Abstract

Objective: Dweck (1999) has developed a body of work based around the idea that people develop beliefs that organise their world and give meaning to their experiences. These personal theories are described as, “The residual schemata, or unconscious belief systems, left behind in the mind by previous experiences.” Claxton (1996: 45). Because these personal theories are constructions that reside in the minds of individuals, whether as definitions or otherwise they need to be discovered rather than invented because they already exist even though they may not be aware of them themselves (Sternberg 1990).

This study seeks to develop deeper understandings about the nature of the personal theories that Physical Education teachers hold about learning.

Method: Five teachers in a specialist Sports College were asked to describe a lesson where they felt the children’s learning had been effective. The interviews transcriptions were then analysed using Interpretative Phenomenological Analysis (IPA).

Discussion: Five themes emerged in the analysis. How learning is represented; constructs of learners; how teaching is conceptualised; assessment and aims of the subject. Learning tended to be viewed as synonymous with recall and there was a tendency for the underlying principles to be in line with the filling ‘empty bucket’ metaphors. Learners were often viewed in an ‘entity’ manner and motivation to learn seen as a quality that resided in the child. Teaching was represented as central to pupil learning and often seen in a relatively unproblematic ‘cause and effect’ manner. Assessment was seen as central to the processes but it tended to be seen in a generally convergent manner (Torrance and Pryor 1998). The participants tended to articulate a perspective that saw assessment as ‘technology’ rather then ‘practice’ Delandshere (2001). The aims of PE were essentially ‘given’ to the participants and tended to be closely linked with formal assessment levels.
1. Introduction

The term ‘learning’ is necessarily a part of everyday language in educational communities yet it may be seen to have a range of meanings (Saljo, 1979; Marton et.al., 1993; Bereiter and Scardamalia, 1996; Carnell and lodge 2002). This is further complicated as it has been shown that in the UK that physical education (PE) teachers hold very different conceptions about the purpose of the subject (Green 2003; McNamee 2005). In addition studying ‘learning’ is not a straightforward matter as it is not a variable that can be isolated and subjected to any kind of forensic examination. ‘Learning’ has to be about learning ‘something’ (Marton et. al. 2004) and learning may take many different forms e.g. physical competence, understanding a concept or being able to critique a text. It will also be subject to the variables in a given context. Finally as it is essentially a process or series of processes it does not exist in the same way that the off side rule in netball exists and can be studied. ‘Learning’ is essentially a concept and so only exists in an abstract sense (Mercer 1995).

Personal theories are thought to be formed as people experience the world (Dweck, 1999). These theories are said to be the store of residual schemata or unconscious beliefs that are left behind by previous experiences and are used to make sense of current events (Claxton, 1996). People may hold these theories consciously or they may exist at the edge of conscious thought, in which case they said to be implicit. This presents a challenge for the research method as if these theories exist at an implicit level they have to be discovered or made visible before they can be scrutinised (Sternberg 1990).

The aim of this investigation is to reveal the personal theories that 5 Physical Education teachers in a Specialist Sports College hold about learning through analysing the transcriptions of their descriptions of lessons where they felt that children’s learning had been particularly effective. Searching for implicit theories requires the researcher to consider how the participants view the world and so lies within a phenomenological paradigm which has an epistemological focus on experience, or how the participants choose to describe their experience (Langdrige 2007). In order to attempt to reveal the participant’s implicit theories the transcriptions of their descriptions of effective lessons were analysed using Interpretative Phenomenological Analysis (IPA).

2. Review of literature

In order to consider the literature related to this study the following themes will be considered.

- Conceptions of learning
- Aims of PE
- Personal theories
- Teachers’ theories about learning.

