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Year 6 pupils' access to classroom talk and the contributory factors which influence their
participation

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ABSTRACT

This study examined whether there was unequal participation in classroom discussion, and what factors may contribute to this participation. The participatory processes among a year six classroom were observed and quantitatively and qualitatively analysed. The findings have shown that within this classroom there was differential participation in classroom talk. It was found that SAT scores were significantly correlated with participation. In addition, an individual's seating position had an effect on their participatory scores. There were no significant gender differences found or any significant difference between individuals were on the special educational needs register and individuals who were not. Data collected from the classroom observations suggest that the class teacher's pedagogy and practices may have affected the participation and contribution of the pupils including the use of closed questions, reliance on IRF (initiation, response, feedback) sequences, and cued and direct elicitation. Similarly, his classroom structure and strategies may also be an influential factor; this includes seating arrangement and spelling groups. In addition, it could be suggested that social background is a further influential factor.

KEY WORDS:	PARTICIPATORY PROCESSES	SAT SCORES	CLASSROOM STRATEGIES	TEACHER'S PEDAGOGY	SOCIAL BACKGROUND

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1. Introduction

In this study I intend to quantitatively and qualitatively explore classroom talk in order to determine whether there is unequal participation in classroom interaction and then explore the possible factors which influence this participation. In order to gather this data, I intend to observe a year 6 classroom over the course of three days. This will provide me with empirical results that can be statistically tested and qualitatively explored.

1.1 History and Classroom Talk

Academics and professionals have become increasingly interested in the concept of 'classroom talk' due to the recognition of the central role language plays in a child's learning experience (Edwards and Westgate, 1987; Vygotsky, 1962; Stubbs, 1983). Two theoretical perspectives are particularly influential in the understanding of the importance of classroom talk - The Sociocultural Theory and The Social and Cultural Reproduction Theory. The Sociocultural Theory was developed initially by Vygotsky (1962) and it remains central to much of the research carried out within the developmental field (Rogoff, 1990; Edwards and Mercer, 1987; Black, 2004). The Sociocultural approach states that social interaction is fundamental for the development of knowledge and understanding; a great emphasis is placed on the significance of classroom communication for this construction of knowledge. The Social and Cultural Reproduction Theory was firstly articulated by Bourdieu (1973) who stated that some children are at a disadvantage within the educational system due to their cultural habitus; this perspective will be discussed in further detail shortly.

It is widely accepted that language is an exclusive human trait (Vygotsky, 1978). It is through language that Vygotsky (1978) suggested that we gain the 'tool' for thinking and learning (Vygotsky, 1978; Barnes and Todd, 1995). It is believed that a child's knowledge is socially constructed through interactions with a more experienced partner (Rogoff, 1990; Vygotsky, 1978). Vygostky's research has provided an important theoretical basis for applied research into classroom talk. I now intend to discuss some of the key research done within this area relating to the importance of language (Vygotsky, 1978; Wood et al, 1976), classroom discourse and productive talk (Barnes, 1976; Edwards and Mercer, 1987; Mercer, 2001) and the factors which can create disadvantage (Bernstein, 1973; Bourdieu and Passeron, 1990; Rosenthal and Jacobson, 1968).

1.2 Investigating Classroom Talk

A substantial body of research investigating classroom talk has emerged over the last 30 years (Black, 2004; Edwards and Mercer, 1987; Barnes, 1976; Barnes and Todd, 1995). The research can loosely be organised into three categories (a) research into the actual *analysis* of classroom discourse, i.e. the patterns of classroom talk, (b) the *quality* of the classroom talk, for instance, productive and non-productive interactions, and (c) a focus on the *distribution* of classroom talk, for example, whether some children are at an advantage or disadvantage. I now intend to discuss the research carried out in these loosely defined areas.

a) Patterns of Classroom Talk

Due to the influential work carried out by Vygotsky, Britton and Bruner classroom talk has received extensive interest within applied research regarding the processes of learning (Edwards, 1987). Britton's (1969) transcription of pupils' talk illustrated how discussion constructs and reshapes thoughts and meanings (Barnes and Todd, 1995). As a result of Britton's (1969) research, it became evident that teachers both directly and indirectly influence talk and, as a result, influence the learning process (Barnes and Todd, 1995). Within the school environment language is consistently being used, whether it is spoken language, aural language, or reading and writing. To investigate classroom talk, we need to understand the dialogue between teacher and pupil. A lesson involves the teacher eliciting information from the class and creating shared meanings (The Bullock Report, 1975). Sinclair and Coulthard (1975) identified a sequence of initiation-response-feedback (IRF), which they stated was a typical form of interaction between a teacher and pupil and were common in most classrooms (Black, 2002). Mercer (2001) stated that this sequence is a function most commonly used to elicit from the learner the relevant piece of knowledge that they almost always know the answer to. This is a relevant method of teacher-pupil talk; however, pupils have little opportunity to use language in more creative ways if it is relied upon too heavily (Mercer, 2001).

Barnes (1969) carried out some extensive research investigating classroom talk. He voiced concern relating to the amount of closed questions used by teachers, which he felt restricted pupil participation. It has been found that teachers talk for approximately 70% of the time (Flanders, 1970 cited in Stubbs, 1983), this finding was supported by Barnes (1969) who stated that teachers talk far more than pupils reply. In this environment of closed questions and restricted participation, pupils were rarely required to think independently or generate new thought processes; these are all factors which contribute to the construction and understanding of knowledge (Barnes, 1969). Barnes (1976) stated that within a classroom children learn the social norms of behaviour – an implicit way of how to behave in the classroom, he called this the 'hidden curriculum'. Similarly, it was stated in The Bullock Report (1975), that pupils have their own 'hidden agendas', and some will avoid any participation whereas others may compete for the teacher's attention. The teacher has the power to determine who shall speak and also what value their contribution is awarded. The nature and effect of this control will depend on the skill and sensitivity of the teacher (The Bullock Report, 1975).

There are various other methods of pedagogical talk which Mercer (2001) has highlighted – eliciting knowledge from learners, responding to what learners say and describing shared experience. Eliciting knowledge from learners comes in two forms – direct elicitation and cued elicitation. Direct elicitation involves the teacher explicitly requesting information from the learner. Cued elicitation, however, involves drawing information from the learner by providing clues and hints, avoiding giving the child the correct answer directly. A second pedagogical technique given by Mercer (2001) is the teacher's response to what learners are saying. This has been categorised in five ways – confirmations, rejections, repetitions, reformulations and elaborations. It has also been noted that teachers often ignore incorrect answers. A final technique is that of

describing shared experiences, this includes using, explanations, 'we' statements and recaps. This final pedagogic technique of describing shared experiences has been included as a fundamental aspect of 'productive talk', the most effective form of classroom talk (Edwards and Mercer, 1987; Barnes, 1976). I now intend to discuss in more detail this concept of 'productive talk'.

a) The Quality of Classroom Talk

Productive Talk

Using a Vygotskian theoretical foundation, Wood, et al (1976) developed the concept of 'scaffolding'. It was defined as a process of assistance whereby the teacher supports and guides the learner to a new understanding. Vygotsky's 'zone of proximal development' (ZPD) appears to be central in this concept of scaffolding. Vygotsky stated that there are two levels to a child's developmental level – their 'actual developmental level' and their 'potential developmental level' which can be achieved with support from a more knowledgeable other (Vygotsky, 1978). Vygotsky stated that through this process of collaboration the child eventually develops the ability to do the task without assistance; the most effective learning occurs in the ZPD (Vygotsky, 1978). Wood et al (1976) stated that a fundamental aspect of effective scaffolding is the teacher's ability to identify the child's level of understanding; a process of 'tuning in'. This view places the responsibility for learning primarily on the teacher (Black, 2002).

