

What is the effect of within-class mixed ability groupings by perceived ability on more able pupils' views of progress in Physical Education?

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Abstract

For many years, groupings and progress have been two key buzz words in education and Physical Education, however vast research focuses solely on mixed and similar ability setting and not mixed and similar groupings within-class sets, particularly in Physical Education. Using the Physical Self-Description Questionnaire (PSDQ), on a top-set, male, Physical Education class, pupils were grouped according to their own perceived level in Physical Education and completed a unit of PE teaching which focused on various aspects of the subject in one specific sport. On completion of the teaching unit, pupils who perceived themselves as 'more able' were asked to recomplete the PDSQ and were interviewed to discuss their levels of progress in various aspects of Physical Education.

Research findings demonstrated that mixed ability within class groupings worked best in social situations with pupils demonstrating improved progress in the coaching domain; although opportunities to progress in technical based activities and umpiring were hindered due to the lack of 'stretch and challenge' opportunities. However, such findings demonstrate teachers must start to become more flexible with their groupings within-class to maximise pupils' opportunities to progress.

Introduction

The effect of ability grouping and its impact on pupils' progress in education has undertaken much thought over recent years (Marsh, 1984; Ireson, 2000; Neihart, 2007). Historically, the education system in the United Kingdom (UK) has had a key focus on ability groupings to enhance pupils progress (Hallam *et al*, 2008), with The White Paper, established by New Labour (DfEE: 1997) previously slamming mixed ability teaching and alternatively asserting the use of ability teaching as an empirical standard of teaching excellence. However, the consideration of social and personal implications of ability grouping is somewhat overlooked by government departments and educational specialists (Marsh, 1984) because the demand for educational success and the need to support gifted and talented pupils appears to be the greatest priority in education (Neihart, 2007), somewhat more than the views of the pupil. Consequently, a strong focus on ability setting has affected pupils' attitudes towards Physical Education, both positively and negatively.

Based upon such views, the purpose of this case study is to investigate whether within-class, mixed ability groupings by perceived ability can affect higher ability students' perceived views of progress in Physical Education. After observing a selection of lessons which adopted a range of grouping strategies, and using my own teaching reflections, an area of my teaching that I must develop is stretching and challenging the more able in higher ability PE sets (Department for Education, 2011: teaching standard 5). To achieve such aims, I feel it is important to contribute to the views of the grouping approach.

Both the school improvement plan and my areas of development as a teacher make this topic of concern a key focus. The school's last OFSTED inspection suggested teaching delivery is outstanding,

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however the school must raise the quality in more lessons from 'good' to 'outstanding' by adapting tasks to match the full range of abilities in their classes. The school decided a key approach to completing this target was to address their groupings.

My placement school is a larger than average converter academy located in a selective area. The catchment area for this school combines a mix of areas of significant wealth and deprivation. This said, the proportion of pupils that are looked after or are eligible for free school meals is just below average. Furthermore, relatively few pupils are from minority ethnic groups and few speak English as an additional language. Despite being set in ability groups and lessons attempting to cater for pupils' needs, a large number of students at the school still hold a negative attitude towards PE.

Literature Review

Distinguishing between setting and ability grouping

This investigation assesses the impact of perceived, within-class, mixed ability groupings on higher ability pupils' progress in PE. 'Ability grouping' features in professional, policy, political and research areas globally (Penney & Evans, 1997), however with such a range of literature being reviewed below from various countries, it is important to distinguish and refine between the variety of terms used across various education contexts. In Wales and England, setting, also known as between-class ability grouping is placing/dividing pupils from specific classes by achievement or ability. In New Zealand, this is referred to as streaming and in Australia, this is termed as regrouping. Differently, splitting pupils by ability into smaller groups in classes that are already set, for purposes such as differentiation is known as within-class ability grouping (Wilkinson *et al*, 2008). Given the range of terms used globally, in this investigation, the term used for grouping pupils initially by ability between-classes will be known as *setting*. Grouping pupils' within-class, by ability will be referred as *within-class grouping*.

The Practice of Setting and Within-Class Grouping in Education

Across the United Kingdom (UK) and beyond, educational systems are dominated by the need to raise the standard of achievement (Benjamin, 2003; Stobart, 2008). Motivated by ubiquitous achievement needs and frequent concerns of underachievement, a frequent feature of change across primary (ages 4 – 11) and secondary (11 – 18) phases is making better structured use of ability groupings (Wilkinson *et al*, 2015), which is one of the most controversial issues in education (Slavin, 1987). New Labour (1997) emphatically agreed with ability groupings, stating not one pupil can be of the same ability as another or learn at the same speed as another pupil but the gap between students must remain as close as possible. Today, the current Conservative government remain keen on ability groupings.

