifelong participation in physical activity (Kay, 2005; Kirk, 2005; Haydn-Davies, 2005; Morgan, Kingston & Sproule, 2005). Moreover, the relatively recent introduction of the Physical Education School Sport and Club Links (PESSCL) Strategy (see: http://www.teachernet.gov.uk/PE for further details) with the government's initial target of *"increasing the percentage of school children who spend a minimum of two hours a week on high quality PE and school sport within and beyond the curriculum from 25% in 2002 to 75% by 2006*" (DfES & DCMS, 2004) has further highlighted the desire and associated importance of regular participation in high quality physical activity, PE and school sport.

The researchers were approached by a local school to guide them in their provision of high quality PE. Gymnastics was chosen as the focus for the research because it was an area where some teachers in the school lacked confidence and because existing planning documentation (short-term lesson plans and medium-term units of work) were deemed to be uninspiring and unchallenging by them. The school context at this time was interesting in that the school had just received an unsatisfactory Ofsted report. Thus, the first year of the research took place amongst the efforts of the school to make rapid improvements in teaching and learning across all subjects. The school is a mixed, city school that has specialist sports college status, with approximately 950 pupils aged 11-18. The number of pupils eligible for free school meals and with special educational needs is above the national average. The principal aim of the project was to facilitate high quality teaching and learning in gymnastics. In the longer term it is also hoped that the key principles contributing to high quality teaching and learning could be identified could be applied to other PE National Curriculum activity areas. Therefore, the first task for the researchers was to 'define' what high quality PE means in practice.

High Quality Teaching and Learning in PE

In 2004, the Department for Education and Skills (DFES) and the Department for Culture, Media and Sport (DCMS) published a guide entitled '*High Quality PE and Sport for Young People*'. This guide:

> *"focuses on what high quality looks like and how schools and sports clubs can achieve it. The guide contains detailed descriptions of ten outcomes of high quality PE and school sport, along with a list of characteristics to give schools and clubs a picture of what they can expect young people to be doing when they are meeting each high quality outcome" (QCA, 2004, p.3).*

Nine 'steps' that teachers should take to ensure a positive impact on pupils' learning and achievement were recommended in the guide:

1. Have a clear plan that sets out steps towards meeting the school's vision and expectations for PE and school sport;
2. Share with pupils what they expect them to achieve in a way that they can understand;
3. Take into account what pupils have already learnt within and beyond school;

4. Identify the next steps in progression and communicate these to pupils and their carers;
5. Give pupils relevant learning activities and authentic contexts that interest, excite and motivate them;
6. Provide opportunities for pupils to analyse, assess and evaluate their own and others' work;
7. Give pupils time to think, reflect and make decisions for themselves;
8. Allow pupils time to wrestle with problems, while giving well-timed advice and support to advance learning and avoid frustration;
9. Ensure that they use time, staff, equipment and resources in ways that keep pupils interested and learning.

(DfES & DCMS, 2004, p. 17)

In addition to these 9 steps, information regarding how young people should respond if they are receiving high quality physical education and sport is provided. This centres on ten outcomes relating to young people's commitment; understanding of what they are doing; understanding of healthy lifestyles; confidence; skills; participation in a range of activities; thinking and decision making skills; desire to improve; stamina, strength and suppleness; and enjoyment. For each outcome there is a list of indicators to give a flavour of what schools (or clubs) can expect to see young people doing when they are involved in high quality physical education and sport. For example, within outcome 1, 'commitment', young people are said to show commitment to PE if they:

- *"Seldom miss PE lessons or opportunities to take part in school sport;*
- *bring kit and want take part in some way even if they are ill or injured;*
- *get changed and ready for PE lessons on time;*
- *are available for school matches, festivals and performances;*
- *take responsibility for not letting down other in the school;*
- *encourage others to get involved;*
- *help adults to organise and manage lessons and sports activities.*" (DfES & DCMS, 2004, p. 4)

A further guide was produced in 2005: "*Do you have high quality PE and sport in your school?*". The purpose of this document was to help schools self-evaluate and improve the quality of their PE and school sport. It provided some suggested methods for assessing whether pupils had achieved the high quality outcomes set out in the

previous booklet. One such method, the 'traffic light system' (see Appendix A), was adapted and used in this research as an evaluation tool by teachers and the researchers.

