

Hiding behind the camera: social learning within the Cooperative Learning Model to engage girls in physical education

Abstract

Research suggests that girls are disengaged in physical education due to the ‘traditional’ way that it is taught, i.e. teacher centred approaches with a primary focus on motor performance (Cothran & Ennis, 1999; Ennis, 1999; Enright & O’Sullivan, 2010; Hills, 2007; With-Nielsen & Pfister, 2011; Wright, 1996). In contrast, Cooperative Learning, a student-centred pedagogy focussing on learning in multiple domains (Metzler, 2011), has had success in engaging girls in physical education (Dyson & Strachan, 2000). Furthermore, when cooperative group work has been combined with technology, student engagement with learning is heightened (Casey & Hastie, 2011). This article discusses the use of Cooperative Learning and video cameras to bring about a positive change to the learning environment for girls who were identified as being disengaged in physical education.

Two classes of adolescent girls were taught an eight-lesson unit of Basketball using Cooperative Learning. Students worked in learning teams, participating in different roles, such as a coach or a camerawoman, to help each other learn and to film video clips of their learning (Dyson & Grineski, 2001). Data collection included a teacher’s reflective journal, post-lesson teacher analysis tool (Dyson, 1994), student interviews and the analysis of learning teams’ movies. Inductive analysis and constant comparison was used for data analyses (Lincoln & Guba, 1985).

Findings suggest that the role of the coach and the camerawoman was pivotal to girls’ engagement. Some girls only ‘fully’ participated in lessons when learning was within the social and cognitive domains, since they could ‘hide behind the camera’ and were not

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required to participate physically. We controversially suggest that, in order to engage girls in physical education, we may have to temporarily remove the physical domain of learning (at least for some girls) in order to positively affect their longer-term engagement in the subject.

Keywords: Information and Communication Technology; engagement; participation; girls

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Introduction

An indicator of an effective physical education programme...is that at any given time you can walk in and not one kid is opting out. When you go to another school and you see a third of the kids sitting out, there is something wrong with that programme.

Dyson and Strachan (2000, p.27)

A common and shared purpose of physical education is to provide learning experiences that will lead young people to value the physically active life (National Association for Sport & Physical Education, 2004; Ontario Ministry of Education, 2010; Qualifications & Curriculum Authority, 2007; Queensland Studies Authority, 2010; Siedentop, 1996). To accomplish this aim physical education 'should be exciting and serve to motivate students to choose to be active' (Tannehill & Lund, 2005, p.17). However, the vast number of reports of adolescent girls' disengagement with physical education - in mainly multi-cultural western societies - indicate that physical education programmes are, at best, ineffective (Cothran & Ennis, 1999; Flintoff, 2008; Hastie, 1998; With-Nielsen & Pfister, 2011) and, at worst, a cause of wide spread disaffection (Ennis, 1999; Garrett, 2004; Oliver *et al.*, 2009). Many girls state that they do not enjoy physical education and they are reluctant to participate or engage (Cothran & Ennis, 1999; Ennis, 1999; Hills, 2007; Oliver *et al.*, 2009; With-Nielsen & Pfister, 2011). Consequently it seems reasonable to suggest that many physical education programmes are failing to motivate adolescent girls to be physically active.

The issue of engaging girls in physical education is complex. Girls in the same class will have differing preferences for activities and their motives or their perceived barriers for participating in physical activity may be different and diverse (Azzarito & Sterling, 2010; Fisette, 2011; Garrett, 2004; Hills, 2007; Holroyd, 2002; Oliver *et al.*, 2009; Rich, 2004; Williams & Bedward, 2001; With-Nielsen & Pfister, 2011). From an early age subjectivities

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and identities are constructed by girls i.e. 'sporty', 'tomboy', 'normal' 'not sporty' 'girlie', 'muslim girl' 'danish girl' 'wild girl' (Garrett, 2004; Hills, 2007; Holroyd, 2002; Oliver et al., 2009; With-Nielson & Pfsiter, 2011) that subsequently influence their engagement. In part, these identities could be understood as a result of the commercialized and commodified outcomes of physical culture (Kirk, 1999) or young peoples' backgrounds, culture or their religion (Hills, 2007; With-Neilsen & Pfister, 2011) or indeed by traditional, hegemonic constructions of girls' identities. Furthermore, in the early digital age of the 21st century (Fernandez-Balboa, 2003), when young people's 'lives are becoming increasingly saturated by the use and availability of technology' (Casey & Jones 2011, p. 51), and when young people's 'virtual' and 'real' lives are often mutually constituted (Valentine & Holloway, 2002), Francombe (2010) suggests that the virtual world is becoming a strong influence on young girls' interpretations of their engagements with physical culture. For example, digital games such as "We Cheer" on the Nintendo *Wii* develop digital discourses of 'heteronormative ideals' for how girls have to be and look in physical activity contexts i.e. 'hyperfeminine, middle-class, white, slim, productive, neoliberal citizen(s)' (Francombe, 2010, p.353).