Edwards and Mercer (1987) intended to provide an account of classroom talk that focused on the content, meaning and context of language which assesses the quality of knowledge the child is acquiring. Classroom learning needs to be a social process that occurs through the joint construction of 'common knowledge' between teacher and learner (Edwards and Mercer, 1987). This concept of the creation and continuity of 'common knowledge' or a 'shared mental context' is a key component of productive talk and teachers should strive to establish these shared meanings (Edwards and Mercer, 1987). It has been suggested that this can be achieved through the use of 'we' statements as it implies that the teacher's understanding of a topic is shared by all members of the class (Black, 2002). Edwards and Mercer (1987) stressed the importance of productive interactions for the learning process. In order to establish the productive interactions, Edwards and Mercer (1987) stated that classroom learning should be an intersubjective process involving both the teacher and the learner negotiating meanings through dialogue (Edwards and Mercer, 1987). This process of negotiation suggests that the teacher and the learner construct the meanings together. Edwards and Mercer have supposed that in order to achieve this, the teacher should negotiate meanings with the learner. Learner-initiated talk is thought to be more effective for learning than teacher-initiated talk (Lei, 2009). Despite this, however, Lei (2009) stated that some teachers take complete authority, ignoring the learners' contribution and therefore leaving no opportunity for meaningful negotiations.

This notion of the intersubjective nature of communication for the establishment of new ideas is supported by Rogoff (1990). Rogoff (1990) suggested that learning is constructed through 'guided participation' with a more capable partner. In consideration of the question of how children develop 'new' understanding or meanings, it is

imperative that we reflect on the influence of Lev Vygotsky (1962, 1978). The Vygotskian perspective adopts the sociocultural approach and therefore employs an analytical perspective which recognises the importance of the *nature* of the teacher-pupil discourse within the classroom environment (She, 2000).

Exploratory Talk

Mercer (1995) classified three types of classroom talk – disputational, cumulative, and exploratory. Disputational talk does not involve any sharing of insight or knowledge, and exchanges are competitive and defensive. Cumulative talk involves the speakers taking turns to add something relevant but this is often not something new nor something constructive relating to the previous speaker's contribution. Finally, exploratory talk involves critical and constructive engagement. Ideas are contributed and considered collaboratively, precise and articulated language is used. Exploratory talk has become a key feature of productive discourse and was discussed by Barnes (1976) who stated that the teacher should attempt to reply to a pupil's input rather than assess it.

b) Factors Affecting Classroom Talk

Cultural Discontinuity

The homes into which babies are born are places where people talk and language learning begins with listening (Britton, 1970). It is from listening to conversation that children gain experience of language before they can talk; conversation provides the foundational framework of speech (Britton, 1970). There is an undeniable relationship between social class and language development (The Bullock Report, 1975), however, it has been suggested that the language used within the home environment is more influential than social class *per se* (The Bullock Report, 1975). The area of linguistic disadvantage and the educational consequences of it remains a controversial topic (Edwards, 1979). Tizard and Hughes (1984) stated that working-class children score lower than middle-class children on IQ tests and tests of language development and this, they suggest, can be explained by the home environment. Barnes (1976) stated that a pupil's understanding of a new topic depends upon the child bringing what he/she already knows to the situation. In addition, the possibility of the child understanding what the teacher is saying relies a great deal on the cultural resources he/she already possesses. It has been found that working-class children (WC) do not do as well at school as their middle-class (MC) peers (Stubbs, 1983). Bernstein (1973) stated that this was because the language used by WC children is characteristically different to the language used by MC children. Bernstein (1973) argued that there were two different codes of language – restricted and elaborated code – which are broadly related to social class. Bernstein stated that MC children have access to both codes of speech, whereas WC children are said only to have access to the restricted code. This is relevant as schools are said to be governed by the elaborated code and operate in a way that favours the middle-class child (Bernstein and Solomon, 1999 in Black, 2002), meaning that WC children are at an immediate disadvantage (Stubbs, 1983). However, Bernstein has later emphasised that the linguistic codes are not linked to social class, but more so to the family organisation and the interactions that occur within it (The Bullock Report, 1975). Bernstein (1973) suggested that there are two types of families –

the positional family, and the person-centred family. He claims that the restricted code dominates speech within the positional family, and the elaborated code within the person-centred family (Stubbs, 1983). Within the positional family, a child's verbal exploration would be minimal. In contrast, within the person-centred family, the child will have opportunities for a more sophisticated use of language and thus comes to school at an advantage to the child of the positional family. Therefore, it seems the child's experience of language and having someone to listen are fundamental needs (The Bullock Report, 1975).

Bourdieu's (1973) Social Reproduction theory states that children from disadvantaged backgrounds do not possess the 'right' kind of cultural capital, in short, they do not have the access or knowledge of the cultural skills and tools necessary for school (Black, 2002). There has been found to be an unequal distribution of power in favour of white, middle-class social groups (Bernstein, 2000; Bourdieu and Passeron, 1990). According to this theory, this is because dominant social groups have a higher social status due to the fact that they posses highly regarded 'culture capital' (Black, 2002). According to Bourdieu's theory, 'culture capital' is the resource an individual chooses to use in a given situation, which is influenced by their 'cultural habitus' (Black, 2002). Their 'cultural habitus' has been developed through a process of internalisation of cultural values which are passed down from generation to generation – this concept of 'cultural habitus' is a crucial determinant of the individual's access to the educational setting and classroom talk (Black, 2002).

Black (2002) stated that children from middle-class backgrounds will have a clearer understanding of the teacher's pedagogic goal, due to their 'cultural habitus'. Laura Black (2004) found that the children who consistently took a dialogic role in interactions and gained the most productive interactions were those from middle-class backgrounds. In contrast, children from working-class backgrounds fell into the categories of either receiving more non-productive interactions than productive, or participating in 10 or fewer interactions over the duration of the observations.

Teacher Expectations

There has been much research examining the effects of teacher expectations on pupil performance (Ma, 2001; Brophy, 1983; Cooper, 1979). Classroom observation has revealed that there are consistent patterns of differential teacher behaviour towards high and low-expectation students (Cooper, 1979). Cooper (1979) found that teachers use feedback as a method of control of low-expectation pupils. Their expectation of a pupil's performance was influenced by the child's background and their ability. It has also been found that teachers increase control by creating a negative classroom climate and negative feedback patterns for low-expectation pupils, this was then found to effect pupil participation and initiation (Cooper, 1979; Harris and Rosenthal, 1985). With reference to the negative feedback patterns observed by Cooper (1979), Brophy and Good (1974) similarly found that teachers tend to praise high-expectation students more per correct response, while low-expectation pupils are criticised more per incorrect response (Brophy and Good, 1974 cited in Cooper, 1979).

The Pygmalion in the Classroom study (Rosenthal and Jacobsen, 1968) investigated whether teacher expectations had an effect on children's IQ score. 20% of pupils were described to the teacher as having great potential for academic growth; this was a randomised selection, though the teachers were told that this was based on written assessments. The tests were actually on non-verbal intelligence. These tests were re-administered eight months later and it was found that those children who were identified as 'bloomers' saw a significant gain in total IQ compared with the other children. Black (2002) suggested that the perception the teacher holds of a particular pupil's ability will affect the way she controls an interaction. This will include how he/she believes the pupil should contribute, as a result of this, the student's participation in the construction of knowledge will be affected, which will in turn, affect their learning.

Gender and Ethnicity

In addition, there has been extensive research investigating the influences of gender and ethnicity on classroom talk, therefore I feel it is an area which deserves a mention (Myhill, 2002; Biggs and Edwards, 1994; Howe, 1997; Jackson and Cosca, 1974). However, due to the extensive research carried out within this area a further section would be required for discussion. However, the current word count restricts this exploration.