2.1 Conceptions of learning: The focus on school improvement with an accompanying emphasis on quantitative assessment in the UK has led to a
culture where forms of classroom performance that can be readily measured, a phenomenon described by Gorard et. al (2002) as ‘privileging the visible’, has dominated policy initiatives since the Educational Reform Act (1988). However this focus on performance in examinations as the currency of ‘good schooling’ (Walford 2002) and the consequent ‘prizing’ of measurable, more tangible and immediate learning outcomes may be seen to support the tendency to employ norm referencing to frame thinking about success in learning. Black et.al (2003) note that in considering the ‘display’ in classrooms teachers are often drawn in the first instance to making comparisons between learners, when it might be better to look for improvement in learners. Keating (1996: 467) goes as far to suggests that schools dampen desire to learn, “...through a relentless message of comparative failure.” In such a climate, learning by reproducing, which correlates with ‘mind as a container’ metaphors of learning tend to dominate the ideologies that underpin practice. These conceptions may be seen to be based on commonly held conceptions that actually have little if any sound underpinning based on any robust research, are what is referred to as ‘folk theories’ (Bruner, 1990; Olsen and Bruner 1996). The relationship between what might be described as established explicit theories and practice seems to exist in parallel dimensions. Despite the possibilities offered by new ways of explaining how children learn such as ‘constructivism’ and ‘situated learning’ they may be seen to have foundered due to an inability to develop new pedagogies that are congruent with such learning theory (Bereiter and Scardamalia 1996). The notion of ‘new’ pedagogies, which presumably means pedagogies that are congruent with such theories, is problematic as in practice teachers may be able to operate in ways that are deemed satisfactory and enable them to be absorbed into communities of practice by displaying other qualities such as the capacity to support social values (Simon 1994).

While teaching and assessment may be seen to be inextricably linked it is worth noting Delandshere’s (2001) conclusions that implicitly, the teachers in her study tended to see assessment as technology rather than practice. This may be a view that is to an extent reinforced by policy and measures of school improvement which tend to rely on the student being tested on how well they can reproduce knowledge, and how well they do this is then extrapolated onto the teacher to measure their ‘performance’.

2.2 Aims of PE: Education has always tended to reflect the forces that shape society (Jarvis et.al. 2004). While PE might have originally have been seen to be about developing physical competence (Willets 1957), in recent times it has come under pressure to ‘deliver’ on other agendas such as concerns about obesity and inactive lifestyles. This positions PE, and by implication PE teachers in what might be seen as a difficult place as in a sense they have ended up being responsible for developing aspects that are removed from what might be seen as the original essence of PE (Evans 2005). This remedial role for education is also problematic, as it might be argued that the purpose of education is to transmit culturally valuable knowledge rather than to compensate for society (Bernstein 1988). Educational philosophers have also drawn a distinction between the purpose of education and the functions of education. Purposes being seen as the fundamental goals of education,
while the functions are other outcomes that may occur as a natural result of the process (Hirst and Peters 1970). Applying this model to PE today it might be argued that the original purpose was to develop physical competence and one of the functions might have been health improvement. The current trend of placing health improvement as an aim therefore challenges the traditional position.

In a PE context Green (2003) found that PE teachers held a number of ideologies such as, health; sport; academic; education for leisure and sport as a ‘valued cultural practice’, so it can be readily seen that the aims of PE represent contested terrain. This is compounded by the idea that if ‘practice’ is a socially developed and reproduced in unthinking ways then there is likely to be a gap between espoused aims and theories in action. In a study of science teachers Chin- Chung (2002) found that teachers stated beliefs about science and learning science and teaching science did not necessarily influence the ‘action’ of teaching science. This disjunction between espoused theories and practical application is also noted by Schon (1987, 255-256)

“Often we are unable to describe them (theories in action), and we are surprised to discover, when we do construct them that by reflecting on the directly observable data of our actual interpersonal practice, that they are incongruent with the theories of action we espouse.”

While this study seeks to understand the participants implicit theories of learning it is not possible, or indeed sensible, to isolate these as they can only be revealed by asking the participants to talk about their practice and also their espoused theories.

It is also worth considering that in the current policy landscape that teachers may be in a position where their expertise and agency, lies not in reflecting on the aims of the subject but in finding ways to meet the educational outcomes dictated by policy (Pring 2004). It may be that when considering how teachers construct their practice that too much can be made of the influence of policy. In their in-depth consideration of PE policy since the educational reform act 1988, Penny and Evans (1999, 124) suggest that,

“...that the louder the surface level of noise of innovation and change, the more the deep structures and basic elements of practice remain basically the same.”

