
Gymnastics: Collaborative CPD - what has the impact been on pupils' learning?

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Abstract

In this study we aimed to provide a (Continuing Professional Development) CPD course using the serial method of delivery, as well as also an insight into how each session and the course as a whole had changed the way in which gymnastics was taught and pupil reaction to those changes.

Liverpool John Moores University (LJMU) in conjunction with Manchester Local Authority presented a gymnastics CPD course to secondary PE teachers in the Manchester area. The representatives for Manchester Local Authority were Gill Parry (Strategic level) and Rita Hesford (Advanced Skills Teacher), the team from Liverpool John Moores included Julie Money (Curriculum Leader for PGCE PE), Gary Kirby (Gymnastics Development Officer for Liverpool City Council). For the purpose of this report the personnel will be referred to as the 'Collaborative Partners'.

According to Garet et al (2001) (cited in Armour & Yelling, 2004) there has been a relatively small amount of research on the effects of professional development in terms of pupils' learning, therefore Chris Mooney (LJMU Research Assistant) was deployed by the Collaborative Partners, as a 'non-participant' observer to carry out action research in order to establish the effects both personally and professionally on the teachers involved in the gymnastics CPD course.

The key findings of the research were that the CPD gymnastics course was successful in terms of the attendance by participants over the four sessions held between September and December

2007. The teachers' approach and attitude when participating in all aspects of the course, both practically and through professional dialogue, was positive thus having the potential to create an appropriate climate for learning in the school context.

Background & Context

Reynolds and Teddlie (2000) (cited in Armour & Yelling, 2004) claim that teacher development is generally recognised as a key ingredient of successful school improvement strategies. However, "...teachers still tend to view CPD with a 'healthy cynicism' as they 'wait to be convinced that time spent 'doing' professional development, ...will in some way eventually be of benefit to their practice and their students' learning' (Armour and Yelling, 2004, pp98).

The model adopted for this CPD course was carefully designed by the Collaborative Partners in order to encourage maximum benefit to the teachers' practice and that of the pupils in their care, so instead of a one-day course by one member of the department with limited follow up, the whole department was encouraged to attend a series of sessions carried out each month in the Autumn term. This meant that the course did not assume that learning would automatically cascade to other teachers in the department (Armour & Yelling, 2004). Dissemination through the 'cascade model' has proven not to be effective whereas attendance by the entire department has been seen to have a greater impact on pupils' learning. The course enabled teachers from the same school to learn practices together as well as share with

others their experiences and practises from other school contexts. (McLaughlin & Zarrow, (2001), cited in Armour & Yelling, 2004) state that knowledge generated by groups from a similar 'community' is greater than the sum of individual's learning. Where groups who practice together it generates an understanding that is different from that produced by individuals alone.

Methodology

During initial meeting between the Collaborative Partners, consensus was that there should be serial sessions rather than a one-off 'day long' CPD session. The major aim of the course was to provide high quality CPD for those teachers in an attempt to 'change teachers' attitudes and beliefs in the hope that this will lead to changes in practice (Armour & Yelling, 2004). The table below demonstrates the action plan for the structure of the course.

Aim	Purpose	Time scale
Initial meeting of Manchester LA and LJMU personnel	Set aims of course Outline the structure of the gym course	November 2006
Taster session	Meet a representative from the PE department from each school to get a taste of the course, provide ideas and suggestions of how they would like to course to proceed with the potential to 'sign up' the whole of the department for the following academic year.	July 2007
Session 1	Pre-course task - attitudes of pupils and teachers to gymnastics Differentiated sequence building using tariffs in order to evaluate the sequence	September 2007
Session 2	Pre-course task - successes of learning in relation to the sequences Core skills revisited - progressions and enabling activities.	October 2007
Session 3	Pre- course task - where does gymnastics fit into the PE curriculum as a 'stand alone activity' and as part of other activities? Vaulting - progressions and enabling activities	November 2007
Session 4	Pre-course task - resources used in the PE department. Key stage 2/3 transition? Leadership through Sports Acrobatics session. In 4's, 8's and whole class	December 2007
Review of course	Discuss the possibility of having another gymnastics CPD course	Summer 2008
Follow up questionnaires/focus groups in October/November	Measure the impact on pupils' learning one year after the course had started	
Report written for Manchester LA	Review the course(s) and highlight the successes and the areas of development.	January 2009

The course began in September 2007 with all participants (four schools were represented with all members of the department) attending. The course participants would attend the course once per month involving them in collaborative discussion, development sessions with practical learning sessions based on gymnastics in the curriculum. All staff were in agreement that they would be videoed during this and subsequent sessions. The video evidence gave the researcher valuable evidence for this report. The session began with a review of the attitudes of staff towards gymnastics as well as how their pupils viewed gymnastics.