Supporting Literature

Whilst the guidance provided by these two documents was a useful starting point, a wider literature search was necessary in order to ground the DCMS recommendation within academic research and to identify other relevant indicators of high quality PE. In addition to 'high quality' the search term 'teacher effectiveness' was also used in this review. Defining high quality or effective teaching is a challenge: "*There is a tendency to say that good teaching is something that you cannot describe or define, let alone prescribe*" (Silverman & Ennis, 1996, p. 171). Nonetheless, a number of authors have provided a list of rules or principles (Metzler, 1990; Silverman, 1991; Mawer, 1995; NASPE, 2006: see appendix B). These are similar in nature; the main differences being the amount of detail or the number of 'rules' provided. They are also reassuringly similar to the nine steps identified within the DCMS guides employed in this research. Many items listed fall within a social constructivist learning framework. Azzarito and Ennis (2003), for example, state that the social constructivist classroom is characterised by "*peer interactions, student ownership of the curriculum and educational experiences that are authentic for the students*" (p. 179).

Further, elements of these 'lists' appear to have been the focus of wider research on effective teaching and learning in PE. However, whilst they provide some guidance and point teachers in the right direction, more specific research is required to enhance prescription. General research areas include:

- **'teaching styles'** (Azzarito & Ennis, 2003; Byra, 2000; Curtner-Smith, Todorovich, McCaughtry & Lacon, 2001; Cothran & Kulinna; Goldberger, 1995; Hardy & Mawer, 1999; Morgan, Kingston & Sproule, 2005; Salvara, Jess, Abbott & Bognar, 2006);
- **'communication'** (Silverman & Ennis, 1996);
- **'teacher feedback'** Silverman & Ennis, 1996; Silverman, Tyson & Krampitz, 1992);

- **'practice time'** (Behets, 1997; Silverman & Ennis, 1996)
- **'management'** (Behets, 1997; Ryan & Yerg, 2001; Silverman & Ennis, 1996);
- **'lesson progression'** (Silverman & Ennis, 1996).

These will now be addressed briefly in turn.

Teaching Styles

Mosston's spectrum of learning styles (Mosston, 1966; Mosston & Ashworth, 1994) was mentioned by a number of authors in their evaluation of effective teaching/learning. Descriptions of, and discussions about the value of different styles on the teaching spectrum, which range from being entirely teacher-led to being entirely student-led, can be found elsewhere (Curtner-Smith, Todorovich, McCaughtry & Lacon, 2001; Byra, 2000; Cothran & Kulinna; Goldberger, 1995; Hardy & Mawer, 1999; Morgan, Kingston & Sproule, 2005; Salvara, Jess, Abbott & Bognar, 2006) but a brief summary of findings follows:

- *"The command style has the power to control behaviour"* (Goldberger,1995, p. 88);
- *"The practice style is particularly effective for learning basic motor skills"* (Goldberger, 1995, p. 88);
- Morgan, Kingston & Sproule (2005) identify that steps should be taken to avoid a learning environment that promotes performance over participation and that one way of doing this would be to use pupil-centred teaching styles as opposed to more traditional teacher-centred styles, such as the command or practice styles identified by Mosston (1966).
- Azzarito & Ennis (2003) argue that the reciprocal style "*promotes natural learning situations and opportunities for students to socialise amongst peers, and actively engage in learning through problem solving*" (p. 180).
- *"The reciprocal style appears to have positive effects on certain aspects of social development"* (Goldberger, 1995, p. 88);
- *"The effects of the self-check and inclusion styles on emotional development is less clear"* (Goldberger, 1995, p.88).

It is worth noting, however, that utilisation of a number of styles (dependent on the context of the lesson) is considered to promote effective teaching and learning:

"Over the years, it has generally become accepted that there is no one perfect teaching style, but that the most appropriate style depends on the context in which the teaching and learning process is taking place" (Salvara, Jess, Abbott & Bognar, 2006, p. 52).

"In the UK, government publications have recommended that teachers should employ a range of teaching 'strategies' (Department for Education, DfE, 1992, 1995), teaching 'approaches' (Curriculum Council for Wales CCW, 1992), or teaching 'styles', in order to cater for different pupil ages, abilities, needs and attainment levels, and have the flexibility to use a variety of teaching strategies in one lesson (Department of Education and Science DES, 1985)" (Hardy & Mawer, 1999, p. 83).

Communication

Silverman & Ennis (1996) identify the importance of good communication, good demonstrations and appropriate verbal cues. They argue that:

"the teacher's ability to communicate with the learner is critical to effective physical education. In terms of instructional events, the presentation of the instructional task is critical. The teacher must be able to select important information for the learner, organise that information, and communicate it to the learner" (pp. 180-181).

Teacher Feedback

The research on teacher feedback is inconclusive with many studies finding no significant link between feedback and student achievement: "*the research support for teacher feedback in physical education settings has not been strong… we do not have any support for a direct link of this variable with student learning*" (Silverman & Ennis, 1996, p. 187). However, Silverman, Tyson & Krampitz (1992) acknowledge that peer feedback and video taping students may be beneficial. They also found that when pupils were allowed to practise, whilst being provided with feedback, then they achieved more: "*the results of this study suggest that feedback on skill outcome or feedback that is corrective, descriptive, or positive may relate to achievemen*t" (p. 343).