In an examination of identities, subjectivities and their interrelation with engagement, it has been suggested that those girls who adopt a 'sporty' identity engage with physical education and describe it as both fun and enjoyable due to their high levels of physical competence (Garrett, 2004; Hills, 2007; Rich, 2003, 2004; With-Nielsen & Pfister, 2011). In contrast, the 'not sporty' girls associate physical education as a place of humiliation, anxiety, failure and fear (Garrett, 2004; Hills, 2007). These feelings have been associated with their perceptions of an inferior level of physical competence in comparison to their peers (including other girls within a class) and/or they perceive themselves not to have the

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‘appropriate’ body for participating in physical education (Fisette, 2011; Garrett, 2004; Hills, 2007). Consequently, some girls will often seek to hide their bodies - behind the curtain when getting changed, behind loose clothing or behind their friends – in order to feel safe, comfortable and to ‘look right’ or ‘feel normal’ (Fisette, 2011; Oliver, 1999; Oliver *et al.*, 2009; Oliver & Lalik, 2001; With-Nielsen & Pfister, 2011). Furthermore, some will utilise avoidance behaviours - social loafing or spectators of learning- to excuse themselves from learning, to prevent others being able to survey their bodies and thereby obstruct any requirement to demonstrate their physical competence (Carlson, 1995; Cothran & Ennis, 1999; Fisette, 2011; Garrett; Hills, 2007; Oliver *et al.*, 2009; With-Nielsen & Pfister, 2011; Wright, 1996, 2004). Unfortunately, such acceptance or avoidance behaviours and disengagement within physical education leads teachers to frequently identify with the ‘sporty’ girls and perceive the ‘not sporty’ girls as a problem (Rich, 2003, 2004). Many teachers position girls in these two dichotomous categories either through habit or choice. Yet in doing so they fail to acknowledge other subjectivities or factors that impede participation and consequently, the complex issue of engaging all girls in physical education is rarely comprehensively addressed (Enright & O’Sullivan, 2010; Fisette, 2011; Rich, 2003, 2004; With-Nielsen & Pfister, 2011; Wright, 1996).

Pedagogy

A consistent theme within physical education literature is that the dominant and traditional way in which physical education is taught serves to exacerbate girls’ disengagement (Carlson, 1995; Cothran & Ennis, 1999; Ennis, 1999; Enright & O’Sullivan, 2010; Fisette, 2011; Garrett, 2004; Hills, 2007; Rich, 2004; With-Nielsen & Pfister, 2011; Wright, 1996). For many decades physical education has been dominated by a performance discourse, whereby the main focus of learning is motor competence and physical fitness

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(Gard, 2011; Laker, 1996; Kirk, 2010; Tinning, 1997). Furthermore, teacher-centred approaches are reported to be the most prominent forms of instruction with curricula structured as multi-activity programmes (Browne *et al.*, 2004; Cothran, 2001). It follows that physical education is largely defined by a hegemonic, sports-orientated, competitive masculine culture (Ennis, 1999; Fisette, 2011; Garrett, 2004; Kirk, 2010; Rich, 2003, 2004; With-Nielsen & Pfister, 2011) whereby the social, cognitive and affective learning domains are understated (Hareens *et al.*, 2011; Kirk, 2010). **Managing student behaviour** and ensuring that performance-related content is addressed often form the organizing centre of physical education and students are rarely provided with authentic learning experiences which are relevant to their engagements with physical culture in forms that would lead them to value the physically active life (Carlson, 1995; Fernandez-Balboa, 2003; Flintoff & Scraton, 2001; Garrett, 2004; Hareens *et al.*, 2011; Kirk, 2010; Siedentop, 1996; With-Nielsen & Pfister, 2011).

This 'traditional pedagogy' is problematic and alienating to girls for several reasons. Firstly, through the public displays of the body, girls feel their physical performance is being 'watched', and their success is being determined by adherence to physical competence criteria (Carlson, 1995; Cothran & Ennis, 1999; Fisette, 2011; Garrett, 2004; Hills, 2007; With-Nielsen & Pfister, 2011). Secondly, girls' motives for participating in physical education, which are to a great extent related to the social and affective domains, are largely ignored (Carlson, 1995; Cothran & Ennis, 1999; Garrett, 2004; Green, 2008; Hills, 2007; Kirk, 2010; Laker, 1996; Smith & Parr, 2007). Thirdly, the responsibility and ownership for their own learning that girls enjoy (Ennis, 1999; Enright & O'Sullivan, 2010; Hastie, 1998; Oliver *et al.* 2009) is diminished through teacher-centred approaches (Curtner-Smith *et al.*, 2001). Finally, girls observe the disconnection between physical education and their

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engagements with physical activity outside of school and thereby fail to see a logical reason why they should participate in school physical education classes (Flintoff & Scraton, 2001; Garrett, 2004; Carlson, 1995; With-Nielsen & Pfister, 2011).

Despite such reports of girls' dissatisfaction, physical educators have seldom adapted their pedagogical approach to facilitate girls' engagement (Flintoff, 2008; Kirk, 2010; Rich, 2004). Teachers have focussed on engaging or motivating girls into the current system of physical education 'rather than attempting to challenge the inequalities that are embedded within the structure, content and delivery' of physical education (Rich, 2004, p.232). For example, in the past decade there has been a number of initiatives referred to as 'girl friendly' curricula whereby programmes have, broadly speaking, acknowledged that the pedagogical contexts are problematic for girls and curricular practices have to be increasingly sensitive to both identities and interests in physical culture (Enright & O'Sullivan, 2010). However, although these 'girl friendly' curricula demonstrate an awareness of the pedagogical implications for engaging girls, they have had varied levels of success in confronting or interrupting the curricular practices that alienate girls or support gendered discourses (Enright & O'Sullivan, 2010). Moreover, we suggest that they have rarely challenged the characteristics of traditional pedagogy since frequently, these 'girl friendly' curricula are taught through teacher-led strategies and girls are seen as unitary subjects or homogenous groups who share the same interests and have the same social experiences within physical culture (Flintoff, 2008; Rich, 2004). Though teachers acknowledge and support equality, the social reproduction of traditional pedagogy has been attributed to teachers' own sporting identities and their positive experiences in physical education (Rich, 2003, 2004). Consequently, it seems reasonable to speculate that the issue of engaging girls in physical

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education, even in recent times, has rarely or comprehensively been addressed and the concerns are still pervasive.