Questionnaires were distributed at the beginning and end of the course to establish views on gymnastics, confidence within the subject and the aims that the participants wanted to get out of this course the final questionnaire followed these themes. These questionnaires were used to gauge reaction and help decide on the pathway of the following sessions. Glover & Law (1996) stressed that any attempt to measure the impact of CPD are fraught with difficulties; a major limitation being that evaluations have invariably been reliant on participants' self-evaluations. However Burchell *et al* (2002) argue that self-reports are an important tool when evaluating the impact on practice as they provide a basis on which unique individual patterns of professional learning and development, and potential for impact on pupils' learning can be identified.

The aims of the course were for participants to:

- Experience sports acrobatics in order to have an understanding of the value of this gymnastic style within a Key Stage 3 programme.
- Understand how leadership can be developed through gymnastics for all pupils.
- Gain an understanding of the range and use of apparatus within gymnastics through a range of themes and gymnastic styles.
- Gain an appreciation for how gymnastics can be delivered within the statutory guidelines of the new National Curriculum (2007) as a 'stand alone' subject and also appreciate the value of gymnastics across the areas of physical education.
- Understand how pupils can build on their experiences from key stage 2 into key stage 3.

Discussion & Findings

(i) Taster session- July 2007:

The course was split into 5 sessions. The first session was 'flagged up' as a 'taster session', it took place on a wet day in July where a representative from interested schools (five schools were represented) came to establish if the course was appropriate to the needs of their department. Here participants had chance to have an input into the 'direction' of the course. The idea was that each of the schools' PE department would then 'buy into' the CPD run over four monthly sessions held in the Autumn term. The five PE departments from the authority would bring all (or certainly the majority) of their department to each session.

The taster session started off in the classroom discussing the principles of gymnastics in the school context focusing on teachers' opinions of gymnastics, the contributions that gymnastics can make to pupils' learning, as well as focusing on how teachers' motivate pupils to learn in gymnastics. After the classroom discussion there followed a practical session in the gym. This focused on partner and group work attempting to create a sense of teamwork amongst the participants. The final part of the session was a plenary; here participants were encouraged to highlight what they wanted from the course in terms of teaching and learning in gymnastics. The main responses were related to the new Secondary National Curriculum (2007) and this related to the goals of the teachers' on both a personal and school level. This is the view that Reynolds *et al* (1996), Darling, Hammond & McLoughlin (1995) (as cited in Armour & Yelling 2004).

Sessions 1 - 4

The course took place at a specialist sports college in Manchester as a series of twilight sessions from 3.30pm until 6pm. The course took advantage of classroom facilities and the multi purpose space that contained portable but no fixed gymnastics apparatus. This maintained the link between the course and the school environment reflecting the thoughts of that effective CPD is school based. Many agree that 'on the job' training and workshops based around the workplace for colleagues are required to assist them in their professional development.

(ii) First session - September 2007

The Introduction to the first session was to highlight from the taster session the audit of the attitudes of both students and staff to gymnastics in order to establish a starting point from which to build upon. The following issues were highlighted by course members:

STAFF ATTITUDES	PUPILS' ATTITUDES
Relevance	Relevance
Fear	Not fashionable
Support	Creative
Confidence	Individual
Apprehension	Fear
Progression	
Timing	
Quality	

The content of the first session focused on differentiating sequence building and how the use of a tariff focused pupils on evaluating their own and others work with clear criteria. Participants worked in pairs planning and performing their own sequence where they worked reciprocally to evaluate their partners sequence using a tariff adapted from those used within gymnastic competitions. The group were encouraged prior to this evaluation to decide on the level of tariff and to clarify the criteria for the performance. As the video evidence demonstrated the group worked well, though they found the process of evaluating a partner's gymnastic sequences using the 'tariff model' often quite difficult as observation and judgements made (using quantifiable scores) required sharp observation skills within a short space of time.

(iii) Second session - October 2007

Session 2 began with a discussion on how the sequence work and tariffs had worked with the pupils. The practical part of the session looked at floor work concentrating on the skills of headstands, handstands and handsprings. Staff appreciated, though slightly reticent at first, to participate in some complex skills. Links between these skills and their progressions were made to the new Secondary Curriculum focusing particularly on the Key Processes of developing skills in physical activity; making and applying decisions; developing physical and mental capacity; evaluating and improving and making informed choices about healthy active lifestyles. As a post session task, staff were asked to reflect on the links that gymnastics had to other areas of Physical Education.