Practice Time

Practice time has also been linked to positive student outcomes. Behets (1997), for example, found *"that effective teaching is characterised by a lot of practice time and limited instruction and management, or that physical education is 'learning by doing'"* (p. 215).

Management

Classroom management and behaviour management are also key to effective learning environments. Ryan & Yerg (2001) argue that teachers should be trying to foster supportive learning environments rather than trying to control behaviour. They state:

> *"Research evidence has accumulated in the last 20 years suggesting that successful classroom management involves not merely responding effectively when problems occur, but also preventing problems from occurring by focusing on teacher effectiveness and creating environments that encourage learning and appropriate behaviour" (p. 173).*

There also seems to be some agreement over how classes should be managed. Behets (1997), for example, found that more effective teachers were those who:

- Spent more time on active learning and less time on instruction
- Tended to interrupt less frequently
- Spent more time observing and moving around
- Provided more statements for corrective feedback
- Spent less time on demonstrations
- Provided opportunities for students to practise

Lesson Progression

Silverman & Ennis' research (1996) highlighted the link between appropriate lesson progression and student achievement. That is, carefully sequencing tasks so that they increase in complexity, applying learning to games and performances or manipulating the complexity of task by changing the rules, modifying games or adding players.

The Research

The research reported here focuses on the first two years of an on-going research project. Year 1 of the research sought to establish what was being taught in Year 7 gymnastics and to identify what the teachers and pupils wants and needs were in relation to the year 7 gymnastics curriculum. In order to do this, the existing unit of work for year 7 gymnastics was analysed, all PE staff (7) were interviewed, and focus groups were conducted with a selection of pupils from year 7. The focus groups acted as a baseline for the research and sought to establish what the pupils enjoyed, what they did not enjoy and what they would like to do differently in gymnastics. Following this, based on what the teachers and pupils said , what was already known from the teacher effectiveness literature, and taking into account the high quality outcome documents, a new unit of work with associated learning activities were designed and 'presented' to the school.

Year 2 of the research focused on the implementation and evaluation of the new unit. The research followed a similar pattern in order to compare the findings with the baseline data from year 1. Four classes were involved in year 2 of the research comprising two female groups and one male group who were taught the new unit, and one male group who were taught the original unit (this group acted as a 'control'). Focus groups were conducted with the new year 7 intake prior to the start of the unit and again at the end of the unit. The teachers were also re-interviewed at the end of the unit and asked to keep reflective journals. In addition, lesson observations were conducted at the start of the unit and, where possible, at the end. These observations were informed by the use of the nine steps presented in high quality PE and sport for young people. The teachers were furthermore encouraged to assess their pupils on an on-going basis using the traffic light assessment system and parallel assessments were made by the researcher for selected lessons. The system, which was recommended by the DCMS and adapted for use within this research (see Appendix A) , required teachers to state whether they considered a few (red), about half (amber) or most (green) of their pupils to demonstrate a series of the high quality outcomes. For the purpose of analysis, the colours were given a numerical value (1 = red, 2 = amber, 3 = green). In this way it was possible to compare the outcomes pupils demonstrated within the new unit of work with those of the 'control', and pupils' achievements at the start of the unit with their achievements at the end.

Consent

Ethical approval was gained from the university in the first instance. The teachers were provided with an information sheet and asked to give their consent to participate in the research and given the option to opt out at any time. Consent was sought from the year 7 pupils' parents via an opt-out procedure and letters were sent home describing the research and the opt-out procedure. At the start of each focus group, pupils were provided with an information sheet which was read to them by the researcher and they were given the opportunity to ask questions or withdraw from the research. Permission was also asked to audio tape the focus groups and interviews and anonymity was assured to both teachers and pupils.

Analysis

Initially, the data from each segment of the research was analysed separately. The teachers' interview responses were analysed at two levels. Firstly, their answers to each question were collated and this enabled an overall 'picture' to be established. Secondly, they were analysed thematically to identify recurring themes. It was then possible to highlight a number of areas where the teachers needed help, as well as their preferred style of gymnastics teaching. This then informed the design of the unit of work and learning activities (year 1) and subsequent revisions (year 2).

The pupil focus groups were also analysed in the above way, however, the pupils were asked to identify three things about gymnastics that they enjoyed and three things that they did not enjoy. These answers were collated into categories and quantified. The existing gymnastics lesson plans were useful as they helped the researchers analyse what was currently being taught and highlighted any areas of weakness and/or for development. They were not, however, formally analysed. Relevant quotes in the teacher journal (only 1 was returned) were added to that teacher's interview transcription and analysed with the interviews; there was insufficient content to this to warrant a separate evaluation. Lesson observation notes were made by the researcher during selected lessons and structured around key aspects of the lesson (i.e. introduction, warm-up, main activity, cool down, plenary). The lessons were then analysed for instances of 'high quality' as identified in the 9 steps in the DCMS guide. Finally, the high quality outcomes 'traffic light

assessment' were given a numerical value (1 = red, 2 = amber, 3 = green). This allowed a numerical analysis to be conducted on the number of high quality outcomes achieved by the pupils in each group that was observed.