1.3 Summary and Research Question

It is widely accepted that language plays a significant role in the learning process, and that language within the educational sector particularly propels this process. Consequently, it is clear that this is an area which deserves further attention. There has been considerable research which suggests that there are various contributory factors influencing classroom interaction. The goal of the present study was to explore the extent of participation in classroom talk amongst year 6 pupils with reference to potential factors including classroom structure, SAT scores, social class (as indicated by being in receipt of free school meals), and special educational needs. Participation in lessons facilitates learning; it is thought to be an important educational habit as it allows children to learn and practise new knowledge, explain their reasoning and examine their own thinking processes (Turner and Patrick, 2004). I intend to observe the overt ways in which children participate in the classroom - asking questions, giving own views and opinions, answering questions etc. I then intend to explore whether there are any factors that may hinder or propel the participatory processes.

Much of the previous literature has focused on specific factors, for instance gender or social class. However, I feel that the extent of participation is a complex notion and there appears to be no clear influential cause that can adequately explain the processes. Therefore, I decided to adopt a multi-faceted approach to investigate the participatory processes of classroom talk drawing on multiple factors stated above. With reference to the literature, however, three key investigative questions became salient:

A) Is there unequal participation in classroom talk?
B) Are there any key factors influencing the participatory process?

C) Is there a dominant factor influencing this process?

2. Methodology

2.1 Introduction

In this chapter I will outline how the data was collected and explore the issues and considerations involved in the collection and handling of all data. I will also address statistical means for testing the validity of my results.

2.2 The Classroom and Participants

I observed in a year 6 classroom which consisted of twenty-eight pupils; ten females and eighteen males with an average age of 11. However, due to absences I was only able to observe twenty of the twenty-eight pupils for the complete duration (ten males and ten females). The teacher was male, aged 25. The school was situated in Mid Wales and had a population of 250 pupils aged between four and eleven. The catchment area was relatively large drawing children from varying social backgrounds. Nine percent of the pupils were entitled to free school meals. Thirty-four children in the school are designated as having special educational needs. Three children in the classroom I was observing were claiming free school meals, and six children had special educational needs and were receiving specialist tuition from the school's resident special educational needs teacher. English is the main language spoken in the school, though some of the children are Welsh speaking, and Welsh is taught as a second language. There were four tables in the classroom – one was for 'high ability', another for 'low ability' and the other two were for 'average ability'. I initially observed the whole class for one week during the summer vacation before I began my data collection in February. I felt this was necessary to gain an insight into the daily routine and so as not to seem like an unfamiliar person to the children and the staff when I returned a few months later.

I was interested in finding whether some children had more or less access to classroom talk so I began by observing the whole class. It then became clear that some children did participate significantly more than others so I looked more closely at particular pupils who had these 'extreme characteristics' (Cohen, 2000). Each child was given a participant number, the name of the school and the teachers involved will not be disclosed for purposes of anonymity and confidentiality.

2.3 Observational procedure

Observational methods allow for holistic and direct observation of the processes and features of classroom participation and interaction, enabling me to gain live data from live situations (Cohen, 2000; LeCrompte and Preissle, 1993). Geertz (1973) stated that naturalistic observation allows the researcher to capture the diversity, variability, creativity, and uniqueness of social interactions (Geertz, 1973) and allows for their description and analysis (Hitchcock and Hughes, 1989). The classroom has its own values and implicit norms of behaviour and taking this naturalistic approach allows for an insight into this unique microclimate. There is a substantial body of researchers who

have adopted observational techniques for the investigation of classroom talk (Black, 2004; Barnes, 1976; Lemke, 1990). With consideration to the effects of researcher reflexivity I decided to take the approach of 'observer as participant' (Gold, 1958). I felt this to be the most appropriate approach as I was only in the school environment for a relatively short period of time, which meant my observations needed to be fairly structured. I also had to consider the ethical issues involved, which shall be discussed in more detail shortly. I did not however want to take the role of 'complete observer' as, to some extent, I did plan to interact and participate with the pupils so as not to seem like an 'outsider'.

My observations were 'covert' to the extent that the children did not know the purposes of my observations. I was introduced to the children briefly by the teacher when I first entered the classroom. The teacher and the teaching staff knew I was conducting research concerning interactions within the classroom environment; however, I didn't give detailed descriptions on the exact measures of my research so as not to affect the data I was to obtain.

2.4 Data Collection Techniques

I observed the year 6 class for three full days between 9.00am and 3.30pm two months after my initial observation. The daily routine began with a half an hour reading session, where I was able to listen to some individuals reading. This was then followed by four 55 minute teaching sessions. My initial intent was to observe whether there was an unequal access to 'productive interactions' and then to investigate why this may be. However, it became clear that there were very few productive interactions occurring. I then altered my method to establish whether there was an unequal participation in classroom talk and what factors may be influencing this. With reference to the concept of triangulation I used various methodological techniques from which to draw my conclusions, which lent to both quantitative and qualitative analysis improving the validity and reliability of my results. I used an audio recorder in order to capture some of the interactions occurring during whole-class discussions and one-to-one interactions between teacher and pupil, I also used it to record the interview with the class teacher and the SEN teacher.

Participant Observation via Event Sampling

In order to establish whether the pupils had an identity of 'participator' or 'non participator' I observed the 20 pupils in the classroom during whole-class discussions and used a highly structured event sampling method. There were 10 pre-determined 'events' including instances of 'raising hand', 'shouts out' and 'productive interactions', which I classed as 'teacher initiated talk'. I also had a column for 'pupil-initiated talk' which involved the *child* asking the teacher a question. I then tallied the amount of times these instances occurred for each pupil. I felt this method would establish most clearly and precisely the participatory identities of each pupil in the classroom and then allow me to make further comparisons during the analysis stage. This method has been adopted by other researchers investigating classroom talk (e.g. Barnes, 1976).

Field notes/ Journal

In order to capture some 'thick descriptive elements', including the record of speech acts, non-verbal communication, observers' comments and so on (Carspecken, 1996), I chose to make some brief semi-structured field notes both *in situ* and away from the situation. I had specified some pre-determined themes of the teacher's communicative techniques including what type of questions are asked, the content feedback, notes on particular pupils, non-verbal communication and body language, which I planned to make some brief notes on. I found I made more notes away from the classroom setting and during the period when the pupils were working as I had to focus on the event sampling during the whole-class discussions.

Interview

I conducted one informal (semi-structured) interview with the teacher, which I carried out subsequent to my observations, and one informal (semi/ unstructured) interview with the SEN teacher, which I also carried out following my observations. The interview with the teacher lasted for approximately 10 minutes and focused on his beliefs about his own pedagogy, how he teaches a new topic and ensures understanding, whether he believes there to be differential participation amongst his pupils, whether gender and levels of ability influence this, and how he deals with any unequal participation. The interview with the SEN teacher lasted approximately 15 minutes, this focused on the specific children who were coming to her with educational difficulties, the reasons why they were coming, how they performed in the lessons, and finally some general background information about each individual. Both the interviews were audio recorded to allow for transcription and further analysis.

Case Studies

From my observations of classroom talk, it became evident that some children were contributing significantly more than others. As a result of this finding, I decided to focus on four children from both extreme – full participation (Group A) and non-participation (Group B). I chose two males and two females to form both of these groups. Group A consisted of participants 2, 5, 6 and 7 and Group B consisted of participants 1, 3, 4 and 9. I felt this would give me greater insight into what may affect participatory involvement answering point B of my proposal. I was able to have access to these individual's school reports and, the IEPs (individual educational programmes) of the individuals who were on the SEN (special educational needs) register – participants 3, 4 and 9. I was also able to have access to the educational psychologist's report on participant 2. I was interested in gaining a greater insight into their social backgrounds and used the teacher and the SEN teacher as informants to attain some of this information. In addition, I listened to each of these children reading during the sessions in the morning. I also observed these children while they were working in small groups to see how they participated in that particular classroom scenario.