If the purpose of physical education is conceived in terms of its promotion of valued physical cultural practices, such as valuing the physically active life (Siedentop, 1996), then *any* physical education curriculum should be more than simply developing students' motor performance. Instead it should involve teaching students about physical culture and developing the skills and values required for participation in physical activity (Green, 2008; Kirk & Macdonald, 1998; McNamee, 2005; Tinning, 1997; Tinning & Fitzclarence, 1992). Furthermore, a curriculum should acknowledge young people's interests, and consider their engagements with physical culture in order to facilitate participation and promote the physically active life (Carlson, 1995; Ennis, 1999; Enright & O'Sullivan, 2010; Kirk, 2010; Kirk & Macdonald, 1998).

The purpose of this study was to explore how the teaching of physical education to two classes of adolescent girls could be reconceptualised so that the students were afforded responsibility for, and ownership of, their own learning. Due to the reported potential of the Cooperative Learning Model to support and develop such a classroom environment in physical education (see Dyson *et al.*, 2010), this approach was used to scaffold the students' learning. In the next section we explore both the Cooperative Learning Model and our decision to use video cameras to engage the two classes of girls in their physical education experiences. Following our overview of the literature, we describe how both were employed in an effort to enhance girls' participation and their sense of ownership of their learning. The results and discussion sections detail the findings and we explore the metaphor of 'hiding behind the camera' as a means of understanding how, with some girls, their engagement was related directly to the removal of the physical domain of learning.

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A note on practitioner research and authorship

The study was a participant research project undertaken with the support from the co-authors. As such, the paper has been written from two positions. The first position 'I' describes the insider experiences of the first author as a teacher-as-researcher (Stenhouse, 1975) and 'I' is used to present her personal account of the school-based research. The second position, 'we', is used when the wider research findings are discussed.

Adopting a Cooperative Learning approach

I was a physical education teacher at the time of this study. A large proportion of my year 10 (age 14-15) all girls classes often refused to participate, failed to bring their kit to lessons and were often disruptive in lessons. I was comparable to other physical education teachers in that I had previously viewed them as a problem and was frustrated with their behaviour (Rich, 2003, 2004; Wright, 1996). My pedagogy prior to this unit was teacher-centred with the focus of learning predominantly on motor performance. Furthermore, the curriculum at the school was structured as a multi-activity approach to afford students the opportunity to experience a range of activities in the hope that they might adopt one as a lifelong pursuit. In hindsight, and as was discussed in the previous section, this traditional approach was a potential reason for their disengagement in physical education. In an effort to change my practice I decided to use Cooperative Learning and video cameras (in the form of handheld 'flip cameras') to try to engage some of the girls in physical education. This decision was made in an effort to consciously change the way I taught and changing the way the girls learned.

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According to Dyson *et al.* (2004) and Gillies (2006) the Cooperative Learning Model helps to create an authentic, relevant and meaningful learning environment. The model arose from the work of social constructivist theorists, namely Piaget and Vygotsky, and recognises the importance of social interaction alongside academic goals for young people to learn within and about the physically active life (Casey & Dyson, 2009; Casey *et al.*, 2009; Grineski, 1989; Johnson & Johnson, 1989; Metzler, 2011; Slavin, 1996; Ward & Lee, 2005). By drawing on the principles of situated learning theory, Dyson *et al.* (2004) argue that learning within this model is transferable to how young people engage with physical culture. They suggest that students are legitimate peripheral participants: students take responsibility for their own and their team's learning by participating in roles, replicating those in society and sport (Dyson *et al.*, 2004; Dyson & Grineski, 2001). Furthermore, by using Kirk and Macdonald's (1998) explanation of a community of practice, a group who together contribute to shared practices in a particular sphere of life, Dyson *et al.* (2004) claim that students participate in communities of practice, through learning teams or cooperative pairs, to help each other learn in physical education.

Previous research on the Cooperative Learning Model suggests that it enhances young peoples' engagement with and participation in physical education (Dyson, 2001, 2002; Dyson & Strachan, 2000, 2004). For example, the adolescent girls in studies by Dyson and Strachan (2000, 2004), who they described as unruly and cliquish, were more motivated to learn and engaged in lessons when physical education was taught using this model. The girls perceived learning in this way as fun and they enjoyed working in learning teams, helping each other to learn and taking responsibility for their own learning (Dyson & Strachan, 2000, 2004). Sport Education, an approach comparable to the Cooperative Learning Model (Dyson *et al.*, 2004), has also been shown to have positive effects on girls' engagement for the same reasons as

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those previously mentioned. For example, Ennis (1999) and Hastie (1998) both claim that participation in roles other than that of performer and being part of a 'Sport Education team' contributed to girls' feeling of fun and enjoyment. Moreover, the girls felt more involved in lessons and they said they learned more about the game (Ennis, 1999; Hastie, 1998).

The success of the Cooperative Learning Model in engaging learners and enhancing participation is attributed to two fundamental elements of the model: positive interdependence and individual accountability (Brunton, 2003; Cohen *et al.*, 1999; Dyson, 2001; Dyson & Strachan, 2004; Johnson & Johnson, 1989; Kagan, 1994; Slavin, 1996). These elements ensure that members of a learning team are held responsible for their learning and participation in lessons, and the learning team is reliant on each team member's contribution to the learning task in order to achieve the group goal and/or meet the learning outcomes of the lessons (Dyson & Rubin, 2003; Metzler, 2011). A probable outcome of these two elements, Dyson and Strachan (2000, 2004) and Dyson *et al.* (2010) found, was that girls remain on task, fully participate in the lesson, they take their roles seriously and participate in them fully. Brunton (2003) argues that the key benefit of the Cooperative Learning Model is the element of individual accountability. She found in Sport Education, with only team accountability, some students did not fulfil their roles properly or participate in them fully and she therefore encourages educators to use individual accountability to influence participation.