The Findings

Year 1

The pupils said they wanted more opportunities to:

- Make decisions;
- Work in a pair / team;
- Use the apparatus / do more exciting activities such as vaulting / trampettes (however, not all enjoyed this aspect);
- Do balance work;
- Have more choice / variety / challenges;
- Do more 'games-like' activities;
- Work to music;
- Take on different roles (e.g., coach, judge);
- Use the video (ICT) more.

They also reported they would like less teacher talking/standing around.

The teachers said they would like:

- New/more ideas to motivate/challenge and make gymnastics more interesting, appealing, exciting and inclusive for pupils;
- pupils to see the importance of what they were doing;
- Ideas/ways in which to develop the quality of pupils' work;
- More opportunities for involving pupils in decision making and team work;
- Different learning styles, including more student-centred styles;
- More opportunities for pupils to be creative;
- More integration of ICT and other resources;
- More explicit focus on the 'knowledge and understanding of fitness and health' aspect.
- Explicit assessment opportunities to be built into the unit/learning activities, including more self-assessment opportunities;
- Purposeful activities to involve the non participants.

These wants and needs and the context of the school was taken into account when designing the new unit of work and learning activities. In particular, the context of the school and the pupils proved an important consideration. For example, it became clear from the interviews that most pupils had not received a great deal of gymnastics teaching at primary school and so it was important that the unit covered the 'basics'. In addition, the teachers had alerted the research team to the complex nature of the young people involved and the lack of accessible resources in the school. Furthermore, the young people had disagreed, to some extent, over what they enjoyed and what they would like to learn in gymnastics.

Year 2: Pupil Focus Groups

What the pupils enjoyed	• Forward rolls / rolling • Balances • Jumping • Sequences / routines • Pyramids (specific balances) • Group work
What the pupils did not enjoy	• Forward rolls • Sequences • Repeating the same activity for too long: *"I didn't like having to go on repeating things; it got a bit boring"* • Some tasks were too easy and described as boring: *"sometimes it was a bit too easy and I like a bit more of a challenge"* • Mat work
What the girls disliked	• *"Walking across the yard in the cold"* • "*The changing rooms and not being allowed to wear jackets"* • *"The boys watching us"* • *"It is quite cold in the gym*"
Other comments	• they would have liked even more opportunities to make decisions • they would have benefited from clearer explanations • sometimes, it would have been helpful to have more time to practise something when they were struggling

Year 2: Teacher Interviews

Overall, both of the teachers who had taught the new unit reported a number of positive outcomes following delivery of the unit of work and learning activities. They both enjoyed teaching the unit and felt their confidence to teach gymnastics had

improved. Teacher A was an inexperienced PE teacher, although she had worked in a management role within the school prior to this. She taught the two female groups and felt that her gymnastics teaching had changed as a result of the unit of work and that she could now plan for and teach a high quality gymnastics lesson. She believed that she had followed the unit quite closely but had made a few adaptations. As an overall evaluation, she thought that: the students were more involved in their learning; the warm up activities/ games were very good; there was too much content to cover; she had not addressed all four aspects of the National Curriculum as well as she might have done; she did not stretch the more able as she had spent more time with those who were struggling. She commented:

> *"the unit of work gave me that little bigger bank of ideas, helped me a lot with things I'd forgotten, the literacy, the outcomes, the assessment for learning"*.

> *"the head of department did a formal lesson observation of me towards the end of term and what she said was the quality of movement was better than she'd seen before"*.

In terms of confidence and enjoyment, Teacher A stated in year 1 that she was not at all confident but that in Year 2 she was very confident. However, her enjoyment of teaching gymnastics in year 1 was high "*Oh I loved it, I did like it*" and remained high in Year 2 "*Oh, I enjoy it, I enjoy it*".

Teacher B was also an inexperienced PE teacher, having been an NQT in year 1 of the research. He taught one of the male groups. Like teacher A, he thought that his gymnastics teaching had changed since the previous year and highlighted how difficult it had been to cover all of the content within the unit. He recalled a number of successful and enjoyable lessons and felt that the learning activities had linked closely with the National Curriculum. He reported: *"I found all the lesson plans really easy to follow… making me look at literacy because literacy's one of* my *weaker areas. It's been really good for me"*.