2.5 Ethical Issues

There were several ethical issues I had to consider before conducting my research with reference to the 'BPS Code of Ethics and Conduct' (2006). I initially had to gain the informed consent from the institution in which I was carrying out my research. I provided the school with a brief proposal informing them of the intentions of my research; however, this was not extensively detailed as I did not want it to have an effect on the data I was to obtain. It also included how long I intended to stay in the institution and what information I required. I made it clear that I had no need to speak to the children and assured confidentiality; it was agreed that the children did not need to be informed of my research. I also informed them of their right to withdraw from the research at any time. The school did request that the children's names remained anonymous and due to the fact I was going to be looking at personal reports, this concept of anonymity was imperative. I am also withholding the name of the school and the staff involved to ensure non-traceability and identifiability. To ensure this, each child was assigned a participant number and the teachers' names are not given.

2.6 Method of data preparation and Analysis

I began by conducting quantitative analyses of my event sampling in order to determine whether there were any significant differences in participation based on four factors – SAT scores, special educational needs, seating position and gender. In order to establish whether there was any significant relationship between participation and SAT scores, I carried out a Pearson's correlation. I assigned numbers between 1 and 12 to the SAT scores with 1 being assigned to 2c and 12 being assigned to 5a, in order to carry out my analysis. I then conducted a T-test to establish whether there was a significant difference in participation between children who had special educational needs and children who didn't, and whether there was a difference between the participation of males and females. Finally, I conducted a one-way ANOVA (analysis of variance) to establish to what extent a child's seating position within the classroom has accounted for the variation in their participation.

In order to illuminate and illustrate my quantitative findings, I also conducted further qualitative analysis. I had pre-determined themes which I was to investigate via the interview with the class teacher, which I transcribed and colour-coded accordingly. Similarly, I had predetermined issues which I was to discuss with the SEN teacher and I conducted the equivalent procedure of analysis. I used my observations of classroom discussions to illustrate the discourse within the classroom, the participatory processes and the teacher's pedagogical technique.

3. Findings

3.1 Introduction

In this section I will present the findings from my observations illustrated through quantitative and qualitative analyses. The following table provides a description of each participant which I shall be referring to throughout this section. It includes their participant number, gender, their English, Maths and Science SAT levels, whether they

are on the special educational needs register, whether they are in receipt of free school meals, their seating position in the classroom, and finally their total participatory score. With reference to the SAT scores, 2a is the lowest then 3c, 3b, 3a and so on, with 5a being the highest score in the classroom I observed. The seating position would either be LA (lower ability table), AA (average ability table) and HA (higher ability table). The participatory scores include the total counts of 'raising hand', 'making valid contribution', 'pupil-initiated talk' and 'productive interaction', as these events are what I classed as 'participation'. I also intend to discuss in more depth those individuals who are highlighted in either green (group A) or blue (group B) in the section entitled 'Case Studies'.

Table 1. Participant List

Participant Number	Male/ Female	SAT Levels Eng/Maths/Sci	Special Educational Needs	Free School Meals	Seating Position in Classroom	Participation Score
1	F	4c/3a/3a	No	No	AA	7
2	M	4a/4b/4a	Yes	No	LA	32
3	F	3c/2a/2a	Yes	Yes	LA	9
4	M	3b/3c/3c	Yes	Yes	LA	3
5	M	5c/5a/5c	No	No	HA	33
6	F	4c/4a/4c	No	No	AA	23
7	F	5c/5c/5c	No	No	HA	29
8	M	5c/5c/5c	No	No	HA	29
9	M	3a/3a/3a	Yes	No	LA	9
10	F	3a/4c/4c	Yes	Yes	HA	22
11	M	4b/4b/4b	No	No	AA	26
12	M	4b/4b/4a	No	No	AA	21
13	M	3c/4b/3a	No	No	LA	6
14	F	3a/3a/3c	No	No	LA	10
15	M	4c/4b/4c	No	No	AA	10
16	M	4a/4a/4a	No	No	AA	21
17	M	4c/4c/3a	Yes	No	AA	11
18	F	4b/4c/4c	No	No	HA	20
19	F	4c/4b/4c	No	No	AA	10
20	M	4a/5c/4a	No	No	HA	32

🟩 **Group A**

🟦 **Group B**

> LA=Low Ability table
> AA=Average Ability Table
> HA=High Ability Table

3.2 Quantitative analysis of Event Sampling

With reference to Table 1, it seems evident that there is differential participation in classroom talk amongst the year 6 class I observed (M=18.7, SD=9.9). In order to

establish whether there was a relationship between SAT scores in English, Maths and Science, and participation, I conducted a Pearson's correlation. The Pearson's correlation showed that there was a highly significant[1] relationship with English (r=.84, p < .01), maths (r=.76, p < .01) and Science (r=.85, p < .01) scores. I then totalled the SAT scores in Maths, Science and English, and conducted a further Pearson's correlation. The results between total SAT score and participatory score were also found to be highly significant with r (18) = .85, p < .01. The variance estimate was r^2 =.72 which indicates that 72% of the variation in participation was explained by the variation in total SAT scores. Below is a scatter plot illustrating the significant correlation between participation and SAT scores.

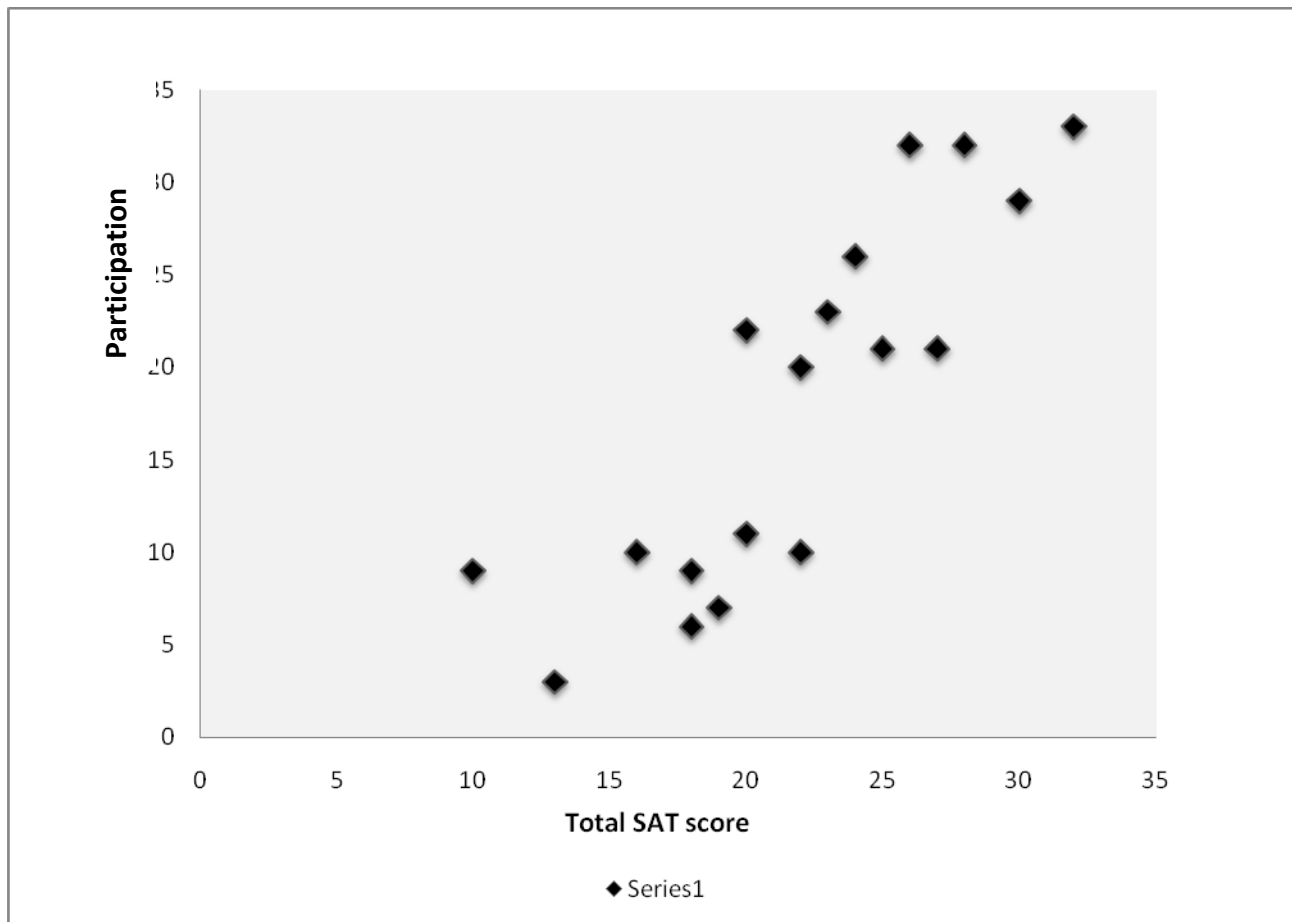**Figure 1: Correlation between total SAT Scores and Participatory Score**.