Further support for the Cooperative Learning Model on enhancing engagement in lessons comes from the recent edited monograph by Dyson and Casey (2012). In this work authors from eight countries explore the potential of Cooperative Learning to empower students across the different age-ranges to engage more fully in their learning in physical education. In other examples, Casey and Hastie (2011) and Hastie *et al.* (2010) claim that

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students' participation in lessons was enhanced when students worked cooperatively in learning teams to help each other learn using a wiki. Moreover, although conducted in different contexts from physical education, similar findings were reported by Johnson and Johnson (2009) when the Cooperative Learning Model was used in what they term, 'computer-supported cooperative learning.' Johnson and Johnson (2009) state that computer-supported cooperative learning motivated students to learn, enhanced their academic achievements, and off-task behaviour was reduced. Macdonald (2004) suggests that technology supports active participation in learning processes by empowering learners to construct their own knowledge of a topic, and that technology develops cooperative partnerships amongst students and caters for classroom diversity in learning styles, rates and interests. Furthermore, Casey and Jones (2011) claim that the inclusion of video cameras in physical education lessons engaged the most disaffected students when the focus of learning moved from being solely related to physical competence to a combination of both cognitive and physical learning. With increasing developments in technology in the early digital age of the 21st century and with technology being an inherent part of young peoples' lives (Casey, 2011; Fernandez-Balboa, 2003; Francombe, 2010; Valentine & Holloway, 2002) this research suggests that technology and the Cooperative Learning Model should be considered in order to promote meaningful participation in physical education.

Method

Setting

The study site was an 11-18 co-educational, non-selective (comprehensive) secondary school situated in a small market town in England. A large majority of the pupils were white British

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from middle class backgrounds. A few students had English as an additional language and the proportion of students with special educational needs was below the national average.

The school held specialist sports college status and was committed to raising standards in physical education and school sport. Specialist college status was awarded by the Department for Education and Skills (DfES) to maintained secondary schools in order to raise the standards of physical education and school sport (DfES, 2003; Flintoff, 2003). Schools applying for and maintaining the specialist status are expected to develop a curriculum with a number of distinctive characteristics: two to three hours of core physical education per week, the use of new technologies in physical education to raise the standards of teaching and learning, extended provision and facilities to ensure students of all sporting abilities can reach their full potential, an extra-curricular programme, school sport and sport or club links in the local community (DfES, 2003; Quick *et al.*, 2010). However, although sports colleges are committed to inclusion, and in particular with girls and disaffected young people (Houlihan & Wong, 2004), Quick *et al.* (2010) suggest that boys are more likely than girls to engage with the provision of physical education and school sport within sports colleges and school sport partnerships. To illustrate this point, during 2009/2010 only 41% of girls participated in three hours of high quality physical education and school sport per week (Quick *et al.*, 2010).

Physical education in the school was a compulsory subject, and students had a minimum of two hours allocated on their timetables per week. Classes were taught in sets representative of students' grades in reference to the national curriculum for physical education attainment targets (Qualifications and Curriculum Authority, 2007). The sets, a top ability single sex boys' class, top ability single sex girls' class and a low ability co-educational class, were

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selected by the physical education department when the students were in year seven (age 11-12). These classes were rarely modified and the average class size was thirty students. If students chose examination physical education¹ they had an additional three hours of physical education on their timetables.

Participants

At the time of the study I had two years teaching experience as a qualified teacher, all at this school, and I had no prior experience of teaching through Cooperative Learning. The students were from two classes of year 10 (age 14-15) girls in the top ability single sex set. Although these classes were a top ability set there was a high level of variance in their attainment. Moreover, prior to the implementation of the units discussed in the study, I had experienced difficulties with engaging these classes. My problems centred on one third of students in each class who were either disruptive, refused to participate, didn't bring their physical education uniform and who arrived late to lessons or in the worst cases engaged in most or all four behaviours. None of the pupils had previous experience of learning within Cooperative Learning.

Intervention

The Cooperative Learning Model was chosen since, in acknowledging the literature discussed, we felt this approach could enhance the girls' engagement with my lessons. Flip cameras were included as a tool to develop my understanding of the girls' experiences of physical education within my lessons. Consequently, I taught an eight-lesson of Cooperative Learning and included flip cameras as an inherent part of each lesson. However, while the focus for the unit was engagement and the tools I used to develop this were Cooperative

¹ An optional part of the national curriculum whereby students are assessed on both theoretical knowledge and physical performance or leadership skills.

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Learning and flip cameras the context in which I sought to achieve this outcome was, in hindsight, a traditional team game that had previously been shown to problematic for girls (Garrett, 2004; Hills, 2007; With-Neilsen & Pfister, 2011) and which was probably insensitive to their needs. The setting for the intervention was basketball; however it could as easily have been gymnastics, dance or athletics if these had been timetabled at the time. In some respects, however, the girls were familiar with the activity - since they had previously completed three previous units of basketball – and this allowed me to change a number of the things they experienced without changing everything.

The first lesson introduced the classes to this approach; I informed the girls that there would be a change in the structure of their lessons. The structure involved students working in persisting heterogeneous ‘learning teams’ (Dyson & Grineski, 2001). Learning teams allow students the chance for responsibility and shared leadership. Students work in small teams of four to six, in which each student is assigned a different role to help each team-mate learn (e.g. recorder, encourager, coach, equipment manager) (Dyson & Casey, 2012) (see table 1). Furthermore, the students were made aware that learning through Cooperative Learning and the structure of learning teams afforded them more ownership of their learning and the opportunity to share leadership and responsibility roles (Dyson & Grineski, 2001). In each of the subsequent seven lessons I planned strategies to achieve the five elements of Cooperative Learning (table 2.). The focus of each lesson, and each teams’ group goal, was for students to work together to learn the content of basketball and to film clips of their team’s learning and opinions of the lesson(s). Each learning team was provided with a folder containing worksheets and tactical cards and a flip camera. Following the basketball lessons, the classes spent two lessons in a computer suite, working in their learning teams to produce

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a five-minute movie using the clips they had created to demonstrate the key things they felt they had learnt and their opinions on these physical education lessons.