(iv) Third session- November 2007

In order to address the issue of CPD affecting pupils' learning and the quality of teaching, the teachers were asked to video any material that they used in school taken from the twilight sessions. The footage would be used to demonstrate to the rest of the group how effective the practices were and the reaction of the pupils to those practices.

Session 3 linked well to the above, where it started with video footage from two teachers in a school who had both delivered aspects of the previous session. The video showed pupils taking part in the handstand & handspring progressions. The reaction on the pupils face after having achieved an 'aided' handstand the pupil's reaction was rewarded and showed clearly the joy that success in gymnastics can bring to the learners.

The focus on the third session was on 'vaulting', this are is considered to be more of a 'traditional' approach to delivering gymnastics, but one that teachers feel learners, particularly Key stage 4 pupils, enjoy and find appropriately challenging. The apparatus work was focused around the skills of leap frogs; through vaults and handspring vaults. The progressions were emphasised throughout the session and how the use of apparatus can aid this progression.

(v) Fourth Session - December 2007

Session 4 was the final session of the CPD course. Here the focus was on leadership through the skills and activities of sports acrobatics.

The practical was split into a number of sections. Firstly, an introduction to sports acrobatics using partner work that was a 'teacher led' session focusing on the principles of full body support, safety was stressed through this teaching style whilst considering how pupils could be encouraged to share in the role of supporter and supported. The pairs then worked in fours; a series of work cards had been produced with a number of tasks based on making a trio balance. Each member of the foursome had the chance to be the leader where they had 5 minutes to complete a scenario (copy the group balance pictured on the card or follow the descriptions laid out on the card). After each scenario, the leader and members of the group discuss how each group responded to the task.

From the fours, the groups combined to make groups of 8 where once again one person was the leader - they had 5 minutes to take the other 7 through the scenario (again a group balance pictured on the card or group task). This was repeated with two different scenarios and two different leaders. After each scenario, the leader and followers discussed how each group responded to the task. Finally as a whole group there were 3 leaders chosen for the one scenario. They had to work together to produce the balances required for the task. Again, after the task it was discussed.

The teachers found this session very interesting as they were asked to consider the leadership aspect as well as the skills and techniques of sports acrobatics. Leadership is a focus on the National Curriculum (2007). The post session tasks were considered particularly important as teachers were encouraged to consider how can this session could be used and progressed in their school context?

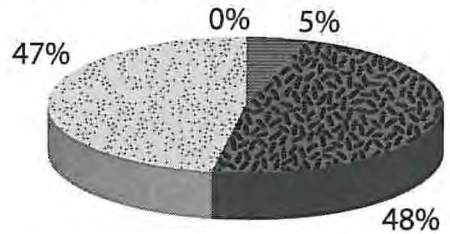
Results

The planned model for implementation of the CPD was for staff to deliver the content of the sessions in their gym lessons in the school context in the weeks between the sessions and then returning the following month then to evaluate the lessons with the other teachers'. In practice this proved to be more difficult than planned as there was very little teaching of gymnastics in any of the schools in the autumn term.

The first questionnaire (handed out either in the taster session or session 1 of the course) was used to gauge the feelings among the participants towards gymnastics. 26 teachers who made an initial enquiry into the course) completed the initial questionnaire. The following quantitative results are displayed in the following pie charts:

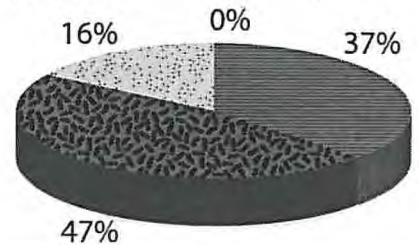
(1) What are your feelings about your ability to teach to your pupils?

- Completely at ease
- Confident with most parts
- Confident with some parts
- Not confident at all



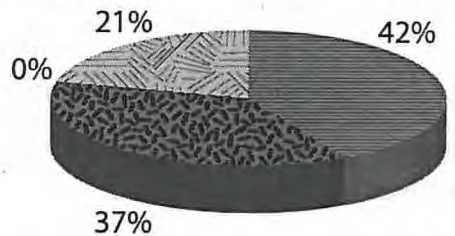
(2) What are your feelings about the value of the gym to your pupils?

- Essential
- Valuable
- Useful
- No positive effect



(3) Why are you attending this seminar?

- To help with my understanding
- Advised to come
- Made to come
- Other



Within the initial questionnaire, there were a number of respondents who chose to add supplementary comment(s). Here are the qualitative responses to these questions, some of these have been grouped together to show the summary of teachers responses to key themes and issues.