Kinchin (2001) states the aim of setting and within-class grouping is to provide an equal opportunity to learn, without feeling under or over challenged. Research findings suggest there are strong academic advantages for pupils to be grouped by ability in all cases (setting and within-class grouping) (Robertson *et al*, 1988; Haynes *et al*, 2008), other than for behaviour needs. Wilkinson *et al* (2008), in a detailed analysis of groupings in 96 PE departments across the UK, found 74% of schools who set pupils by ability engaged also in within-class groupings. Within the 26% that do not group by ability, many felt that pupils learnt best through mixed ability learning and/or were conscious of the attitude of pupils if they were grouped. However, of the 74% statistic, 57.7% of teachers felt within-class grouping enhanced pupil's progress and 28.2% felt this had a strong effect on pupil's social development, such as friendship development, choices, interests and their attitude towards the subject. Furthermore, in a more detailed analysis of qualitative data on within-class groupings, 39 of the 69 head of department participants felt within-class ability groupings enhanced pupil progress and achievement in PE because, when done correctly, there was an appropriate level of challenge for pupils to collaboratively discover and achieve. Additionally, 20 participants felt

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groupings challenged all pupils within lessons, whilst 16 felt groupings enhanced differentiation routes. Finally, 6 felt it encouraged cooperative learning.

In support, Penney and Houlihan's (2001) survey of 101 Specialist Sports Colleges found setting was a frequent arrangement in PE at Key Stage 3 and 4. However, a range of contrasting research demonstrates that for years this was not common and mixed-ability teaching still produced similar outcomes in terms of progress. In Ofsted's (2001) Annual Report of secondary schools in England, only 11% of PE lessons inspected were actually set. Hallam *et al* (2008) reported similarities, with 83% of participants feeling PE was suitable for mixed-ability teaching, because setting only encourages 1 main outcome, progress to tick boxes and to not meet the wider physically educated child that is so often seen in a range of sport professions. Furthermore, many teachers questioned also stated setting was due to a whole school policy where they were grouped by Maths, English and Science scores and this was not a true representation of PE ability.

Contrarily, Wilkinson *et al's* (2008) findings are supported by wider research. Pierce *et al* (2011), from a Mathematics setting, found within-class ability grouping contributed to the achievement/progress of more able pupils in a cluster group. Additionally, when grouped, more able pupils could engage with ability specific conversations; they could explore content at their own specific level with the support of peers and showed greater confidence. Similarly, Kulick (2003) states an advantage of ability groupings is that it encourages pupils to select their own entry level of work, which allows pupils to take ownership of their work. By doing so, pupils also take a conscientious attitude towards what work they produce.

Despite UK governments offering clear support for the purported means of dividing pupils to raise attainment, motivation and learning (DfES, 2005; Conservative party, 2007, 2010), a wide range of contrasting research opposes the educational merits of within-class ability groupings in lessons (High, medium and lower ability groups) (Slavin, 1987, 1990; William and Bartholomew, 2004). Slavin (1990); Ireson *et al* (2005) and William and Bartholomew (2004) all found ability grouping itself does not place a positive effect on higher ability pupils progress, with Boaler (1997) and Hallam and Deathe (2002) in studies of English, Maths and Science finding that in-class similar ability groupings can cause an increase in frustration and a decrease in motivation and confidence. Similarly, Dunne and Gazely (2008) found that similar ability groupings contributed to differing teacher expectations and this affected higher-ability pupil's willingness to access and pursue learning opportunities and subsequently progress; however, contrasting personal views question why this research did not explore reasons why pupils struggled to access learning. Questionably, research in the fields of Maths, English and Science struggles to generalise the value of grouping in a PE perspective. From a sociological perspective, Adam-Byers *et al* (2004) found that grouping homogeneously would be advantageous academically for gifted and talented pupils however they were less sure of their social needs.