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[1] I follow the convention of referring to a significant difference at the p< .05 level as "significant" and p <.01 as "highly significant" (see e.g. Coolican, 2004).

Table 2 below shows the mean participatory score and SAT score for the individuals sat at the low ability table, average ability table and high ability table.

Table 2
Seating Position (LA, AA, HA) and Total SAT Score and Participatory Score

Seating Position	Number	Mean SAT Score	Mean Participatory Score
Low Ability	6	16.8 [5.5]	11.5 [10.4]
Average Ability	8	22.6 [2.6]	16.1 [7.3]
High Ability	6	27.0 [4.9]	27.5 [5.2]

In order to establish whether seating position (IV) had an effect on participation (DV) and total SAT score (DV), I carried out a one-way ANOVA. The one-way ANOVA revealed that seating position (LA, AA, and HA) had a significant main effect on total SAT score, $F(2, 17) = 8.47$, $MSE = 18.49$, $p < .05$ and participation, $F(2, 17) = 6.62$, $MSE = 62.11$, $p < .05$. It is evident that individuals who sat on the 'high ability' table participated significantly more ($M=27.5$, $SD=5.2$) than those who sat on the 'low ability' table ($M=11.5$, $SD=10.4$). It is also evident that children who sat on the 'low ability' table had significantly lower total SAT scores ($M=16.8$, $SD=5.5$) than the individuals who sat on the 'high ability' table ($M=27$, $SD=4.9$).

Finally, I carried out two t-tests in order to determine whether there was a significant difference in participation between individuals who were on the special educational needs register and individuals who were not and also whether there was a significant difference between males and females. The difference between the participation of children on the special educational needs register ($M=14.3$, $SD=10.7$) and those who were not ($M=19.8$, $SD=9.6$) failed to reach statistical significance, $t(18) = -1.13$, $p = .27$. This was also the case with the participation of males ($M=19.4$, $SD=11.11$) and females ($M=16.25$, $SD=8.2$), $t(18) = -1.79$, $p = .20$.

3.3 Qualitative Analysis of Teacher Interview

I now intend to discuss the interview I conducted with the class teacher. I shall be referring to the four pre-determined themes – communicative techniques, participatory processes, methods used to deal with unequal participation and factors influencing participation. In addition, I intend to cross-reference his responses with my observations of classroom talk with reference to my field notes, the event samples and the audio recordings of classroom discourse.

Communicative Techniques

The teacher confirmed his communicative methods to be effective with regards to the processes of learning and understanding. He stated that when teaching a new topic to

the class he revises old work done on the topic which may have some relation to the new topic, and then makes connections. The teacher also stated how he starts at a lower level and gradually increases the level of difficulty. He commented how he often adopts interactive and aural presentations to aid his teaching and to 'maintain engagement'; He emphasised the importance of visual aids, including programmes such as 'Numicon' for Maths - a multi-sensory maths teaching programme. As well as this, he states how he is careful to uphold the appropriate pace, which he believes contributes to the effectiveness of the learning process. Furthermore, he mentioned how he uses interactive games, again with reference to Maths. He continued by stating, however, that every child responds differently to people and approaches.

With reference to my observations of the teacher's communicative methods, it seemed the teacher did use the technique of making connections and starting at a lower level and gradually building up the difficulty. The following is an extract relating to a class discussion on the properties of various shapes. It serves as a useful introduction to the teacher's pedagogical technique when teaching a new topic:

Extract 1

Teacher: What can you tell me about this, what's the first thing, the sort of obvious thing?

Participant 6: you got the same lines... (Puts hand up)

Teacher: Well, before that... what's the first thing you can tell me about this? If somebody new walked into the class, what would be the first thing you would tell them?

Participant 8: you'd say the name (Shouts out)

Teacher: yes the name, if you know the name that's the first thing you'd say about the shape. What else would you be able to tell me about the shape on your desk?

participant 11: it's got six... (Puts hand up)

Teacher: don't tell me the answer, just how many...how many....? How many faces it's got. (Participant 13) what do I mean by faces?

Participant 13: how many sides it's got (Picked out)

Teacher: do we say faces and sides? what's the face of something? (participant 2)? (Puts hand up)

Participant 2: square shaped bits all the way around

Teacher: that's the face of something (points to it on shape). So you could tell me how many faces your shape has got. What else could you tell me about this shape? Participant 9 (puts hand up)

Participant 9: How many sides it's got

Teacher: what do you mean by sides?

Participant 2: Edges (shouts out but ignored)

Participant 9: umm, how many corners it's got

Teacher: Ok, so could we call that a side?

All: yes.

Teacher: Now, you can give me the name of the shape, tell me how many faces... and we call that... what, who said it?

Participant 2: Edge

Teacher: yes, we call that an edge, we use the word 'edges' I want you to use the word edges and... anything else? (Participant 11)?

Participant 11: corners

Teacher: right, what's the proper name for that? we've got two lines that meet at a corner... they're vertices ok. It's got to be two lines that meet, that's what a verticy is. Now, there's something a little bit different about this... ummm would you say that's got vertices? It's got a... corner... a edge

Participant 11: no like lines go to it... (puts hand up)

Teacher: no, not two meet... so what do you call that then?

Participant 2: a pointy thing (shouts out but ignored)

Participant 5: an angle (hands up)

Teacher: nope, fine I'll tell you so you know – apex

Participant 2: like latex (shouts out but ignored)

Teacher: so as I say... you're not going to know the answer to everything, but I'm going to give you two minutes to tell me as much about your shape as you can. May I suggest you draw a little table with your group – you've got seven shapes all together.

The teacher taught the class about the properties of shapes by addressing the class with questions meant to make students draw from what they already know about shapes. With reference to my field notes, he begins by referring to the basic shapes that they had learnt previously (e.g. square, circle, rectangle), and relates it to what he is about to teach explaining the fact that they shall now be looking at the '3D versions of these shapes'. With reference to the above extract, he begins by providing a scenario by saying 'if somebody new walked into the class, what would be the first thing you'd tell

them' which creates a more realistic situation. He uses visual aids which allow the children to see the physical object and illustrates what he is saying by pointing to the shape i.e. the edges, or the faces. This type of communicative method confirms what the teacher said in the interview I conducted about the methods he adopts. The majority of questions were answered by the children raising their hands, though in this extract, it appears that some pupils are answering the questions more than others – participants 11 and 2. The extract seems to be largely teacher-directed, and he seems to adopt the communicative method of initiation – response – feedback as a vehicle for teaching. He also uses a lot of cued elicitation, a method of teaching outlined by Mercer (2001) to extract from the pupil the answer he is seeking:

Teacher: yes the name, if you know the name that's the first thing you'd say about the shape. What else would you be able to tell me about the shape on your desk?

participant 11: it's got six... (Puts hand up)

Teacher: don't tell me the answer, just how many...how many....? How many faces it's got. (Participant 13) what do I mean by faces?