This resonates with Sparkes (1986) notion of ‘innovation without change’ which given the well known high volumes of work teachers are expected to carry out and the volume of policies since the ERA may not be a surprising finding. An important aspect of the analysis in this work will be to look at how the teachers position themselves in relation to policy initiatives and the extent to which this affects their theories about learning.

2.3 Personal theories: Personal theories are thought to be formed as people experience the world and are said to serve to help them organise their views.
These beliefs, personal theories or meaning systems as Dweck (1999) refers to them, form schemas that allow people to make sense of their worlds. This form of personal sense making has a long history in various disciplines (e.g. Kelly, 1955; Guignon, 1983; Merleau-Ponty, 2003) and forms the basis of much research. People may hold these theories consciously or they may exist at the periphery of consciousness in which case they said to exist at an implicit level. This presents a challenge for the method in this study as before they can be subject to any kind of scrutiny they have to be made visible.

While these implicit theories may be readily seen to enable people to create a framework that enables them to make judgments and react in ways that are consistent with that framework their role in determining, what might be referred to as their professional behaviour is unclear (Dweck, et.al.1995).

2.4 Teachers’ theories about learning. It might seem axiomatic that teachers’ will have sophisticated understandings of learning. “If teachers do not understand what learning is, how it happens, they are as likely to hinder as to help.” (Claxton 1988, 23). However a number of researchers have concluded that this is not necessarily the case (Athey 1990; Drummond 1994; Watkins 2003).

> "We find the lack of communication between these fields (Theories of learning and teaching) extremely surprising and puzzling. From an instructional-design perspective, it seems to us that the practice of instructional design must be based on some conception of how people learn and on what it means to learn.”

This is a perspective that is echoed in a report on a study into teachers’ perceptions of their work. When considering the participating teachers’ constructions about learning, Marton and Booth (1997, 173) conclude that, “The result is most baffling. How can teachers so lack focus on what should rightly be at the heart of their work?”

Since the Education Reform Act (1988) education has been subjected to a series of reforms that have claimed to place children’s learning at their centre. However it might be argued that policies such as the key stage 3 strategy are really more about ‘teaching’ than learning. In recent years phrases such as ‘teaching and learning policies’ or ‘teaching and learning strategies’ have been employed in educational policy. However Watkins (2003) argues that they might be seen as ‘teaching and teaching’ since in reality ‘teaching’ is often given privilege over learning. While significant advances have been made in knowledge of how children learn it is less clear how this knowledge has permeated into the teaching profession. In such a policy landscape the ways that teachers view learning might be seen to be timely.

3. Method

3.1 The research context The context for the case study is a Specialist Sports College with 1,500 children on roll in the South East of England. This
particular school was chosen as with a large PE department, a feature of all specialist sports colleges, it was anticipated that sufficient teachers would be prepared to be participants. Specialist schools are an important part of the Government's plans to raise standards in secondary education (Gorard and Taylor 2001). The Specialist Schools Programme (SSP) helps schools, in partnership with private sector sponsors and supported by additional Government funding, to establish distinctive identities through their chosen specialisms and achieve their targets to raise standards (Gorard et.al. 2003). Of course ‘raising standards’ might be seen as a contested concept as (Gipps and Stobart, 1990) point out that this might apply to a range of phenomena in school, such as better results, better school uniform, improved CPD opportunities or better behaviour.

3.2 Method  The purpose of this study is to seek deeper understandings of the theories about learning that PE teachers in a secondary school hold. As we have seen these theories may exist at the periphery of consciousness and so they cannot be revealed to order. Therefore a methodology that allows the researcher to engage in a prolonged and deep analysis is required therefore working with a small number of participants in a single context will allow the appropriate data to be generated: “...the distinctive need for case studies arises out of the desire to understand complex social phenomena.” (Yin 2003, p2). In defining the characteristics of phenomena that may be treated as a case, Smith (1979) suggests that the case needs to be an object rather than a process, a perspective that is supported by Stake (1995, p2): “The case is a specific, a complex, functioning thing.” Miles and Huberman (1994, p25), define a case as a phenomena that occurs in a ‘bounded context.’ In this study the object is the consideration of 5 PE teachers in the bounded context of a Physical Education Department in a Specialist Sports College.