Why are you attending this course?

- I want my department up-to-date and informed
- Get an overview of the course to advise/feedback to rest of the department
- Someone enrolled and they did not want to miss GCSE class so I was asked to come
- Improve my understanding of secondary gym

In which areas of gym would you consider yourself strong and which areas can you see room for development?**Strengths**

(23 comments made)

Comment / issue	No of respondents
Floor work / basic skills / travel / fundamentals	13
Trampolining	3
'Educational gymnastics'	2
GCSE	1
Vaulting	3
Partner work	1

Areas for development

(16 comments made)

Comment / issue	No of respondents
Apparatus work	2
Most areas	2
Large group work / improvement of knowledge	1
Variety of ideas	1
Gifted & talented pupils	2
Handsprings / vaulting / flight	6
Rhythmic gym / acrobatics	2

What do you aim to get out of this course?

(23 comments made)

Comment / issue	No of respondents
New ideas for key stage 3 / Wider variety of teaching approaches	6
Refreshing of subject knowledge / greater subject knowledge	10
Build confidence	5
Feedback to department	1
Progression	1

Any additional comments?

- I am quite fearful of the practical aspect as I am overweight hopefully I will be lighter by the next session. Our school did not teach gym for 6 years and although I teach KS 2 as SSCO I have only taught Y7 gym 1 unit of 6 weeks

Of the 26 teachers who showed an initial interest in the CPD course, there were 12 who completed the course. These 12 teachers then completed the final questionnaire in session 4. Below are the qualitative results from this questionnaire

Is there anything you would have liked to have been added on to the course?
(15 comments made)

Comment / issue	No of respondents
More resources to take way	2
More large apparatus work	1
More flight work	6
Rhythmic gymnastics	1
More sessions	1
Mores sports acrobatics	1
Nothing	1
More links to schemes of work	1
More use of video	1

Would you have done any of the course differently?

Comment / issue	No of respondents
More work on apparatus	1
No	7
Start on time / earlier	2

Have you been able to use any of the material with your pupils (if so which material), how have you found their responses to it?
(16 comments)

Comment / issue	No of respondents
Pupils really enjoyed the material	4
Enjoyed partners work	1
Enjoyed flight	5
Material to be used next term / soon	3
Good response to partner support	2
Responded well to differentiated tasks	1

What have you thought about the structure and timing of the course (too long between each session, too much information in each session, couldn't have been better).
(14 comments)

Comment / issue	No of respondents
Rather late on Thursdays	1
Good structure	6
Well spaced out between sessions	2
Timing and length of sessions good	5

Any other comments?

- Very enjoyable
- The course has improved my confidence in teaching gym
- Overall a good course that gave me new ideas and allowed me to do work individually and as part of a small / large group
- Loved the sports acrobatics

Conclusions

Although only 12 from 26 teachers completed the course, it was deemed to be successful. The key findings were that the CPD gymnastics course was successful in terms of the attendance by participants over the four sessions held between September and December 2007. The twelve participants who contributed to the course attended every session which was potentially difficult due to the twilight nature (4 - 6pm) of the course. From the video evidence collected over the four sessions, the teachers' approach and attitude when participating in all aspects of the course, both practically and through professional dialogue, was positive thus having the potential to create an appropriate climate for learning in the school context. However, the proof of the success of the CPD could only be measured in terms of the impact on pupils' learning in gymnastics. According to Armour & Yelling (2004) a major issue surrounding CPD is trying to identify 'clear and measureable causal links' between CPD and its specific impact on pupils' learning. Additional research carried out in October and November 2008 (a whole year since the start of the course was to establish if the CPD had 'changed teachers' attitudes and beliefs leading to changes in practice? (Armour & Yelling 2004). So, in conclusion, how can we measure the success of the course in relation to the impact on pupils' learning? In order to address this, a member of staff from LJMU returned to three of the schools to carry out focus group interviews or questionnaires. Here the aim was to measure the longer term impact on pupils learning both in and through the delivery of gymnastics. The following sub-themes were identified throughout the research and are the basis of the key outcomes that have been achieved.

■ Development of the subject knowledge of staff on the course?

All members of staff felt that the course was very useful overall allowing them to refresh their subject knowledge in the teaching of gymnastics as well as serving as a reminder of the teaching points and new ideas, particularly in terms of the use of resources - both the use of equipment and human resources. A number of staff felt that as participants they were given the confidence to deliver to pupils as a result of increasing their own subject knowledge.