Participant 13: how many sides it's got (Picked out)

I did feel the pace of the lesson was quite quick considering it was a new topic. He seemed to move the lesson on through the use of cued and direct elicitation which as stated previously restricted pupil contribution.

Next, I shall be discussing extract two. The teacher now makes use of the interactive whiteboard which involved a game of 'what shape am I?'. The teacher asked the children to refer to the notes they had made within their groups and identify the shape from the properties they were given, again I felt the pace to be rather quick. Participant 2 answers a question, but before he can finish giving the answer, the teacher interjects:

Extract 2

Participant 2: It's got one face, zero apexes, zero vertices...

Teacher: (cuts him off) Ok, right

Participant 2: (continues) it's got one curved face

Teacher: (cuts him off again) Ok, Ok. Did everyone get the properties of the sphere correct?

Another indication of the fact the teacher is trying to move the lesson on quite quickly is when he asks participant 4 a question, to which she doesn't answer, then moves on to participant 2 again who provides him with an answer. In addition to this observation, he gives participant 1 the answer directly after she does not provide him with an answer; an example of direct elicitation (Mercer, 2001).

In extract 3 the class and teacher are continuing the discussion on shapes and their properties. The teacher begins by introducing a hexagonal prism and asks why the shape would be called this. Participant 2 puts his hand up and provides an answer which does not seem to explicitly answer the question, the teacher makes no response to participant 2's answer and moves onto the next question. He is again using cued elicitation and the pace is still rather rapid. He directs a question at participant 1 who again does not provide him with an answer, in reply to this the teacher gives the answer directly.

Extract 3

Teacher: ok, can you tell me why it's a hexagonal prism?

Participant 2: Because it's a hexagon and it's got one on each side, and because it's shaped like a hexagon – it's basically a prism shaped like a hexagon...

Teacher: right now... so if we were to do a cross section (participant 11), what shape would we get all the way through? (picks out)

Participant 11: a he-, a hexagon

Teacher: yep that's right, a hexagon shape. What does the word 'hex' mean participant 1, hex?

Participant 1:...... (no answer, shrugs)

Teacher: it means six. So a hexagon is a six digit. Right, so a hexagonal prism, do you all know what a hexagonal prism is?

All: yeah

Teacher: does everyone get it?

All: yeah

He is still using the 3D shapes as a visual aid for his teaching. My observations have confirmed the teacher's communicative technique of making connections, and gradually building up the levels of difficulty, and also his use of visual aids. However, I felt the lessons to be rather fast paced. The use of cued and direct elicitation and moving on when the incorrect answer is given, or no answer is given at all contribute to the paced nature of the lesson, this contradicts the responses the teacher provided in the interview I conducted.

Participatory Processes

In response to my question relating to whether the teacher noticed that some individuals participated significantly more than others, he replied 'yes... well naturally'. His explanation of this was levels of confidence. He referred to participants 5, 7, 8 and 11 whom he said 'generally participated in all lessons'. He stated however, that some children do not participate in any class discussion regardless of the topic or stimulus. He

noted how some children find interacting with adults terribly difficult – to illustrate this, he referred to participant 3.

With reference to my observations, there did appear to be differential participation amongst the pupils in this classroom. Participatory scores ranged from 3 to 33 which is a substantial difference, this confirmed what the teacher said in the interview. I also observed that participants 5, 7, 8 and 11 did participate fairly consistently with participatory scores of 33, 29, 29 and 26 respectively. During the classroom discussions, they contributed time and time again, on a voluntary basis. During the interview, the teacher also referred to participant 3 whom he stated had difficulty interacting with adults; my observations also confirmed this notion. Participant 3 rarely contributed voluntarily, and over 50% of her participatory score was as a result of being prompted by the teacher to contribute. He believed lack of participation is detrimental to the learning process; the Pearson's correlation confirmed there to be a relationship between SAT scores and participation.

Methods Adopted to Address Unequal Participation

With reference to the question addressing unequal participation and the methods used to avoid this, the teacher stated how he attempts to 'steer the talk, presentation or situation to a related topic that they are interested in'. However, during my observations, I did not witness this occurring. There were some participants (3, 4, 9, and 13) who went through an entire lesson without contributing anything. However, with reference to the event sampling data, it was clear that the teacher 'picked out' those individuals who had particularly low participatory scores in order to encourage some participation. He also kept participants back over break time to address topics that they had not understood during the lesson, on a one-to-one basis, for instance participant 3 and 9 (see extract below). He went through the activity with them slowly and clearly allowing them to contribute. I believe the following extract between the teacher and participants 3 and 9 illustrates the teacher's techniques for developing understanding under these circumstances:

Teacher: Ok, lets go to number 12 then, ok (participant 9) number 12, it's at the top there, ok? Ok so this has got 1, 2, 3, 4 – so four faces, there at the top and another?

Participant 3: four

Teacher: four what?

Participant 3: faces

Teacher: so how many vertices? 1, 2, 3, 4, 5 ...

Participant 9: 6

Teacher: right, so what else have we got to find out? how many...? So we said face, vertices... so edges yeah? So we've got

Participant 3:   4 faces and 4 vertices

Teacher: no, no, no, we've said that so from the top we've got (teacher points to vertices of shape)

Participant 3: 1, 2, 3, 4, 5, 6

Teacher: so we've got 6 vertices, how many edges? So we know it's a square shape so we've got 1

Participant 3: 2, 3, 4

Teacher: so four there and you've got 5, 6, 7, 8 and then turn it over

Participant 3:   9, 10, 11, 12

Teacher: ok, right which number are you on participant 9?

It seems evident that the teacher uses a lot of cued elicitation during this extract, in order to draw out the correct piece of information from the learner. There also seems to be evidence of scaffolding; the teacher is acting as the expert in the situation, guiding and supporting the learner. Participant 3 begins with a misunderstanding of the number of 'vertices', but with the support and guidance from the teacher, and with the use of a visual aid, she is able to come to the correct answer through a collaborative effort.

Factors Influencing Participation

It has been suggested that children act on implicit rules with regards to classroom talk (Barnes, 1976). In response to the question relating to this, the teacher again emphasised the point that every child is different and responds differently to different teachers. He also refers again to issues of confidence in a given situation. He states how he sees little difference between the participation of males and females; the statistical analysis also found there to be an insignificant difference. He comments on how the topic can often favour either gender but even though the classroom is majority male 'the girls are far from being pushed aside!'. With reference to the influence of attainment on participation, the teacher supposed that low attainment does have an effect on the levels of participation; he referred to their SAT scores and implied there to be a connection with regards to their attainment level. My statistical analysis found there to be a highly significant relationship between these two factors.

3.4 Case Studies

With reference to table 1, it is evident that some children are participating in classroom talk significantly more than others; for instance, participant 5 has a participatory score of 33 whereas participant 4 only has a participatory score of 3. As a result of this finding, I decided to focus on eight individuals – four pupils who have high levels of participation and four who have significantly low scores in comparison, in order to investigate the possible causes. Group A consists of participants 2, 5, 6, and 7 and group B consists of participants 1, 3, 4, and 9 (see table 1). Each group includes two males and two

females. I observed their participation in whole-class discussions and during group-work tasks.