<insert Table 1 and Table 2 about here >

Data Collection

I kept a reflective journal throughout the project and used a modified version of the post lesson teacher analysis tool (PLTA) (Casey *et al.*, 2009; Dyson, 1994,) to reflect after each lesson. The PLTA is based on six questions that relate to participation in lessons, behaviour, learning, the five elements of cooperative learning and anything that I would consider changing for next lesson. For each lesson, the names of any students who forgot their uniform, or were given behavioural warnings (following the schools policy) were recorded in my teacher planner. Following the unit I conducted learning team interviews with the students. All discussions and interviews were recorded and later transcribed for analysis. All students' names in this paper are pseudonyms

The videos produced by the learning teams each lesson and their final movies were also collated and used for analysis to further explore the girls' engagements with the unit. It has been suggested that the creation of videos by participants encourages self-representation and provides multi-layered themes and messages which are often embodied by the creator(s), i.e. visual illustrations of participants' feelings, thoughts and/or behaviour in particular situations (Mitchell, 2011; Pink, 2007). Furthermore, technology gives young people some element of control over their identities as they have time to consider how they want to be represented and what they want to say (Valentine & Holloway, 2002).

Data Analysis

Inductive analysis and constant comparison were used to analyse the data (Lincoln & Guba 1985). I started by watching learning teams videos and transcribed the content of what was going on in each clip, the environment and what was said. Once transcriptions were complete I used descriptive codes to identify and group interesting statements, behaviours and events, from: movie and interview transcripts; my notes on conversations with students; my reflective journal; my planner and my PLTA. This formed the first-order of analysis, which produced thematic descriptions of the outcomes of the unit, for example, behaviour. The second stage of analysis involved the inferential coding of these initial descriptions. This was undertaken with the aim of identifying conceptual links between the outcomes and uncovering the key themes of the project: the disparate roles undertaken by either the engaged or the disengaged students.

Data Trustworthiness

All research has implicit ontological and epistemological assumptions (Sparkes, 1992). Since this study falls under the interpretative paradigm we adopted an internal-idealistic ontology and a subjectivist epistemology (Sparkes, 1992). In this way, knowledge was considered to be socially constructed and our findings are therefore not certifiable guarantees of truth or reality, albeit, we ascertain truth, trustworthiness and validity based on the shared assumptions of the teacher-researcher and the students who acted as co-participants (Bryman, 2004; Sparkes, 1992). In order for this to be achieved, the teacher reflections, student interviews and data derived from the videos were oscillated. Furthermore, I used the co-authors and teachers in the physical education department as critical friends to ensure that my inquiry was both transparent and well-founded (Feldman, 2003). We discussed the data collected, they challenged my interpretations and the teachers verified my perceptions of

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interviews and videos by reading through an interview transcript and by watching a video whilst reading through a transcript of my interpretations and coding of the videos. Following my consultations with these critical friends no substantive changes were made to either my interpretations of the data or how I choose to represent the data taken from the movies and interviews.

Results

[They] appear to be going on a rollercoaster journey with Cooperative Learning. I don't feel there is a real consistency in learning and behaviour. One lesson they are mainly off task and I feel not engaged with the project and then another lesson they are fully engaged with the learning and appear to be enjoying it.

(Reflective Journal, week 8)

The unit had many ups and downs. Lesson by lesson, students' participation and behaviour varied. This was frustrating for me, I had put so much time and effort into preparing the unit, changing the way I taught and trying to create a learning environment which I believed they would enjoy, yet the unit did not have the desired impact or a consistent improvement on participation and learning that I had hoped for.

The structure of the unit - in which students participated in roles on a rotational basis each lesson - contributed to the variance in learning and behaviour, and was related to the 'type' of student and the role they participated in. When planning for heterogeneity within each learning team I had ensured that students who were normally disruptive in lessons were split up amongst the six teams in a class and each team was an amalgamation of students' abilities in motor competence, social skills and the social relations within each class. The consequence of structuring learning teams in this way was that it created two dominant characters which, for the purposes of this paper, I designate as the 'sporty student' and the 'non-sporty student'. Although we acknowledge the limitations of constructing dichotomous

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categories, girls often construct these identities and subjectivities themselves (Fisette, 2011; Garrett, 2004; Hills, 2007; Holroyd, 2002; Oliver et al., 2009; With-Nielson & Pfsiter, 2011) and therefore these categories have been used to highlight one way, which was relevant to this paper, of how both a teacher positions students [which we feel resonates with many educators, (Rich, 2003, 2004; Wright, 1996)] and students position themselves in physical education in order to discuss how two different types of dominant characters within a class responded to Cooperative Learning and flip cameras.

The sporty student: A student who is high ability, fully participates in physical education all of the time. They take examination physical education as an additional subject and are most likely to play or have played for the school sports teams.

The non-sporty student: A student who is often low physical ability. Some of these students dislike physical education and often refuse to participate in lessons and do not bring their kit.