As this is a study that seeks to establish the meaning that the participating teachers ascribe to learning it lies within a phenomenological paradigm (Rothe, 2000). While conscious experience is the starting point of phenomenology it can also be that we are only vaguely aware of constructs that exist in the margin or periphery of attention (Merleau-Ponty, 2002).

“Plausible, then to say that our practical affairs are made possible by a general implicit background of beliefs about an external world which can be made explicit under appropriate circumstances.” Guigon (1983:11)

The challenge for this research is for the research instrument to provide the ‘appropriate circumstances’.

The participants were asked to describe a lesson that they have taught recently where they felt the children’s learning had been especially effective. They were then asked to elaborate on issues that were felt to be related to the central questions in this research. Each interview lasted about 20-30 minutes and the participants were volunteers. The participant profiles may be seen in appendix 1.
The nature of implicit theories means that the participants will not be able to access their theories on command and so an in depth analysis was employed in order to make visible what is essentially invisible in order to allow examination and analysis.

Phenomenology is a method of enquiry based on the premise that reality consists of objects and events as they are perceived or understood in human consciousness a movement originated by Edmund Husserl in 1905. Marton and Booth (1997) draw a clear distinction between psychology where what is learned is subordinate to the classification and phenomenography when the system of classification is turned around. What is experienced and how it is experienced becomes the focus.

The interviews were transcribed and the data analysed using Interpretive Phenomenological Analysis (IPA). Smith, J.A. (2004) suggests that IPA is an effective tool when used with studies that are: idiographic, inductive and interrogative. IPA recognizes the central role for the analyst in making sense of that personal experience. Thus it is strongly related to the interpretative or hermeneutic tradition. For IPA one can say human research involves a double hermeneutic. The participant is trying to make sense of their personal and social world; the researcher is trying to make sense of the participant trying to make sense of their personal and social world.

4. Findings
The participants all tended to choose lessons they had taught recently. Interestingly, ‘Tom’ chose a lesson that had been observed as part of the school appraisal process by a senior teacher, ‘Pete,’ the Head of Sport and an AST who is also a participant in this study, which had been judged by him to be a very strong lesson.

In the initial analysis of the transcripts the following themes emerged:

- How learning is represented
- Constructs of learners
- How teaching is conceptualised
- Assessment
- Aims of learning

4.1 How learning is represented
There was a strong sense that learning was viewed implicitly as a transaction between the teacher and the pupil that was less about the children building or creating knowledge and more about being given knowledge by the teacher. Typically the teachers talked in terms of, ‘giving them the idea’ ‘Pete’, ‘Giving them understanding’ ‘Nathan’. This is consistent with ‘empty bucket’ notions of learning (Bereiter, C. and Scardamalia, M, 1996) and learning from ‘didactic exposure’ (Bruner 1999). The purpose of learning was seen primarily as remembering and reproducing rather than seeking meaning (Marton and Booth 1997).
Understanding was widely seen as an important outcome of learning but in a generally convergent manner and not in a sense of developing new understandings about the world and themselves. Newton (2000) suggests that there are different forms of understanding many of which are content specific.

<table>
<thead>
<tr>
<th>‘Liz’</th>
<th>Used the treadmills for that but it was all applying so you know ‘why have you chosen that one?’ and there is no point testing someone for flexibility if they don’t particularly need it and you know which are the key ones to do .. so I think the learning was successful because they were actually trying to put themselves in that situation .. testing somebody for the right reasons … but also I was regularly questioning and they were explaining in their assignment why they had done those tests …what those tests meant .. certainly from the results and the work they produced and wrote up about it was clear they had understood what they had done and why they had done it</th>
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Table 1 – Extract from ‘Liz’.