The following tables (tables 3 and 4) illustrate the number of productive interactions occurring during the group work task which involved designing a Tudor house. It is important to note that the tables do not show the groups the individuals were working in, they are demonstrative of the groups I have defined above.

Table 3
Group discussion (Group A)

	Productive Interaction	Non-Productive Interaction
Participant 2	2	4
Participant 5	4	1
Participant 6	5	0
Participant 7	2	1

Table 4
Group Discussion (Group B)

	Productive Interaction	Non-Productive Interaction
Participant 1	2	1
Participant 3	0	1
Participant 4	0	0
Participant 9	1	0

Group A

Group A consists of the two males and two females with the highest participatory scores in the class (M=29.3, SD=4.5). Each individual has achieved SAT scores that are generally above the class average (M=28, SD=3.5). When participant 5, 6 and 7 raised their hand to answer a question they were generally asked 2/3s of the time. Participant 5 and 7 are sat at the 'high ability table', participant 6 is sat at the 'average ability' table, whereas participant 2 is sat at the 'low ability' table. None the individuals are in receipt of free school meals, and only participant 2 is on the special educational needs register. Their participatory scores were mainly based on their initiation (i.e. putting their hand up to answer) and they were generally not picked out to answer a question, apart from participant 6 who was picked out four times, although she had the lowest participatory

score in this group which may explain this. During group discussions it is evident that individuals in this group had more productive interactions than those in group B and exploratory talk was evident. With reference to their school reports, participant 5, 6 and 7 were described as 'conscientious', 'confident' and 'above average reader' and participant 5 and 7 were referred to in the teacher's interview as 'high achievers' and 'eager'. When I was listening to them read I felt these individuals were very able, and appeared to be above the average reading ability of the class. Participant 5 and 7 were in the top spelling group (group A) and participant 2 and 6 were in the middle spelling group (group B). However, I feel it is important to discuss participant 2 whom to some extent, appears to be the anomaly in this group.

Participant 2 is a male pupil with a participatory score of 32. His SAT score in English and Science is above the class average, and his Maths SAT score is at the average level. However, even though he has relatively high attainment, he is sat on the 'low ability' table. With reference to the event sampling it is clear he participates in all areas. He has the highest pupil-initiation score (6) which is above the class average (M=1, SD=2). When he raised his hand to answer a question he was only picked out half of the time, whereas, within the class as a whole, individuals were generally asked to answer 2/3s of the time. During my observations, he was never 'picked out'. Participant 2 is statemented, and sees an educational psychologist annually and constantly has a carer with him. He is reported to have social problems, and difficulty controlling his emotions. When I observed him working in a group situation, it became clear that he adopted the role of team leader though paid little attention to other children's input. With reference to participant 2's report the teacher stated how he is 'very able to convey his opinions clearly and confidently' although he has 'limited self discipline and often interrupts'. My observations confirm the issues which arose from this report.

Group B

Group B consists of the two males and two females with the lowest participatory scores in the class (M=7, SD=2.8) and their SAT scores are below the class average (M=14.5, SD=3.4). Their participatory scores mainly consist of the teacher 'picking out' the child to answer. Participant 4's participatory score of 3 was only based on the teacher picking him out and over 50% of participant 1, 3 and 9's score was similarly due to the teacher's initiation. There was no event score in the category of 'student initiation' for any of the individuals in this group. Participants 3, 4 and 9 were in the lowest spelling group and participant 1 was in the middle group. With regards to their school reports, it was generally stated how they 'have difficulty communicating in classroom discussions', 'a lack of confidence', 'loss of concentration' and 'limited vocabulary'. My observations reflected these reports and when I was listening to them read, it seemed they did have some difficulty and were reliant on my help. They also spoke very quietly and sometimes covered their faces. Three of the four individuals in this group were on the special educational needs register and three out of four of the individuals were in receipt of free school meals. The special educational needs teacher, referred to the social backgrounds of participants 3 and 4, and believed this may contribute to their difficulties with literacy and numeracy. However, it is beyond the scope of this study to investigate these speculations.

4. Discussion

4.1 Introduction

In this section I intend to discuss the findings I have obtained with reference to the theoretical frameworks and the findings of previous investigations presented in my introduction and explore the implications and limitations of the study. In addition, I shall provide recommendations for future research.

4.2 Current and Previous Findings

In this study, I attempted to explore the participatory processes occurring within the classroom microclimate and the potential factors that influence these processes. Participation is believed to stimulate the learning experience (Turner and Patrick, 2004) and is a necessary component required to analyse and explore the above three factors. With reference to the investigative questions I highlighted in the primary stages of my research, some conclusions can be drawn from the findings which I now intend to discuss. The event sampling method allowed me to analyse the participatory processes occurring within the classroom and then distinguish some further possible contributory factors. The observations provided an insight into the microclimate, including the classroom processes and policies, the pedagogical techniques adopted by the teacher, and particular pupil's participatory behaviours allowing for a more in-depth exploration. In addition, the interview with the class teacher provided me with the teacher's views of his pedagogy and the participatory processes within his classroom. Similarly, the interview with the SEN teacher provided me with descriptions of particular pupils, including why they were registered with her and some interpretive descriptions of their social backgrounds.

The quantitative analysis initially illustrated how there was differential participation in classroom talk amongst the year six pupils I was observing. Some individuals were participating consistently (group A) whereas others, not at all (group B). This answers the first of my investigative questions identified in the introduction. This finding was also indicated in other prominent research that I previously referred to in the literature review (Black, 2004, 2002; Myhill, 2002; Cosca and Jackson, 1974). The participatory scores were significantly related to SAT scores. In addition, those who were given an overall positive school report were largely the individuals with high SAT scores and high participatory scores (participant 5 and 7) and had also been mentioned in the interview with the class teacher. However, the statistical analysis adopted (Pearson's correlation) did not allow for an indication of the direction of the relationship, i.e. whether high participation caused high SAT scores or vice versa. In addition, an individual's seating position within the classroom had a significant main effect on both SAT scores and participatory scores. However, in contrast to other findings, the t-test did not show any difference between the participatory scores of males and females. Howe (1997) however, found that males contributed more than females during classroom discussions.

With reference to table 1, it seems evident that the children were seated according to their SAT scores; however, participants 2, 10 and 18 could be considered anomalies as

their seating position does not reflect their SAT scores. This may suggest the teacher holds expectations of these pupils regardless of their SAT scores. Cooper (1979) and Brophy (1983) found that teachers use different methods of pedagogy towards high expectation pupils and low expectation pupils. With reference to my findings, it seemed individuals who had higher SAT scores did participate more in classroom talk but there did not seem to be differential pedagogical techniques adopted by the teacher during whole-class discussions. He attempted to encourage individuals with low participatory scores to participate by 'picking them out'. However, it should be noted that the teacher's general pedagogical technique during classroom discussions seemed to leave little room for pupil contribution due to the fast paced nature of the lesson, the use of cued and direct elicitation, the use of closed questions and the heavily relied upon IRF sequences (Sinclair and Coulthard, 1975; Mercer, 2001). This observation was supported by Flanders (1970) who stated that teachers dominated classroom talk (Flanders, 1970 cited in Stubbs, 1983). This nature of closed questions was also observed by Barnes (1976) and the use of cued and direct elicitation was a pedagogical technique highlighted by Mercer (2001). There remained great discrepancy between participatory scores. As a result of this, the individuals with low scores may infer that the teacher is too busy to pay attention to them consequently leading to a further lack of participation. She (2000) held similar views. In contrast, during the one-to-one discussions between the class teacher and participants 3 and 9, there was evidence of productive interactions (Edwards and Mercer, 1987), scaffolding (Wood, Bruner and Ross, 1976) and guided participation (Rogoff, 1990). Similarly, during the group work tasks there seemed to be more evidence of, productive interactions, collaborative work, and exploratory talk. However, this was mainly evident with the group A pupils.