These two ‘characters’ dominated each of the learning teams and subsequently affected the whole team’s participation and learning. Their behaviour in lessons was strongly related to the role they were allocated to play on the rota. In week five, I noted in my journal; ‘when students are in a role they enjoy, they take it on to their full potential and fully participate. The lesson is smooth and positive outcomes on learning and participation occur.’ In contrast, when they were in a role that they didn’t enjoy they often refused to participate either in this role or the lesson (or both), affecting the teams’ ability to complete the group goals of learning and filming. Therefore, two of the designated roles were pivotal to the relative success and failures of the unit and were also the ones that differentiated the degree of engagement of the sporty and non-sporty students. These were the roles of the coach and of the camerawoman.

The Coach

The sporty students liked the role of the coach. In the learning team movies they said, “I like the way we get to teach each other” (Sarah) and “I like doing the project because it shows more individuality and it gives us a chance to set up our own drills and do our own coaching” (Holly). Their positive conception of this role contributed to their engagement as coach and ability to influence their peers’ participation in lessons. For example, in lesson six when the sporty students were the coaches, I wrote in my journal, ‘Emma was the lead today. The group worked extremely well...there was a huge improvement in participation and behaviour.’

The sporty students not only had a positive effect on their team’s engagement during lessons but also their team’s psychomotor learning; ‘this group was the most organised ...and quality of work was high... students progressed further and attained above their target grade’ (PLTA, lesson 4). Moreover, the videos demonstrated how the sporty students extended the tasks on the work sheets. For example, the caption on a learning team’s movie stated ‘we then included a quick activity to work on our reaction time.’ From my observations of the video, this student had enhanced her group’s ability to respond to passes and their ability to judge when to move for the ball, by her extended task. The sporty students and particularly those of higher ability extended their peers’ learning, which I considered was through their use of practices and skills learnt in previous physical education lessons, examination physical education or from their attendance at extra-curricular sports clubs.

In contrast to the sporty students’ positive conception of the role of coach, the non-sporty students’ disliked being the coach. When Katy was the coach she said, “I hated today’s lesson and I hate PE” (learning team movie). Furthermore, they often refused to participate in this role and when they were the coach, they would engage in off-task

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behaviour with peers from their friendship group in other learning teams. The reflection below provides a description of their behaviour in lessons when this occurred:

Participation levels were poor in today's lesson. Students did not actively engage in the lesson content. Students were observed being disruptive and disobedient. Students such as low ability and disaffected almost saw this as an opportunity to not participate and engage in the learning activity. Students who were observed to dislike their role such as being the coach did not take part fully...Some groups were not led and saw it as a further opportunity to not fully participate.

(PLTA, lesson 5)

The non-sporty students' behaviour in the role of the coach had a negative influence on the rest of their team's participation. Members of learning teams who were normally compliant in lessons became frustrated and they subsequently engaged in off task behaviour themselves. For example, Amy, a normally compliant student in lessons, was issued with several behavioural sanctions when the non-sporty student in her group was the coach (PLTA, lesson 3). Learning was also negatively affected. Teams were left not knowing what to do. The reflection below about Ellie is an indication of the lack of learning that took place when non-sporty students were the coach.

Ellie's group did not complete a warm up, nor did they complete the learning tasks to a good standard. Ellie said she didn't want to be the coach and did not care. The group consequently didn't really know what to do.... Ellie's group did not, I feel, learn much at all in today's lesson. Her group stood waiting around, began to participate in off task behaviour and did not complete learning tasks appropriately when they got round to doing so.

(PLTA, lesson 5)

The Camerawoman

An interesting factor of today was that the students who are disruptive and regarded as behavioural concerns were the camerawoman. These students took on the role exceptionally well filming various parts [of the lesson] and questioning their peers. Also to note there was no behavioural issues...Are these students more engaged in activities such as filming. Should we therefore be forcing practical activity on them?

(Reflective Journal, week 4)

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In marked contrast to their behaviour in the role of the coach, the non-sporty students participated in lessons fully when they were in the role of the camerawoman. There was a distinct difference from their disengaged behaviour prior to the unit or when they were in the role of the coach. The non-sporty students excelled in this role and engaged with the role of the camerawoman more than any other students in their learning team. By using the flip cameras they commentated over games and provided feedback to their teams on their performance. For example the following quote comes from Katy's commentary as her team were attempting to use the quick press from the rebound.

Can this team respond and do this? Nina has the ball, the ball is passed quickly and straight to Alisha, it is now up the far end and she scores yippee, they did it!

The girls' primary focus of learning, and what they were held individually accountable for during these lessons, was defined by cognitive and social outcomes. Cognitive learning was evident through the analysis of game play whereby they applied their knowledge, assessed performance and developed an understanding of tactics and/or skills which were used in games. Social outcomes included the demonstration of good leadership skills through listening to their team mates, discussing how to improve and working with their teams' to enhance their understanding of how to improve skills and/or game play. Although they were required to work together with their team and participate in physical learning tasks, physical competence was not a definitive learning outcome of their role. Following discussions with other members of the department I felt that the non-sporty students, as a direct consequence of their engagement as camerawoman, significantly developed their learning within these two domains (which previously was considered to be limited or even anti-social).

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Fundamentally, the non-sporty students engaged with the role of the camerawoman because they enjoyed it: “I like making the videos, it was cool” (Claire, interview). They also enjoyed and were very engaged in producing the video of their learning at the end of the unit: “the end video was really good and the end videos doing that in the computer room” (Alice, interview); “I thought it was nice looking back on everything you had done and to be able to make a video of it” (Ellie, interview). Katy, during an interview, summed up their participation and learning as camerawomen: “when you are enjoying it then its fine and you learn.” However, the sporty students disliked this role. Cheryl’s and Nina’s comments below indicate how they viewed the camera as getting in the way of participating practically in lessons and thereby, for them, taking away the fun.

“Sometimes you didn’t get round to doing much in the lessons because we were all too focussed on the recording...we weren’t having fun in PE we had to concentrate on the camera.”

(Cheryl, interview).