Slavin (1990) also feels within-class, mixed ability grouping is beneficial academically because when highly motivated, gifted pupils in within-class ability groups (high, medium and low) are not able to progress in as accelerated a way as normal, the opportunity for pupils to become off-task and bored is more common. This subsequently reduces pupil progress. In education, Plucker & McIntire (1996) state it is assumed that gifted pupils experience boredom more frequently than less-abled peers, with Goetz & Grenzel (2006) adding mixed ability groups, within-class sets can encourage better engagement plus behaviour because there are greater learning variables which develop a wider learner. For example, pupils can learn off similar high ability peers and progress due to a similar level of challenge but alternatively coach lower ability peers in the same group. Additionally, Koller (2004) found that mixed ability groupings developed pupils' social skills, which is a largely an aspect of education which is not focussed upon. From a PE perspective, mixed ability groupings encourage

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pupils to develop leadership and coaching skills, which Goodwin (2007) feels many PE teachers undervalue and overlook, with too many teachers considering the values of the physical, but not enough of the social, psychological or tactical.

Method

Overview

This investigation looked to adopt a pupil-centred approach to learning, in support of teaching standard 2 (DfE: 2011), to “guide pupils to reflect on their progress they have made and their emerging needs.” All class members (n = 25) from a top set, male, year nine PE group were based into within-class, mixed ability groupings, after being set at the start of the academic year. After discovering key findings in the literature review, I felt it was important to maintain class sets to encourage appropriate stretch and challenge possibilities. However, with the breadth of support for within-class, mixed ability groupings Slavin, 1987, 1990; Boaler, 1997; William & Bartholomew, 2004; Ireson *et al*, 2005; Dunne & Gazely, 2008) I felt it was important to assess the impact of this approach in PE, as it is so infrequently implemented by PE teachers (Wilkinson *et al*, 2008).

Ethics

Prior to the delivery of any lessons, all pupils were told as a group the protocols of the investigation. Pupils' were informed that previously groups were set by ability and within-class groupings by ability occurred also. Prior to the start of the block of teaching, pupils were informed about the completion and potential of re-completion of a questionnaire, based upon their perceived views of ability and some individuals would be selected for a group interview at the end of the teaching block to discover their perceived views of progress. All pupils were also offered the right to not take part, removing the need to complete questionnaires and interviews but they still had to take part in lessons. Additionally, all pupils were told that their questionnaires would be anonymous and answers would remain confidential, only used for analysis. Additionally, pupils had to sign an approval form to state that they were happy to take part. All class members, who were present in lesson 1 of the teaching unit declared they were happy to participate. However, all of the information discussed above was confirmed by senior members of staff within my placement school and members of my department. Finally, all pupils were informed about the retention of data, stating that it would only be used for analysis purposes and would be retained for 2 weeks prior to deleting or recycling.

Assessing Perceived Ability

At the start and end of the term, pupils were administered with the PDSQ (Marsh, 1999) and were required to complete and re-complete the questionnaire during tutor time, outside of PE lesson time. The Physical Self-Description Questionnaire (PDSQ), developed by Marsh (1999), is a seventy items questionnaire based around eleven subscales which requires pupils to reply true or false, from a scale of one (false) to true (six) and assesses a range of aspects. The completed version of the PDSQ has been tested for reliability and validity in a range of secondary schools in various countries (Marsh *et al*, 1994; Marsh, 1999; Marsh *et al*, 2002). However, various aspects of the PDSQ, such as health, appearance and flexibility were removed because of its lack of relevance to this study and it was altered to a 33 item questionnaire specific to pupils' knowledge and application of Cricket, such as technical aspects; coaching, scoring, umpiring, setting up matches and the development of tactics.

The purpose of pupils completing the PDSQ (Marsh, 1999), before and after the teaching unit is to; encourage the correct balance of mixed ability groupings based upon pupils' perceptions, so higher ability pupils can compare and contrast the effectiveness of both perceived similar ability, within-class groupings (the grouping approach pupils have experienced all year) and mixed ability, in-class groupings.

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Immediate difficulties of asking pupils to complete the PDSQ (Marsh, 1999) during tutor time were that the length of tutor time restricted participants' views of each question and therefore they rushed the completion of the questionnaire. Consequently, answers in places potentially lacked some reliability and true reflection. Additionally, a further danger of the PDSQ, as supported by Lloyd (1999) is that there was a risk of participation bias from some pupils.