Teacher B also felt he was now more confident to teach gymnastics: *"I'm definitely more confident than I was last year… I've definitely got a lot more confidence on how*

to structure my gym lessons and what to focus on". Teacher B had explained in his initial interview that he enjoyed teaching gymnastics, yet at the end of year 2, he had changed his mind and felt that his enjoyment was dependent on the lesson and the mood of the pupils. In the previous year he had taught a group that he described as '*little angels*' and in year 2, he described the group as '*a hyperactive bunch*'. It may be that this was the reason why he did not appear to enjoy the lessons so much.

Teacher C was an experienced PE teacher who had agreed to act as the 'control' by continuing to teach the unit of work that had existed in school before the research. Perhaps, not surprisingly, he did not feel his gymnastics teaching had changed since the previous year. Similarly, his enjoyment and confidence remained similar to that of year 1.

Year 2: The lesson Observations

The lessons were observed towards the beginning of the unit of work and the observation notes were structured around key aspects of the lesson: the introduction, the warm-up, the main activity, the cool down and the plenary. The observation notes were then analysed for instances of 'high quality' as identified by the DCMS guide. The following key points were noted:

- Lessons need to link in with the school's vision and expectations for PE;
- Introductions were missing from some lessons but when evident, they were relevant and helpful for pupils' learning;
- Teachers often drew upon previous lessons but did not draw on experiences beyond gymnastics from the unit of work;
- Plenaries tended to focus on what they had done in the lessons. Better links to future learning were needed;
- Whilst pupils were told at the start that they would be working towards a final performance, this was not always the case. The learning was not therefore always authentic;
- Good opportunities were provided for pupils to analyse, assess and evaluate their work in lessons from the new unit of work (but not from the 'control' lessons);

- Good opportunities were provided for pupils to think, reflect and make decisions for themselves;
- Pupils were given time to wrestle with problems, whilst being given well timed advice and support to advance learning and avoid frustration;
- The pace of the lessons was good and appropriate to the pupils' skill level.

Year 2: High Quality Outcomes Assessment Sheets

The high quality outcomes 'traffic light assessment' sheets were used to compliment and augment the data from the lesson observation notes, and assessments were taken early on in the unit of work and compared with those taken at the end. A score of 1 was given to red outcomes (few pupils demonstrated the outcome), a score of 2 was given to amber outcomes (about half pupils demonstrated the outcome) and a score of 3 was given to green outcomes (most pupils demonstrated the outcome). Where the researcher and teacher disagreed, the mean was taken. There were 41 outcomes altogether so if 'most' pupils had achieved all outcomes, a score of 123 was possible. The following table illustrates the changes in each class from the lesson at the beginning and end of the unit:

	Beginning	End	Difference
Girls	99	103	+ 4
Boys	83	106	+ 23
Control	72	96	+ 24

Thus, the pupils in all 3 classes appear to have made progress with regards to the high quality outcomes. To summarise, the girls appear to have started at a higher level; the boys in both classes appear to have progressed by the same amount; the boys in the control group achieved fewer outcomes at the start and at the finish; and end totals imply that most pupils had achieved most outcomes.

Using the 'traffic light' scores from the end assessment, a mean was calculated for each outcome. A mean of 2 or less indicated that half or less than half of pupils were considered to have achieved the outcome. Those outcomes that half or less than half

of pupils were thought to have achieved were considered when the unit of work was revised for year 3 of the research. These were:

- Know the difference between how they have to think for gymnastics and other activity areas;
- Know when and how to use the principles of composition, choreography and problem solving;
- Take responsibility for not letting down others;
- Take the initiative to help others;
- Often compare their performance to their own in the past and to other people's;
- Often feel that their work or performance could be better still;
- Know how their participation in gymnastics contributes to a balanced, healthy lifestyle;
- Describe how gymnastics affects their fitness, health and feelings about themselves;
- Have high levels of concentration;
- Are physically strong enough to take part in the gymnastics activities in lessons.

A comparison with the control group is interesting but not necessarily conclusive:

	Girls	Boys	Boys (control)
Score of 1 (red)	7	0	1
Score of 2 (amber)	6	17	25
Score of 3 (green)	28	23	14

Discussion and Recommendations

As the research is still on-going it is not yet possible to draw firm conclusions or make final recommendations. However, it is possible to comment on and summarise the key findings and conclusions to date and make some preliminary recommendations. In summary, therefore, some positive preliminary findings have been obtained from both the teachers and pupils regarding the unit of work. The teachers feel their gymnastics teaching has improved in quality and feel more confident delivering the area. Whilst there are some contradictory findings amongst some of the pupils, they were nonetheless able to identify a number of aspects of their gymnastics that they enjoyed. Furthermore, pupils made progress with regards to the

high quality outcomes and were considered to demonstrate more high quality outcomes at the end than at the beginning of the unit.