In table 1 ‘Liz’ is talking about her lesson aims in a convergent manner. She talks about ‘testing for the right reasons’ and in her summary she talks about them understanding ‘what they had done’. She talks about ‘what’ the children did rather than the nature of their engagement with it. So in the initial section she says, “... the learning was successful because they were actually trying to put themselves in that situation.”

There were a number of references that implied that the teachers implicitly see learning as essentially hierarchical and linear and that things must be learned in a particular order. ‘Nathan’ “…they just have not got the vocabulary”; “…and then to think about how to get it over the net..” ‘Pete’. To use a metaphor based in science this is consistent with thinking about learning as a vector quantity i.e. a phenomena that has direction and amplitude such as velocity, acceleration and force, rather than as a scalar quantity, one that has amplitude but no direction such as mass or speed. This is similar way of representing learning as that suggested by Moss (2004) who refers to it as ‘rhyzomic’. In a context where formal assessment implies that learning is evenly incremental and relatively linear and that ‘learning outcomes’ can be planned for this is not surprising. “Learning cannot be designed it can only be designed for – that is facilitated or frustrated”. (Wenger 1998, 229) a perspective that is supported by Hussey and Smith (2003, 367) who conclude that, “..the concept of learning outcomes has become so entangled with notions of specificity, transparency and measurability as to become largely irrelevant to classroom activities and practices, as well as being unachievable.”

There was a feeling that children needed to have well developed cognitive constructs as a prerequisite of a capacity to be able to execute and acquire psycho motor skills.
‘Nathan’s’ response (see table 2) suggests that in the first instance the purpose of learning is to ‘achieve’ the level. A point developed further in the section 4.4. Secondly that pupils need to be able to articulate their understandings and that this is highly correlated with their state of understanding. Thirdly that he sees a division between physical and mental competence. An alternative conception would be to see that the division between the cognitive and the physical as a false dualism. It also seems quite within the bounds of possibility that it is quite possible to become competent at an activity and then theorise explicitly about it afterwards as implicit theories or tacit understandings will be brought to bear and refined through participation and engagement in learning activities.

In table 3 ‘Jon’ is asked to reflect on issues with regard to awarding higher grades. His response indicates that he sees the assessment criteria as creating a divide between displaying physical competences and being able to articulate some kind of theoretical rationale.

“It our personal theory has to cover everything that matters—all our significant experience. We can divide this total domain into three parts: theories about the physical world, theories about the social world, and theories about ourselves in relation to these.”

(Claxton 1984, 13)

This helps to make clear the distinction between definitions of theory. There was a strong sense that for the participants in this study, ‘theory’ referred to explicit theory and there was little sense that they saw that developing an understanding of the children’s personal theories, a notion congruent with Phenomenology, which Marton and Booth (1997) define as an interest in describing the phenomena in the world as others see them. So it seems that on the one hand the participants tended to seek opportunities for the children to articulate their thinking in an abstract theoretical way but it tended to reside...
at a level of recall of explicit theories rather than personal ones. This also forms a stark contrast to Claxton’s (1984) notion of the process of reforming personal theories as being learning.

Implicit theories regarding issues of learning about theory and practice emerged in the interview with ‘Liz’. For her exemplary lesson she choose to describe a B.Tec. lesson where the children were learning about elements of fitness and how to test and improve each one. The sequence of the lessons was of a classroom based theoretical one followed by a lesson in a practical venue.

| Researcher | …so when you were doing the first bit .. you were talking about setting it up  
| ‘Liz’ | …….what was your thinking behind that? 
| ‘Liz’ | …..it was making sure they had enough knowledge to be able to select .. the right components of fitness to test .. really .. and to cover the syllabus .. there is a list of things you have to cover 

Table 4 – Extract from ‘Liz.’