Staff highlighted the view of many pupils that whilst they were taught gymnastics for three, and in some cases four, years of their secondary school life, there was a much repetition from one year to the next. With the development of subject knowledge staff were then able to provide further challenges for each year group and therefore reduce the amount of potential repetition. The more complex skills of handsprings both on the floor and on apparatus were highlighted as being a valuable way of challenging pupils particularly towards the end of the key stage. Staff found it valuable to participate in such advanced gymnastic activities, though some may still be reluctant to demonstrate in front of a class, they were more confident to allow pupils to vault and try out more demanding skills as well as have their peers supporting them. Pupils found such activities a challenge and as a result more exciting and rewarding.

■ Change of practice by staff?

The development of pupils' leadership skills and attributes developed through gymnastics has been introduced and consequently adopted by a number of the schools; the resources introduced throughout the course have been adapted and used in several ways to suit the needs of them pupils.

Staff felt that there is often a large differential between some children who are very able performers and those who struggle with the basic core skills (for example the forward roll). Staff valued the reminder and the return to the core skills of gymnastics and many had re-introduced these into all gymnastics lessons. As a result, staff felt that pupils gained in patience as they acquired the fundamental gymnastic skills. One teacher pointed out that the School Sports Partnership had made a positive contribution to teaching gymnastics though it was difficult for staff to get around all feeder schools and there were often only a small handful of schools that had an input from secondary staff in relation to teaching gymnastics.

The role of pupil-buddy support whilst performing more advanced skills was viewed by staff as an aspect of teaching & learning that improved as a result of the course. Here the responsibility that the pupils had on their own learning and that of others was an area staff considered had not often been overtly covered before.

Assessment for learning in Physical Education has been a priority over the past few years. Through the focused pupil observation work, when staff were introduced to the tariff system in sequence building, there was a focus on peer judgements of others' work based on set criteria.

■ Increase in the engagement of the pupils in gymnastics?

Participation in gymnastics by pupils in all of the schools was good, though a number of staff felt that there was now a greater chance for differentiation. Through participation in the course staff now felt more confident in terms of delivery, and as a result are able to challenge pupils further - particularly in supporting each other. In all schools participation in gymnastics (as in physical education lessons in general) was good, though one department in particular felt that non-participants in the gymnastics lessons now have a purposeful role in terms of supporting and/or coaching the others in the class. One member of staff pointed out, that in her opinion from a female perspective, there were many girls who had a body type that was 'not conducive' with gymnastics. However, they now felt that there were a number of different roles that pupils could now be involved in both as coach, observer, and as a supporter.

One department in particular felt that the way that course was structured (the twilight session every month for four months) enhanced the teaching of gymnastics for the whole department. In the past there had rarely been an opportunity for the whole department to be on a course together and share a common understanding of the CPD. Whilst they accepted that it was a 'drain' on their time from 3 - 6pm it was well worth their efforts as they were able to meet other staff from local Manchester schools and share common experiences but also able to share experiences and 'enjoy each others company' as a whole department.

As a result of the above findings & conclusions, the Collaborative Partners felt that another course taking on the same pattern of delivery and a similar content should be take place in the summer term. It was agreed that the structure of the CPD should take the same 'serial' format and take place over a series of 4 months in April, May, June and July.

The table below highlights the action plan for this course

Action	Purpose	Timescale
Review of course 1		February 2008
Session 1	For 'new' participants on course 2 to meet 'old' participants from course 1. Give a first hand account of the processes that they had experienced and the effects that it has had on pupils' learning. Introduction to gymnastics Current audit of practice Core skills revisited - progressions and enabling activities.	April 2008
Session 2	Differentiated sequence building using tariffs in order to evaluate the sequence	May 2008
Session 3	Leadership through Sports acrobatics	June 2008
Session 4	Vaulting - progressions and enabling activities	July 2008

There were four schools who initially 'signed up' for the second gymnastics CPD course. Once again the attendance at the twilight sessions was excellent, where 9 of the 12 who started the course completed all sessions, demonstrating the value that staff place on whole department involvement and serial CPD.

This study set out to provide a gymnastics CPD course that was successful in terms of the attendance by participants over the four sessions as well as the teachers' approach and attitudes being positive thus having the potential to create an appropriate climate for learning in the school context. Following the delivery of the course (and the subsequent course that came about as a result) as well as evaluations from participants and Local Authority both during and after the course it has been found that the teachers' approach and attitude when participating in all aspects of the course, both practically and through professional dialogue, was positive thus having the potential to create an appropriate climate for learning in the school context.

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Chris Mooney is the research student at LJMU

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