At this stage, a number of issues influencing the implementation of the unit have been uncovered which are relevant and which are likely to have influenced and continue to influence the achievement of high quality pupil outcomes and high quality teaching and learning in gymnastics at the school:

Pupil Behaviour

Teacher A did not mention behaviour as being a problem in her lesson and this was confirmed by the researcher in the lesson observation notes. However, teacher B highlighted the fact that his enjoyment of the lesson was often affected by his pupils when they were not behaving. It is still too early to state with any confidence the extent to which pupil behaviour may or may not affect the implementation of a new unit of work and, in turn, whether student misbehaviour may affect whether high quality outcomes are achieved but the literature indicates that this may be a common problem:

> *"The main environmental factor which we speculate may have influenced the teachers' styles of instruction was the difficult behaviour of a large proportion of their pupils. Allowing pupils prone to misbehaviour to make a great many decisions in the teaching-learning process, as teachers must in Mosston's later reproductive (styles C, D and E) and productive (styles F, G and H) styles may have been considered too risky, particularly given the time constraints within which most PE programmes must operate" (Curtner-Smith, Todorovich, McCaughtry & Lacon, 2001, p. 186).*

Two points emerge from this. Firstly, teachers may be prevented from teaching in a particular way, even if that way has been proven to lead to high quality outcomes, if their pupils do not behave appropriately. Secondly, if teachers within this research are to be able to adopt a new unit of work that incorporates more 'adventurous styles', the potential misbehaviour of students needs to be considered in the design and delivery of the new units and learning activities.

'Fun'

Whilst there was some disagreement amongst pupils about what was fun in gymnastics, the pupils in this research appeared to think that having fun was important and, not surprisingly, that boring aspects of the lesson were not fun. Despite this, there is some guidance in the research literature that hints at ways in which lessons could be made more 'fun'. For example, Garn & Cothran (2006) identify that fun can be determined by:

- the teacher's personality and relationship with students;
- the task itself (pupils want to be competent and achieve some success; they want it to be challenging; they want to see the meaning/purpose of what they do; and they enjoy trying something new);
- social aspects (spending time with peers on interacting and teamwork);
- the element of competition (but not for everyone!).

Interestingly, some of the pupils in this research were keen to incorporate a competitive element into gymnastics and some suggested that they would like to combine games activities with gymnastics skills. However, O'Reilly, Tompkins & Gallant (2001) warn against an overly competitive element and suggest that competition could be minimised by not keeping score, modifying games, minimising rules and minimising the skills needed.

Other Points

The teachers also mentioned that their resources were often inaccessible or that they took too long to get out and put away. They complained of a lack of time in lessons because pupils took too long to get changed and a lack of time in general to cover everything within the unit of work. It was also noted that there was often a lack of agreement over what was fun and what was boring amongst pupils suggesting that it will be hard to please all pupils.

Recommendations

It was necessary to identify some preliminary recommendations and/or possible areas where improvements could be made in order to inform the revision of the unit of work and learning activities for the next stage of the research. In this respect, the following recommendations and/or areas for future consideration, based around eight themes are, suggested:

Apparatus	Include some further sessions with the apparatus to break up the mat work
Differentiation	Some pupils felt they were not stretched, others felt they needed more time to practise, whilst some asked for more input when they were struggling. This suggests further differentiation strategies need to be incorporated in to the revised unit of work and learning activities
Different Roles	Pupils were not always really aware that they were engaged in different roles. These should therefore be made more explicit
Decision making	Most pupils did not feel they were in control of their own learning. Better and more explicit opportunities for this therefore seem to be needed
National Curriculum	Teachers felt it would be helpful if the learning activities could highlight which of the 4 aspects the learning objectives addressed
Health and Fitness	This aspect was afforded less attention than the others (from teacher interviews and analysis of high quality outcomes). The teachers often addressed this aspect via the warm up, focusing on stretching and its importance. The section on posture was well received but overall this area does seem to need strengthening
Timing	Teachers felt lesson content should be based on what is achievable in 45 minutes rather than an hour (changing time). Fewer learning activities were requested as some lessons tend to be missed The volume of content within the unit and learning activities should therefore be reviewed
Other Points	Pupils said they appreciated whole class discussions but also wanted to get on with activities. Pupils from both years enjoyed balancing and jumping in particular. One group wanted to know which National Curriculum level they were working at. Despite being a key feature within the learning activities, opportunities for pupils to evaluate their own performance were often missing

The Next Stage of the Research

Year 3 of the research was conducted during the academic year (2006-2007). Based on the recommendations from year 2, the unit of work and learning activities were revised for year 3, and also developed and extended to include year 8 pupils. The research procedures were similar but the data has yet to be analysed. Year 4 of the research will see a switch of focus to the area of athletics but this is still in the planning stages.

References

Azzarito, L., & Ennis, C. D. (2003). A Sense of Connection: Toward Social Constructivist Physical Education. Sport, Education and Society, 8(2), 179-198.