A further indication of the teacher's expectations was evident by various classroom strategies he adopted including 'spelling groups', and, as mentioned previously, the classroom seating arrangements. The groups were listed on the wall of the classroom, and it seemed clear to myself and the pupils, that it was based on ability level (for instance, the spelling groups were named A, B and C). It could be speculated that this would have an effect on the individual's participation and potentially their levels of attainment due to the 'self-fulfilling prophecy' (Brophy, 1983). The Pygmalion in the Classroom (Rosenthal and Jacobsen1968) study indicated that teacher's positive expectations had a positive effect on children's IQ scores.

The Social and Cultural Reproduction theory (Bourdieu, 1973) indicates that some children are at a disadvantage within the educational system due to their cultural habitus. This theory has also been articulated and re-addressed by Bernstein (1973) and Black (2004). As an indication of socioeconomic status, I had access to those pupils who were in receipt of free school meals (FSM). It should be noted that the number of recipients was too small however, to carry out any statistical procedures. Two out of the three individuals who were on the FSM register had low participatory scores (group B). The third pupil was participant 10 who was previously identified as an anomaly with relation to the seating position and SAT score. In addition, the interview with the SEN teacher provided me with further insight into the social background of participants 3, 4, 9 and 10. It was implied that participant 3 and 4 were from disadvantaged social backgrounds. This may provide a further reason as to why these

participants have such low participatory scores, however, this requires further exploration.

4.3 Implications

Based on the data collected and with reference to my initial investigative questions, the following conclusions can be drawn. It seems evident that there is not one single cause affecting the participatory processes. In fact, there appears to be four main factors which react to and influence one another – attainment, teacher expectations, pedagogical technique and participation. The following figure illustrates the influential and continuous relationship between these factors, I have called it the 'vicious/virtuous circle':

Figure 2: Vicious/ Virtuous Circle
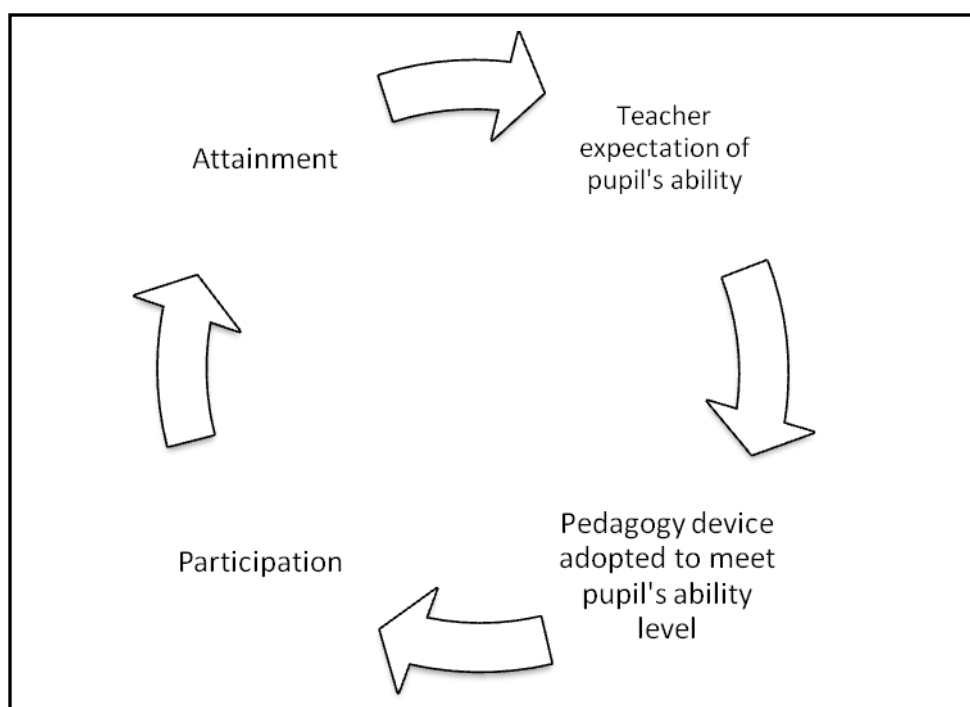
I believe this diagram illustrates the multiple opportunities for intervention. Potentially, involvement at any point would have positive implications on all the other aspects of the diagram. For instance, if a teacher adopts the appropriate pedagogical technique for each child in the classroom, providing encouragement, support and room for contribution, the child would participate more in classroom talk, which could potentially improve attainment levels (though as stated above, the 'cause and effect' needs to be explored further), consequently increasing the teacher's expectations of the child, which would then have an effect on their pedagogical technique, and so on. This I believe is promising for educationalists as it shows how we can tackle factors that influence learning and attainment, which is an issue of great concern in today's society. It also illustrates the importance of appropriate pedagogy and the influential nature of teacher expectations. Therefore, this would suggest that it has implications for teacher training,

which must include pedagogical methods for ensuring equal participation. However, there are some aspects which require further investigation which could potentially support and improve the validity of the 'vicious/virtuous circle' including the 'links' between these factors. Unfortunately, this was beyond the scope of the current study.

A further interesting conclusion was the finding that there was no difference between the participation of children who were on the special educational needs register and children who were not. This suggests that the children with special educational needs children were not at a disadvantage with regards to participation in classroom talk within this mainstream school. A larger sample size however, may have confirmed or rejected this finding.

4.4 Limitations and Recommendations

There are various limitations to my study and areas requiring further research and exploration. First and foremost, the sample size was fairly small and the duration spent within the setting was relatively short. It would be beneficial to spend longer in the setting and use a larger sample size including observations and research involving other schools. It would be difficult to generalise my findings due to this limitation and consequently it lacks in external validity. However, it is arguable that strategies and pedagogical techniques would vary from school to school and in extension, country to country, therefore generalisation would nevertheless be problematic. It would, however, strengthen my results relating to special educational needs children, the impact of socioeconomic background, and the influence of ethnicity and gender. It may also uncover further contributory factors influencing participatory processes including motivational factors (Turner and Patrick, 2004). I do however feel that my data collection techniques measured what I intended to measure making the research internally valid. It may have been helpful to video record the lessons so as to have the data to refer back to. However, I feel it is important to note that the information I obtained from the interview with the SEN teacher regarding certain individual's social background is only her interpretation which could be argued as fairly unreliable.

I feel my data collection allowed for exploration of external factors influencing participation including the teaching strategies, classroom structure and policies, and performance levels. However, to gain further understanding it would have been interesting to obtain the internal factors influencing participation including motivational factors and issues surrounding self-esteem and self-confidence. Interviews and/or questionnaires with the pupils therefore, would be a useful 'next step' for this research as it was beyond the scope of this study. Interviews and questionnaires with the children may provide an insight as to why they participate or do not participate. It may also provide enlightenment as to whether they have 'hidden agendas' or 'implicit rules' which they react to as was suggested by The Bullock Report (1975). I also suggest that it would be valuable to conduct further research concerning the effects of teacher expectations as I feel they may have significant implications on various factors, including participatory scores and attainment. Nevertheless, as illustrated above (diagram 1), it seems that the participatory process is a multi-faceted notion influenced by, and influencing, other factors.

4.5 Conclusion

In conclusion, I feel the method I adopted to address the research question of 'Year 6 pupils' access to classroom talk and the contributory factors which influence their participation' is sufficiently answered and discussed in virtue of the data I had gathered. This is illustrated by the qualitative and quantitative analyses I adopted which are presented in my findings. It is clear however, that further research into this area would be a valuable endeavour for educationalists and professionals alike.

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