What ‘Liz’ seems to be saying here (table 4) is that the children need to ‘absorb’ the ‘theory’ before they can do the practical where presumably she feels they can apply it and that way secure their understanding or demonstrate it to her. If we follow Marton et. Al.s (2004) argument we might say that ‘Liz’ could have seen this lesson in terms of an object of learning, in this case the object being issues related to elements of fitness and fitness testing. The classroom and the practical that followed might be viewed as allowing the children to develop understanding about that object of learning, or reform their personal theories, through interaction with the various resources and activities. Implicit to ‘Liz’ seems to be the notion that there is a strict order of events that take place and by implication an assumption about how the learning will take place.

4.2 Constructs of learners It may be significant that the teachers tended to talk about children in lessons in only in very general terms. Motivation was spoken of a good deal especially by ‘Liz’ and ‘Tom’. In general it was represented as a quality that resided within the child rather than the result of complex interaction of factors within the context. It was assumed that achieving a grade was a motivator for the children. “If you don’t … you will get a level 1.” ‘Tom; “….it was a case of you need this for the assignment.” ‘Liz’. There was also a sense that implicitly some of the participants saw ‘motivation’ as a quality that was ‘given’ to the children. E.g. “I was motivating him a lot.” ‘Tom’.

In general the children were seen as defined by the ability they display at the time rather than seeing them as people with potential and as such tended to be congruent with Dweck’s notions of an entity perspective. ‘You have some idea of who is capable of what.” ‘Tom’ “Grouped according to ability.” Pete’.

4.3 How teaching is conceptualised Although ‘Nathan’, ‘Liz’ and ‘Jon’ all spoke about developing independence in learning there was also a sense that implicitly they see themselves at the heart of classroom interactions and
responsible for children’s learning. Independent learning is a powerful discourse in policy at the time of writing and it may well be that the teachers in this study have absorbed the language of policy without having had the chance to fully weigh up the implications and so structuralists might interpret this as them being ‘spoken by’ the predominant discourses (Burr 1995) rather than ‘speaking them’. There is support for the notion that language professionals such as teachers employ is far from benign.

“I shall begin with a premise that is already familiar: that the medium of exchange in which education is conducted – language - can never be neutral.” (Bruner 1986, 212).

Pring (1999) goes further suggesting that the shifts in language affect the way that teachers conceive the relationship between teaching and learning which in effect precipitates a change in values.

It is all too easy to see ‘teaching’ as an essential factor in ‘learning’. This was a feature of a number of the participants’ responses. ‘I set targets’ ‘Pete; ‘I had taught someone how to bowl…’ ‘Jon’; sometimes the role of teacher was deferred to the children ‘They taught themselves’ ‘Jon’. Wood (1998) reminds us that in some societies there is no verb as ‘teach’ and yet the majority of children develop the necessary knowledge and skills for adulthood. In the current climate ‘teaching’ may be seen as a performance that has merit in its own right and is not necessarily related to the quality of learning.

There were instances where the participants’ espoused support for independent learning and pupil agency were valued yet at the same time they saw that the teacher was responsible for teacher leading learning. An apparent contradiction although (Bannister and Fransella, 1986: 16) point out that, “A person may successively apply a variety of construction subsystems which are inferentially incompatible with each other.

4.4 Assessment: A feature of many transcriptions was that the participants found it hard to talk about learning and perhaps at the heart of this is the difficulty of noticing what children do in lessons in a systematic manner (Drummond 1993). The responses tended to ‘drift’ to talk about teacher action.