Behets, D. (1997). Comparison of More and Less Effective Teaching Behaviours in Secondary Physical Education. Teaching and Teacher Education, 13(2), 215-224.

Byra, M. (2000). A Review of Spectrum Research: The Contribution of Two Eras. Quest, 52, 229-245.

Cothran, D. J., & Kulinna, P. H. (2006). Students' Perspectives on Direct, Peer, and Inquiry Teaching Strategies. Journal of Teaching in Physical Education, 25, 166-181.

Curtner-Smith, M. D., Todorovich, J. R., McCaughtry, N. A., & Lacon, S. A. (2001). Urban Teachers' Use of Productive and Reproductive Teaching Styles within the Confines of the National Curriculum for Physical Education. European Physical Education Review, 7(2), 177-190.

DFES & DCMS (2004). High Quality PE and Sport for Young People. Nottingham: DFES Publications.

DFES & DCMS (2005). Do you have high quality PE and sport in your school? Nottingham: DFES Publications.

Garn, A. C., & Cothran, D. J. (2006). The Fun Factor in Physical Education. Journal of Teaching in Physical Education, 25, 281-297.

Goldberger, M. (1995) 'Research on the spectrum of teaching styles', in Lidor, R., Eldar, E. and Harari, I. (eds) Windows to the Future; Bridging the Gaps between disciplines, Curriculum and Instruction. Proceedings of the 1995 AIESEP World Congress Part 2, Wingate Institute for Physical Education and Sport, Israel, pp. 429-35.

Appendix A:

High Quality Pupil Outcomes Record Sheet

Hardy, C. (1999) Student Misbehaviours and Teachers' Responses in Hardy, C. & Mawer, M. (Eds) (1999). Learning and Teaching in Physical Education. London; Falmer Press. Pp. 126-148.

Hardy, C., & Mawer, M. (1999). Learning and Teaching in Physical Education. London: Falmer Press.

Haydn-Davies, D. How Does the Concept of Physical Literacy Affect What is and Might be the Practice of Physical Education. Retrieved 13.10.06, from the World Wide Web: http://www.physical-literacy.org.uk/haydn-davies2005.php

Hellison, D. R., & Templin, T. J. (1991). A Reflective Approach to Teaching Physical Education. Leeds: Human Kinetics.

Kay, W. (2005). Physical Education - Quality: A quality experience for all pupils. Retrieved 13/10/06, from the World Wide Web: http://www.ccpr.org.uk/dyncat.cfm?catid=15898

Kirk, D. (2005). Physical Education, Youth Sport and Lifelong Participation: the importance of early learning experiences. European Physical Education Review, 11(3), 239-255.

Mawer, M. (1995). The Effective Teaching of Physical Education. London: Longman.

Metzler, M. (1990) Instructional Supervision in Physical Education. Champaign, Illinois: Human Kinetics.

Morgan, K., Kingston, K., & Sproule, J. (2005). Effects of Different Teaching Styles on the Behaviours that Influence Motivational Climate and Pupils' Motivation in Physical Education. 2005, 11(3), 257-285.

Mosston, M. (1966) Teaching Physical Education. OH, Merrill: Columbus.

Mosston, M. & Ashworth, S. (1994) Teaching Physical Education. New York: Macmillan.

NASPE. (2006?). What Constitutes a Quality Physical Education Program? Retrieved 13.10.06, from the World Wide Web: www.aahperd.org/naspe/template.cfm?template=qualityPEPrograms.html

O'Reilly, E., Tompkins, J., & Gallant, M. (2001). They Ought to Enjoy Physical Education, You Know?: Struggling with fun in Physical Education. Sport, Education and Society, 6(2), 211-221.

QCA. (2004). The Impact of Self-evaluation on Pupils' Achievement of High Quality Outcomes in PE and School Sport.

Ryan, S., & Yerg, B. (2001). The Effects of Cross-group Feedback on Off-Task Behaviour in a Physical Education Setting. Journal of Teaching in Physical Education, 20, 172-188.

Salvara, M. I., Jess, M., Abbott, A., & Bognar, J. (2006). A Preliminary Study to Investigate the Influence of Different Teaching Styles on Pupils' Goal Orientations in Physical Education. European Physical Education Review, 12(1), 51-74.

Siedentop, D., & Tannehill, D. (2000). Developing Teaching Skills in Physical Education. California: McGraw-Hill.

Silverman, S. (1991) Research on Teaching in Physical Education. Research Quarterly for Exercise and Sport, 62 (4) 352 – 64.

Silverman, S., & Ennis, C. D. (1996). Student Learning in Physical Education. Leeds: Human Kinetics.

Silverman, S., Tyson, L., & Krampitz, J. (1992). Teacher Feedback and Achievement in Physical Education: Interaction with Student Practice. Teaching and Teacher Education, 8(4), 333-344.