Following analysis of pupils' responses to the PSDQ (Marsh, 1999), the next phase of the investigation involved categorising pupils into perceived ability group (high, medium and low). Pupils were ranked high, medium or low based upon their mean score to the questions on the PDSQ, with scores closer to 6.00 referring to high perceived physical ability and scores closer to 0.00 being perceived as close to lower ability. To ensure pupils were placed into the correct category, the following cut off points were devised, as used by Haynes *et al* (2008). Pupils of high perceived ability had to achieve a mean score between 6.00 - 4.00, medium perceived ability score 3.99 – 2.00 and low perceived ability mean score: 2.99 – 0.00. To promote the feeling of fairness, pupils were sent to one of three groups, labelled "Blue," "White" and "Green."

The purpose of such thoughts, and which was personally a real strength of this investigation was to avoid further participant bias and to prevent any students feeling socially or psychologically affected by being placed "in group three" or "the lowest ability group," as supported by Haynes *et al* (2008). The dangers of labelling pupils in "the lowest ability group", as supported by Haynes *et al* (2008) is that pupils may become immediately disengaged and therefore do not respond naturally to the demands of the investigation. Positively, pupils were unaware of the effects of naming each group by a colour and brought into the concept with fairness plus open-mindedness.

Arguably, limitations of grouping pupils based upon their perceived views of ability is that students' perceptions may not be realistic (e.g. they are expressing they can play cricket shots on the off-side frequently however they are unlikely to achieve this). Silverman *et al*, (1992) state more able pupils must be able to recognise and witness what excellent performance looks like to act as a comparator; although students' perceptions may be closer to the realistic truth as further testing and teacher observations may not necessarily provide a true reflection of pupils' abilities in specific sports and the amount of time a teacher spends assessing each student within a class per lesson is minimal.

Assessing Progress

Group interviews, using semi-structured questions, on completion of the six week teaching period were conducted to help gain qualitative data of higher ability pupils' perceptions of progress in mixed ability groupings. The purpose and benefit of group interviews is that a higher volume of pupils could be interviewed at one time, which makes a more effective use of time in a busy training year (Hill *et al*, 2004). Additionally, using semi-structured questions can provide consistent data according to each question. Alternatively, unstructured, probing questions provide a differing, personal perspective on personal experiences (Moser and Kalton, 1986; Barriball and While, 1994).

Using British Educational Research Association (BERA) (2011) guidelines, each pupil was asked for consent and given the reassurance of anonymity and the chance to opt out of the interview where necessary. On completion all findings were to be discussed between the PE department, as Silverman *et al* (1992) explains that sharing good and bad practice is paramount to the development of good physical education.

Only pupils that perceived themselves as higher ability, from the adapted PDSQ (Walsh, 1999) were interviewed. Progress was questioned using some structured questions and some probing questions. Questions were also structured around higher ability pupils' responses to the re-completion of the PDSQ to gain further insight into pupils' views about specific aspects of Cricket. The production of

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the interviews imitated closely the approaches taken by Kvale (1996) and Cohen *et al* (2001). Firstly, the interview was recorded on audiotape using the voice recorder app on an Apple iPad; secondly, themes and categories were determined from each transcript; and thirdly, these themes were analysed in comparison to research findings surrounding this topic of interest. The interview lasted approximately 20 minutes and was conducted 2 days after the lesson, due to time constraints within the school term. The use of structured, identical questions was to increase the reliability and frequency of data, as supported by the views of Berg (2007). It was important to gain the views of the pupils during this investigation, as personally I felt too many interventions taking place in the PE department were teacher constructed.

Despite following Bryan *et al's* (2010) views on group interviewing there were some limitations behind the approach. Using a group interview procedure works brilliantly in accumulating masses of information over a small period of time (Morgan, 2013) however many views discussed by pupils were merely influenced by the views of other pupils. Consequently, the realistic nature of pupils' perceived views of progress using mixed ability, in-class groupings may be swayed by the normative view. Future research may look to find more time to hold individual interviews and/or conduct 2 or 3 sets of group interviews. This may also promote further speaking of pupils who are quiet and less engaged than others.

To gain a quantitative view of progress from the higher ability pupils in the group, participants one day prior to the interview, but in tutor time, had to recomplete the adapted PDSQ (Walsh, 1999). The purpose of this was to provide a comparative tool of progress (an increase or decrease) in specific aspects of cricket, such as leadership, coaching, organization, decision making and technical ability.

Analysis

The purpose of the analysis of qualitative and quantitative data in this investigation is to see whether within-class mixed ability groupings is the most effective approach for higher ability pupils' progress in PE according to their perceptions. Quantitative data using pre and post investigation PDSQ's (Marsh, 1999) was grouped and analysed into three categories; technical (such as catching, bowling, hitting), psychological (decision making, tactical awareness, motivation and confidence) and social (leadership, coaching) and interview extracts provide extra empirical support.