<table>
<thead>
<tr>
<th>Researcher</th>
<th>“and what did you notice about how they engaged with that?”</th>
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<tr>
<td>‘Pete’</td>
<td>“Ahmm … yeah they … I felt that they … they were umm .. because we also set out .. I set out targets for them … hoops for them to initially try to … to umm … initially to actually, you know, be skilled enough to be able to place the ..shuttle into those areas where the hoops were set .. I set the hoops deliberately .. some hoops to the right to the back of the service area … and the other ones, you know, to the near part of the service box…..ahmm….. and that seemed to gain ….that quite easily initially … gave them a simple target to actually try to .. to .. achieve .. you know, so one person was able to … receive .. and the other person was serving initially to see if they could .. ahmm.. be accurate enough to place their shuttle into the hoop so that was quite an easy starting point and then from there we then developed that into …. Obviously using that within … sort of, within the game situation.”</td>
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</table>
The extract above shows ‘Pete’ being asked to talk about the nature of the children’s interaction with a task which he seems to hesitate and then talks with some authority about what actions he carried out. This was a feature of all the transcriptions. Marton et al. (2004) suggest that learning is always the process of acquiring the knowledge of something and that something becomes the object of learning. They go on to suggest that this object of learning is a capability that has a general and a specific aspect. The general aspect being to do with the nature of the capability such as remembering or interpreting, while the specific has to do with the thing or subject on which these acts are carried out such as learning about psychological refractory period or mastering a jab step. They argue that the learner has to focus on the specific aspect but the teacher needs to focus on both. In this study the participants tended to focus on the specific aspect and hence could only speak about the general capabilities in broad terms. This has been reported as an issue in primary classrooms (Drummond 1994) and it might be argued that in secondary contexts where teachers work with large numbers of children then this becomes even more problematic.

There was a strong implicit perspective that assessment, or the recorded grades, that are the result of summative assessment, was seen as the ‘point’ of PE lessons, with ‘Tom’, ‘Nathan’, ‘Liz’ and ‘Pete’ implying that getting the grade was the end product of learning in PE, and so by implication acquiring an appreciation of the object of learning had less intrinsic value, or might be seen as an indulgent luxury. However in contrast to this at other points Tom and Pete also suggested that assessment might be used as a means to establish ‘what’ children know rather than ‘whether’ they know as proposed by Torrance and Pryor (1998), and then use this information to inform teaching, although it was clear that this was seen as a adjunct to the main ‘teaching’. Throughout there was a sense that such ‘diagnostic’ assessment was not seen to be as ‘pressing’ as the conferring of grades.

At the time of the interviews the local authority was in the process of developing a new assessment framework. Two participants, ‘Nathan’ and ‘Tom’ saw this as a significant development and also congruent with aims of learning in PE. Its adoption was seen, particularly by ‘Tom’, ‘Nathan’ and ‘Liz’ as incontestable and a ‘good thing.’ ‘Pete’ distanced himself from such initiatives imposed from the outside by prefacing responses to questions with comments such as, “We are now supposed to be …”

The notion of assessment as measurement rather than judgement is one that is developed by Knight (2002). He suggests that we tend to treat assessment as measurement, which implies accuracy, and objectivity, which he argues, it can never be. A point echoed by Rowntree (1987) who refers to assessment as a construct and therefore a figment of the imagination or ‘all in the eye of the beholder’. In this study the participants seemed comfortable with notions of assessment as measurement.
In summary it seems that the overriding perspectives about assessment were consistent with Delandshere’s (2001) findings that teachers tended to place an emphasis on methods of assessment, as opposed to what could be learnt about individual performances about learning or a feature of teaching that is a ‘technology’ rather than ‘practice’.

4.5 Aims of learning It was evident that there were a variety of factors that underpinned the lesson aims that the teachers had selected in their lessons. In his survey of PE teachers’ enjoyment was found to be a major aim (Green 2003). Only ‘Tom’ made a specific reference to enjoyment ‘I personally believe you learn more when you are having fun.’

‘Nathan’, ‘Tom’, and ‘Liz’ all cited the formal levels of assessment as being the aims of lessons. ‘Nathan’ both talked about trying a, ‘level 5’ lesson. This seems to indicate that implicitly that in the participants minds the assessment levels ‘became’ the aim of the lesson rather than being a formal indication that the learner has reached a certain level. When asked if they saw the project of learning in PE and the project of showing evidence that they had met the criteria to meet the grade as the same each of them reported that they saw no dilemma.