“I like PE, I like doing physical stuff.... and for now we are doing like this video camera videoing thing and I don’t see the point because PE is like for physical stuff and not like theory.”

(Nina, learning team movie)

The sporty students often failed to fulfil their responsibilities as the camerawoman. I often observed the camera left on the bench and the learning team movies showed that when both Beth and Holly were supposed to be camerawoman they had actually given the camera to their less able peers and were playing the game; one learning team didn’t film anything when the sporty student was in the role of the camerawoman.

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‘Playing up to the camera’ or ‘performing in front of the camera’

The video clips that the learning teams ‘captured’ went some way to further explore what the sporty and non-sporty girls wanted others to watch and how they felt in-front of the camera. With regards to the non-sporty students, there were few clips of them performing physically, instead there were many of them ‘playing up to the camera’ through their gestures to the camera or their off-task behaviour. For example, in Katy’s learning team movie the majority of the clips of her in-front of the camera is when she was off task during lessons: playing a clapping game with a student from another team, messing around with the basketball and blowing kisses to the camera. Emily suggested, “some people just wanted to film and not be filmed so they were just trying to avoid the camera.” In contrast, the sporty students ‘performed in-front of the camera’ and learning teams ‘captured’ many clips of most of the members in their team playing in games and completing the physical learning domain tasks. However, they indicated that they felt under pressure to perform, “I think you are aware of it” (Alice), “I don’t think I would like it in every lesson because you would be under pressure constantly” (Nina).

Interestingly these are the images they chose, as a team, to represent their individual contributions to learning within the unit. Although what follows is merely speculation, we suggest that these videos signify both their embodied forms of engagement and their perceptions of physical education. The team wanted the disengaged behaviours of the non-sporty students to be ‘watched’, which suggests that they wanted their teacher to know that these students didn’t like the physical tasks and that they didn’t take physical education seriously. On the other hand, by including clips of the sporty students, the team wanted to present their engagement or their compliance with learning, which also afforded the sporty students the opportunity to ‘show off’ their physical competence.

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In summary, the camera and the roles of the coach and the camerawoman went some-way to re-enforce the stereotypical behaviours of girls as either sporty or non-sporty and did not comprehensively disrupt the curricular practices, such as the public displays of performance, that have been reported to alienate girls from physical education. However, the unit allowed me to further develop an understanding of the girls' engagement with varying aspects of physical education which encouraged me to persist with using a student-centred approach and modify how I structured the units I taught.

The enduring impact of using the Cooperative Learning Model and Flip Cameras

This on-going story of my teaching demonstrates the positive effect my change in pedagogy had on the girls' engagement and learning beyond this study. Although I didn't collect any data, we felt it was important to include my recollections of my teaching beyond the study as they serve to highlight either a carry-over effect of the Cooperative Learning Model or how my continued use of a student-centred pedagogy enhanced engagement, learning and began to disrupt the stereotypical behaviours of girls in physical education.

The girls, for the remainder of the school year, worked together in small heterogeneous learning teams (different teams from the previously unit) to help each other learn and to produce video clips. For example, during an aerobics unit they were set the task of producing videos of aerobics routines. However, I now allowed students to choose their roles. In accordance with the findings from the previous unit, it is not surprising that for most of the lessons the same students from the basketball unit branded as sporty students chose to be the coaches and conversely the non-sporty students, chose to be the camerawomen. Although the non-sporty students initially preferred the role of the camerawomen, during the year they began to move from 'behind the camera' to 'in-front of the camera' and actively participate in the physical aspects of the lessons. They would often put the camera down and

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show their team how they could improve their performance adopting a coaching role.

Moreover, I observed some students positioning the camera so that they could be included in the video performing the tasks with their team and towards the end of the school year, the previously disengaged girls were running down the athletics track filming their peers in their learning team sprinting. On the basis of my observations over the latter part of the year I would argue that by the end of the school year, across a range of activities on the curricular including Aerobics, Athletics, Rounder's and Cricket which involve varying levels of public displays of performance (Hills, 2007), all of the non-sporty girls were engaging in the physical, cognitive and social domains of learning.

Discussion

The change in pedagogy and the decision to use the Cooperative Learning Model and flip Cameras afforded students more responsibility, focussed on the social aspect of learning and created a learning environment which replicates that of broader aspects of physical cultural practice, where cooperation and collaboration are valued and indeed required (Dyson *et al.*, 2004; Gillies, 2006). However, the unit was not an instant way of solving learning and behavioural challenges in physical education lessons. The findings from this study support previous research which suggests that engaging girls in physical education is a complex issue due to their differing engagements with physical culture contributing to their diverse interests and identities (Azzarito, 2010; Azzarito & Sterling, 2010; Fisette, 2011; Garrett, 2004; Hills, 2007; Holroyd, 2002; Oliver *et al.*, 2009; Rich, 2004; Williams & Bedward, 2001; With-Nielsen & Pfister, 2011). Students' interests and their subject specific identities, sporty and non-sporty, overruled the fundamental elements of positive interdependence and individual accountability which are proposed to be contributing factors for promoting engagement and

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participation within the Cooperative Learning Model (Dyson *et al.*, 2010; Dyson & Strachan, 2000, 2004)

The Cooperative Learning using flip cameras unit demonstrates that students' participation in roles, largely determined by students' interests and identities within physical education, contributes to the successes and failures of learning and behaviour within the Cooperative Learning Model. A 'one-size fits all', traditional, sport-based approach, in regard to the same pedagogical structure engaging all learners, was not effective. The non-sporty students fully participated in lessons when learning was within the social and cognitive domains, since they could 'hide behind the camera' and were not required to participate physically. However, they disengaged when they were required to participate in the physical learning domain. On the other hand, the sporty students did not enjoy lessons when the physical learning domain was removed and they failed to take the opportunity to further their cognitive learning when in the role of the camerawoman. Thereby, the roles of the camerawoman and the coach were meaningful and relevant to different students.