Overwhelmingly, data show perceived, within-class, mixed ability groupings have a slight positive effect on higher ability pupils' technical ability, however pupils' own views suggest this grouping approach is not best practice for accelerating progress. Kinchin (2001) states the aim of within-class mixed ability groupings is to provide an equal opportunity to learn, without feeling over or under challenged. Although personal contrasting views and interview data report such findings do not support higher ability pupils in sets. For example, the following extract below shows Pupil A did perceive some progress:

Interviewer (To pupil A and B): So do you feel you have improved in certain technical aspects like Batting, Fiedling and Bowling?

Pupil A: I have improved slightly but that is only because you taught me some stuff and I practised a little, other than that I didn't progress as much as I should have.

However, further interview support shows perceived progress, as displayed above was due to relative practice time and the sharing of knowledge, not stretch and challenge opportunities in mixed ability groups. These findings therefore support the views of Kulick (2003) and Pierce *et al*

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(2011), that despite findings proving non-representative of their previous findings in Mathematics, pupils in this investigation cannot explore more challenging 'technical' content in Cricket, as they cannot do this without the support of similar ability peers. This is further supported from the following extract:

Interviewer (To pupil A and B): So do you feel like you could explore more challenging lesson content with the support of lower ability peers?

Pupil A: No, they will hold me back.

Pupil B: Yeah, I feel the same. I learn off John, he's the best at Cricket.

Of interest is the persistent, 'stumped' levels of perceived progress within psychological and sociological components of Cricket, and PE generally. Pupils acknowledged some improvement in roles like tactician and coaching, as supported from the following extract:

However, the use of mixed ability groupings, even in activities like umpiring can have an effect on perceived progress. Pupil H perceived he did not progress as an umpire as the standard of play was that poor that the decisions he had to make were not challenging enough. This provides no support for Slavin (1990) as highly motivated, gifted pupils simply cannot progress as expected when not

Interviewer: (To pupil H) So did you feel like the game was that under-challenged that decisions were too easy to umpire?

Pupil H: Yes, I agree with that.

Pupil A: There were bits I improved on as a player, such as tactician and coach but more challenging bits I would develop better if I was with people who are kind of as good as me but I feel like I can talk more confidently to a group of people.

placed in ability groupings. Although, the small progression witnessed socially, in activities like coaching and leading provides wider support for Knoller (2004), who found mixed ability groupings enhances pupils' social skills and the opportunities to communicate effectively. This may be because their enhanced knowledge can support lower ability pupils in their group, and such approaches naturally enhance communication and leadership (Goetz and Grenzel, 2006).

Such struggles have certain implications upon pupil confidence and motivation. Both Boaler (1997) plus Hallam and Deathe (2002) add similar ability within-class groupings, such as higher, medium and lower ability groups can cause an increase in frustration and a decrease in confidence and motivation because highly able pupils want to be the best in their groups. However, pupils as a result of mixed ability groupings in this investigation displayed contrasting views, showing decreased motivation and confidence because they are being held back in certain aspects of Cricket. Wider implications from such thoughts show pupils who suffer from such issues are less likely to engage in Cricket outside of school as this is their perceptions of Cricket as a whole. However, again, where ability gaps are arguably closer, in social activities like coaching, pupils displayed greater confidence. Therefore, it was informally observed that higher ability pupils' engagement and behaviour standards reduced and this therefore hindered perceived progress. This consequently provides no support for Slavin (1990).

Conclusion

Despite the mixed views on within-class, mixed ability groupings on higher ability pupils' perceived views of progress, findings from this investigation show that within-class ability groups (high,

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medium and low) is not pupils preferred perceived approach. However, implications suggest there must be some flexibility in our grouping approach in order to meet our School Improvement Plan. Based upon findings, a technical based learning objective is best supported through similar ability groupings within-class although if a sociological and some psychological learning objectives look at evaluating, critiquing or developing coaching or leadership behaviours then mixed ability groups within-class seem best.

Future research, to support my department, may look to investigate the same study on lower set pupils in a similar year group, and its effect on pupil's perceived progress, as this group assessed a top set boys group. Alternatively, it may look to assess higher ability pupils perceived views of progress in sports the majority of pupils are less experienced within, such as Hockey (a less taught sport in my placement school) and to see the effects of groupings using this approach.

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