For the children to achieve a state of improved understanding was widely cited as an aim by the participants in this study. There was a strong sense that implicitly they saw understanding as a highly conscious state. This is not consistent with notions of implicit learning which may be defined as, ‘knowledge gained is not fully accessible to consciousness.” (Seger 1994, 164) a notion that find support from Newton (2000, 26),“Some understandings may have been achieved through conscious reflection and some by unconscious processes.” Newton (2000) draws a distinction between understandings in different subject areas. It also runs contrary to the idea developed in a previous in section 4.1 that in essentially practical contexts we often develop a degree of competence and then theorise about what we do at a later stage.

Education is contested terrain and therefore the aims of education are correspondingly diverse. It is not surprising if teachers have not arrived at well thought out notions about the aims of the subject given that such autonomy is not a message of policy and the CPD that tends to go with new policy initiatives. In the need to deal with the volume of work teachers have little time to reflect in depth on overarching aims of the subject. Under pressure to deal with the ‘pressing demands’ of practice it seems likely that they will find often ways to ‘get through’ and also be in a position where they are at the mercy of initiatives.

5. Conclusions

IPA relies on the language as the means by which participants communicate their perceptions to the researcher (Willig, 2001). However it may be argued that language constructs rather than describes reality. Therefore it needs to
be remembered that an interview transcript tells us more about the ways in which an individual talks about their experience than the experience itself.

No professional activity, such as teaching, can be carried out in a thoughtless manner but rather has theory embedded in it (Carr and Kemmis 1986). In order to make professional life possible teachers have to develop theories of action. Many of these theories may exist at an implicit level (Mason 2002). In this study the teachers’ seems much more comfortable talking about their theories of ‘teaching’ and it was evident that they found it hard to ‘notice’ what the children were doing. Of course there was a time delay between the lesson they described and their descriptions of it although this delay was a week at most. On the other hand a ‘week’ is a long time in education and it may well be that this was a significant factor.

This research is seeking to understand teachers’ implicit theories of learning but it some senses this is inextricably linked to their implicit theories of teaching. The issue in this research is to expose the personal theories of learning that the teachers held. There is a conception that ‘theory’ is not for practicing teachers who are operating in the ‘front line’ of education. However we might see ‘theory’ as liberating as ‘theories have to simplify real life in order to explain it.’ (Mercer 1995, 64).

Perhaps an issue in this study is that learning is far from a homogenous concept and given that it exists only exists as a concept (Mercer 1995). Through policy, assessment and the discourses of school improvement it may be that ‘learning’ has undergone a reification which affects the discourses and make it an even more elusive concept to study.

It was evident that the participating teachers in this study found it hard to talk about factors associated with learning in PE. In general their personal theories of learning were hazy, ill formed and even contradictory and they often ‘drifted’ into talking about what they did. When they did talk about learning they tended to see the teacher as central to the process and that learning is essentially about reproducing and occurs in a relatively linear and controlled manner.

It was also clear that they saw assessment as central to the processes but it in convergent manner with the allocating of grades being the raison d'être of assessment. Indeed they tended to describe the allocation of grades in terms that suggest they are the ‘point’ of lessons and there was a feeling that the project of learning in PE and the project of gaining grades were essentially congruent and relatively uncomplicated.

Correspondence: Chris Carpenter, Canterbury Christ Church University, Canterbury, Kent, CT1 1QU, England. E-mail chris.carpenter@canterbury.ac.uk
Bibliography


Investigating Physical Education Teachers’ Implicit Theories of Learning in descriptions of Exemplary lessons: A case study in a Specialist Sports College. – BERA 2008


## Appendix 1

**Participant profiles**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Number of years teaching</th>
<th>Other details</th>
</tr>
</thead>
</table>
| 'Pete'      | 33                       | - Head of Sport  
- Advances skills teacher  
- He has been at the school all his career. |
| 'Liz'       | 12                       | - Liz is head of PE  
- She has worked at 2 schools before this one.  
- Liz has been at the school for 4 years. |
| 'Tom'       | 5                        | - Tom has been at the school for 2 years.  
- It is his second post |
| 'Nathan'    | 5                        | - Nathan is now an AST in IT.  
- He is responsible, with other ASTs for rolling out the new LEA PE assessment framework |
| 'Jon'       | 3                        | - Has been teaching for 2 years. |

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