The role of the camerawoman and non-sporty students' engagement with this role provides an insight into a way to engage girls in physical education. This role focussed, to a great extent, on the social and cognitive learning domains whereby students were not required to participate physically or challenged to progress their motor competence. The narratives they provided as commentary on the videos, their questioning of peers and their ability to lead discussions on their teams' performances using the video footage indicates they were engaged and that their social and cognitive learning was, arguably, enhanced. Furthermore, the lessons when they were the camerawoman afforded them the opportunity to engage with physical education when their physical competence was not being watched by others. As findings from Sport Education have shown some girls choose to participate in more social

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and off-court roles over more sport-orientated roles (Brunton, 2003; Ennis, 1999; Hastie, 1998). Moreover, Enright and O'Sullivan (2010) found adolescent girls felt that only those who feel more confident should participate in leadership roles, but the girls still felt that it was important for everyone in class to have role or form of responsibility. However, in this study, the preference for off-court roles and the allocation of leadership roles was only relevant for the non-sporty students. The sporty students enjoyed and fully participated in the 'sport-orientated' role, i.e. the coach. These findings suggest that in order to engage girls in physical education we should align roles within pedagogical models, such as Cooperative Learning and Sport Education, with girls' interests. For some, this may mean focussing solely on more social roles such as a camerawoman and actually removing the physical learning domain - at least temporarily.

By temporarily removing the physical aspect of learning, the girls' engagement in lessons improved and they later began to participate and engage in the physical domain of learning. Although we don't have sufficient data to provide an answer as to why these subtle engagements with the physical domain occurred, drawing upon some of the literature on the reasons for girls' disengagement and technology we can make some assumptions. Firstly, since the non-sporty girls adopted the role on the camerawoman in units beyond basketball we contend that they continued to progress their learning within the cognitive and social domains. Consequently, since perceived competence has been interrelated with engagement (Fisette, 2011; Garrett, 2004; Hills, 2007; Rich, 2003, 2004; With-Nielsen & Pfister, 2011) their social and cognitive perceptions of competence may have facilitated their engagement. Secondly, the focus of learning when adopting the role of the camerawoman in lessons wasn't primarily in the physical domain, learning was inherently associated with the cognitive and social domain. Thereby, the girls' attention during lessons was taken away

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from feelings of inferiority in comparison to others physical competence and the number opportunities for public displays of performance in comparison to the traditional approach was reduced (Casey & Jones, 2011; Fisette, 2011; Garrett, 2004; Hills, 2007). Thirdly, the camerawoman was the person within a learning team who was responsible for filming, and consequently she had time to think about how she wanted to be filmed or how she wanted to be 'watched' when she engaged with both the social and cognitive domains, but also with the physical domain of learning (Valentine & Holloway, 2002). Finally, at the beginning of this paper we discussed young people's increasing engagement with technology in the digital age of the 21st century (Casey, 2011; Fernandez-Balboa, 2003; Francombe, 2010; Valentine & Holloway, 2002). Comparable to digital games the girls were engaged with creating a virtual representation of their physical education experiences – they played an important role in the teams' decisions on their performances in front of the camera and how they wanted their team to look (be organised) when performing. Although what we have discussed here is based mainly on anecdotal evidence, an inherent theme within all of these assumptions is our suggestion that the girls' later engagement with physical learning was a result of the inclusion of social and cognitive learning to their lessons through the Cooperative Learning Model. Yet this engagement didn't occur until they had represented their physical education experiences to their teacher through their videos and there had been a corresponding change in classroom structures and the pedagogical demands placed upon them.

Gard (2011) argues that there is insufficient evidence for a conclusive argument that physical education, in its current form, has a positive impact on health. He suggests that the social learning domain is more likely to facilitate young people's engagement with the physically active life. Many authors are supportive of focussing on other domains of learning than the physical and focussing on more of a holistic approach to physical education (Dyson

et al., 2004; Gard, 2011; Kirk, 2010; Kirk & Macdonald, 1998; Laker, 1996; Metzler, 2011; Tinning, 1997). The account of girls' engagements with some aspects of this intervention goes a little way to support Gard's (2011) argument.

This study has led us to question what it means to be physically educated. At the beginning of this paper we highlighted Tannehill and Lund's (2005) argument that, if the objective of physical education is to empower young people to lead the physically active life then physical education should be a place where students are motivated to be physically active (Haerens *et al.*, 2011) and a good physical education programme is where not one student is opting out (Dyson & Strachan, 2000). We think this study challenges the traditional instructional discourse of physical education, which has for many decades been largely defined by a hegemonic masculine culture (Fisette, 2011; Garrett, 2004; Kirk, 2010; Rich, 2003, 2004; With-Nielsen & Pfister, 2011) and dominated by the mastery of skill, fitness, performance related outcomes and teacher-centred approaches (Kirk, 2010; Tinning, 1997), by suggesting that to motivate girls, progress learning and engage them in the physically active life, social and cognitive learning should be given equal priority alongside physical learning in physical education. The Cooperative Learning Model affords the focus of learning on multiple domains and creates an environment which promotes student engagement (Casey & Dyson, 2009; Dyson & Strachan, 2000; Metzler, 2011). Based on the findings of this study we suggest that a differentiation of roles needs to occur within a pedagogical model, such that the roles students undertake allow lessons to be focussed primarily on learning *per se* rather than on learning in the specific physical domain. Such an undertaking during lessons might serve as a means to engage all students in physical education.

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Table 1. Student responsibilities for participating in each role

Table 2. The fulfilment of the five elements of cooperative learning