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**Pupil-Pupil Talk: Does the Thinking Together
Programme enhance pupil-pupil talk within
the classroom?**

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Abstract

Talk in the classroom has been one of the most talked about topics in the classroom over recent years. For years, many have felt excessive teacher-pupil talk has been the best source to pupil progress however many are starting to feel pupil-pupil talk has greater benefits to progress. This investigation looked at the effect of pupil-pupil talk and whether a Thinking Together Programme was more or less effective than excessive teacher-pupil talk on pupil progress in five GCSE PE theory lessons.

Analysis found that when pupil-pupil talk increased and teacher-pupil talk decreased, engagement, behaviour and decision-making enhanced. However, of work that is of greater difficulty, it was alternatively found that excessive teacher-pupil talk was necessary because teachers could support and guide pupils in the correct direction.

Introduction

As education has now become the engine to success (Scott *et al*, 2006) the role and importance of the teacher to aid progress is at an all-time high (Smith *et al*, 2004). It is evident that teachers can influence their pupils, both positively and negatively and this is fuelled by their ability and willingness to facilitate independence, responsibility, creativity, cognition and dialogue (De la Luz & Pulido; 2014); however the debate behind the type of classroom talk which best aids pupil progress is of question.

Following the current consensus behind talk in the classroom, the potential power of pupil-pupil talk and my schools drive to develop pupils' oracy skills, it was crucial to see if enhanced progress can be developed from a pupil-centred approach. This deviates away from the traditional teaching style witnessed among many teachers within the school. I wanted to see if a dialogic based approach, through the use of the Thinking Together programme (Mercer, 2004), which encourages explorative talk between pupils and the teacher merely acting as the facilitator, would promote greater progress within group based work; deviating away from the traditional teacher-led approach.

To support the implementation of this study into my teaching practice, eighteen male pupils from a year nine GCSE theory PE class in a mixed gender, oversubscribed, non-selective school based within a selective area of the south of England engaged in a five lesson Thinking Together Programme as part of their theory based lessons in their weekly timetable. Using school data and previous formative assessment, these pupils were among the best achievers for this year group among this GCSE course (AQA GCSE PE), although many demonstrate poor social skills, lacking particularly in oracy skills. Pupils in this study engaged in theory lessons for fifty minutes and their use of explorative talk, pupil-pupil talk and teacher-pupil talk was monitored throughout.

Literature Review

Using the views of Vygotsky (1978), Bruner (1996) and Gove (2012) as a foundation of research, this literature review will look to overview the history of talk within the classroom, how the use of talk has varied over past and present, current and past views of talk across a range of subjects, including

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physical education (PE) from primary and secondary school teaching, the impact of teacher-pupil talk and pupil-pupil talk on learning and how current teaching initiatives, such as the Thinking Together Programme (Mercer, 2004) can affect talk within the classroom.

Vygotsky (1978) once argued language in the learning process is a key psychological and cultural tool and social involvement through group problem-solving is a crucial factor for individual development. Similarly, Bruner (1996) adds learning has too frequently been solo, unscaffolded and unsupportive although the give and take nature of talk makes the means for collaboratively learning the most realistic route to enormous educational progress. However, Gove (2012) argues there is an over-emphasis on pupils' group work, children talking to each other and that the most productive route to learning is to not avoid the expert, the teacher. Despite this, the use of talk is necessarily academic and serves a range of cognitive functions to help students think and learn from their surroundings and others. For instance, talk is used to encourage pupils to contrast and compare ideas, ask and answer questions, to describe, to understand tasks and concepts (Fisher *et al*, 2008, B; Lefstein & Snell, 2011). Intuitively, how pupils and teachers communicate is important: talk is located centrally to most classroom activity and despite a host of recent negativity behind the amount of time teachers have spent talking in front of the classroom (Nunan & Bailey, 2009; Farahian & Rezaee, 2012; Zare-Behtashe & Azarnia, 2015), the nature of classroom talk has undergone very little change until recently (Alexander, 2005) and this is because teachers like this approach.

The history of talk in the classroom shows high teacher talk (teacher-pupil talk) was the most favourable approach to teaching (Flanders, 1970), from both the primary (Mercer, 1995) and secondary phase (Tobin and Gallagher 1987; van den Akker 1998). Nearly three decades of research into English education have found trends of whole class listening and teacher domination (Sinclair & Couthard, 1975; Mehan, 1979; Edwards & Westgate, 1994; Galton, *et al*, 1999 & Cazden, 2001) and findings show teachers would talk for most of the lesson, whilst remaining in control of topics, behaviour and pupil learning. Similarly pupils talked far less than teachers, speaking for shorter periods and were mostly responsive to teacher prompts (Lefstein and Snell, 2011); whilst on many occasions teachers would prompt a pupil's response immediately to encourage a return back to teacher talk (Edwards & Mercer, 1987). Similarly, Alexander (2008) found typical English classrooms were shy on pupil-led discussions and had a tendency to minimise pupil participation at the expense of greater teacher talk.