High Quality Pupil Outcomes Record Sheet

Instructions

Using the 'traffic light' system described below, **please indicate** (preferably with the appropriate coloured highlighter pens) **the extent to which pupils in your Gymnastics lessons 'match up' to each characteristic** of the 10 High Quality Pupil Outcomes listed in the table.

Green = most pupils demonstrate this characteristic of the outcome

Amber = about half of the pupils demonstrate this characteristic of the outcome

Red = only a few pupils demonstrate this characteristic of the outcome

Teacher: Class: Date:

Group A - Outcomes Related to the Curriculum
Pupils know and understand what they are trying to achieve and how to go about doing it. They:
know the difference between how they have to think for gymnastics and the other activity areas
know when and how to use the principles of: composition, choreography, problem solving
are clear about how they are going to be judged in gymnastics
Pupils have the skills and control that they need to take part in PE and sport. They:
show good body control and movement
have poise and balance
have a wide range of skills and techniques that they can apply and adapt effectively
show good fluency and accuracy in their movements
Pupils willingly take part in a range of competitive, creative and challenge-type activities, both as individuals and as part of a team. They:
are always happy to get involved in any of the activities on offer in gymnastics lessons
are content to work and perform on their own, as well as in groups and teams
Pupils think about what they are doing and make appropriate decisions for themselves. They:
work without constant prompting and direction from the teacher
ask questions that help them to organise themselves and make progress
come up with and explain a range of ideas and ways to help them improve
vary and adapt what they do, taking into account others' strengths and weaknesses
react to situations intelligently when performing

Appendix A:

High Quality Pupil Outcomes Record Sheet

Group B - Outcomes Related to Attitude
Pupils are committed to PE and sport and make them a central part of their lives both in and out of school. They:
seldom miss gymnastics lessons and opportunities to take part
bring kit and want to take part in some way even if they are ill or injured
get changed and ready for gymnastics lessons on time
take responsibility for not letting down others
encourage others to get involved
Pupils have the confidence to get involved in PE and sport. They:
are willing to demonstrate what they can do
volunteer questions and answers
ask for help when they need it
take the initiative to help others
are keen to take part in a range of gymnastics opportunities
are ready to take part as a performer, leader, coach or spectator
talk positively about what they have achieved
are willing to try new ideas, roles and gymnastics activities without worrying about failing
Pupils show a desire to improve and achieve in relation to their own abilities. They:
show determination to achieve the best possible results
often compare their performance to their own in the past and to other people's
often feel that their work or performance could be better still
ask for advice and information on how to improve their attainment and performance
Pupils enjoy PE, school and community sport. They:
are keen to take part in what is going on
talk about what they are doing with enthusiasm
are eager to get to gymnastics lessons
smile often
Group C - Outcomes Related to Health and Fitness
Pupils understand that PE and sport are an important part of a healthy, active lifestyle. They:
know how their participation in gymnastics contributes to a balanced healthy, active lifestyle
describe how gymnastics affects their fitness, health and feelings about themselves
Pupils have the stamina, suppleness and strength to keep going. They:
have high levels of concentration
maintain their activity and energy levels
seldom miss gymnastics because of illness or injury
are physically strong and flexible enough to take part in the gymnastics activities in lessons

Appendix B: Characteristics of effective/high quality teaching and learning in PE

Metzler (1990) Effective teaching/learning process indicators for Physical Education	**Silverman (1991)** Characteristics of effective/experienced teachers of motor skills	**Mawer (1995)** Characteristics of effective teachers	**NASPE (2006)** High Quality Physical Education Programs
Good time and resource management	Plan for class management and pupil learning	Plan their work effectively	Provide opportunities to learn
Task relevance	Anticipate situations and make contingency plans	Present new material well	Include meaningful content
Behaviour management and task accountability	Are aware of pupil skill differences and use the information in planning and monitoring	Organise and manage pupils and learning experiences	Provide appropriate instruction
Engagement and success rates	Require much information to plan	Are active teachers	
Instructional cueing	Have a repertoire of teaching styles and know when to use them	Provide a positive, supportive and warm learning environment	
Performance feedback	Provide accurate and focused explanations and demonstrations	Have a repertoire of teaching styles	
Class climate	Provide adequate time for pupil practice	Teach for understanding	
Planning	Maximise appropriate pupil practice or engagement		
Verbal and non-verbal interaction	Minimise inappropriate pupil practice or engagement		
Use of questions	Minimise pupil waiting		
Content development			
Regular evaluation of pupil progress			
Establishment of a safe learning environment			
Source: Metzler, M. (1990, p.61)	**Source:** Silverman (1991, in Mawer, 1995, p.50)	**Source:** Mawer (1995, pp. 51-53)	**Source:** NASPE (2006, p. 1)