However, current thinking heavily criticises excessive teacher talk. On analysis of Ofsted's (2014) report on the quality of teaching, Paton (2014) reported a number of schools have been criticised for excessive 'chalk and talk' teaching, as it reduces pupils' opportunities to discover their own learning, hindering their autonomy. Both teachers and pupils, as reported in the Times Educational Supplement (TES), are becoming alienated and bored of traditional teaching styles, such as 'chalk and talk teaching' (Stewart, 2014). The Department for Education's (2012) Outstanding Physical Education (PE) for All report suggests PE teachers talk too long and pupils are not provided with enough activity time. Although, despite the Outstanding PE for All report remaining out of context from a classroom environment, wider implications, such as the impacts on pupil practice time and pupil to pupil interactions suggest excessive teacher talk inhibits opportunities for practice and interactive learning. This therefore contrasts against Vygotsky's (1978) point, but strengthens the case that language and peer work to problem-solve and critically think has a place in education. Mercer and Wegerif's (1999) work can be seen as a further development of Vygotsky (1978). They add it is widely accepted that one of the key aims of education is the use of language but pupil progress is greater when the use of language and problem solving amongst pupils is used (Alexander, 2008).

Although, wider evidence suggests teachers are unfocused and confused on their use of language in the learning process (Walsh, 2002) and this is supported by the Department for Education's (2011: A) report on the National Curriculum, who found 41% of respondents state speaking and listening is a central element to learning. This suggests many teachers, as generalised by the results do not consider speaking and listening a critical component to the learning process in the classroom. Alternatively, contrasting evidence suggests teachers of past and present may still be in favour of the 'chalk and talk' style (high teacher-pupil talk). Despite observing chemistry teachers in Australia, Wilson (1999) found teacher led dialogues were the most frequent approach to teaching and this encouraged the offload of high volumes of curriculum content. Similarly, Scott (1998) and Nunan and Bailey (2009), found delivering masses of information, which may have a high delivery of difficulty, is best delivered in long periods of high teacher talk because this approach best aids curriculum progress and achievement. Research from a languages perspective showed high teacher talk is more important when teaching languages because the teacher is the main means of acquiring information and feedback is sourced instantaneously if the teacher remains in control of the talk (Walsh, 2011). On analysis of talk in the classroom and its effect in discussions, both Mercer (1995) and Hogan *et al* (2000) found when discussions were teacher led the quality of discussions were not as good in comparison to when pupils were left to discuss independently and this subsequently affected progress.

A noticeable strength behind the research used to support the positive use of high teacher talk (teacher-pupil talk) is its spread of sample. Despite using small to medium sample sizes, most findings are based upon secondary classrooms across varying subjects. This therefore enhances the strength and generalisability of the findings; however the research may be biased because high teacher talk was the favoured approach of much research before the change in views on talk in the classroom. One key reason was that pupils were actually previously punished for talking in class (Fisher *et al*, 2008:A) and a lot of the research remained firm on its inconsideration in its openness to compare and contrast high teacher talk (teacher-pupil talk) to pupil-pupil talk.

Contrastingly, throughout the curriculum, there is a need to allow pupils to develop language, to work with other pupils effectively (Dawes, 2015); similarly, other researchers recognise that oracy has strong potential to offer means of accessible learning (Alexander, 2009; Freen, 2009; Gall, 2009). A reason for the development of language/oracy is that research demonstrates the importance of language, cognitive development and learning (Mercer *et al*, 1999; Mercer *et al*, 2004). However, as social learning theory suggests (Bandura, 1977) the reproduction of specific behaviours, attitudes and reactions must be modelled by a role model. From an education perspective, this would be the teacher.

Despite most of the research on young children in education deviating away from pupil-pupil talk (Mercer *et al*, 2004) a positive spread of research on varying subjects within a primary and secondary phase suggests the implementation of oracy between pupils within learning tasks is a success to pupil progress. Results show pupil-pupil talk enhances understanding and achievement of primary school maths (Nelson, 2009), in secondary science through the use of pupils collaborating ideas (Mercer *et al*, 2004) and in a range of departments in a city secondary school (Flitton and Warwick, 2012). However, Myhill *et al* (2006) and Conteh *et al* (2008) both found the use of pupil-pupil talk is arguably the most powerful talk available in the classroom although it is the most under-used approach because current teachers have developed as practitioners with an image of the teacher directing at the front.

A criticism behind the above research is that their findings can prove to be narrow- minded. Despite proof that pupil-pupil does enhance achievement and subsequently progress Mercer (2015) states there are wider benefits to pupil-pupil talk than just achievement and progress. Specific benefits, like

higher-order thinking, assessment for learning, the development of the whole child and the wider use of the subject can be witnessed from appropriate pupil-pupil learning tasks within the classroom. However, Mercer (2015) provides no alternative route of assessing these benefits. Additionally, Van Lier (2001) and Mercer (2015) both question whether teachers should provide a learning environment where students can contribute to learning activities and maximise their use of the language, as the teacher may feel uncomfortable with the level of freedom pupils get, the risk of behaviour, the jeopardising of previously successful seating plans and the lack of proof of work, with particular concern regarding Ofsted.

In review, Vygotsky (1978) once argued language in the learning process is a key psychological and cultural tool and social involvement through group problem-solving is a crucial factor for individual development, however the history of talk in the classroom suggests Vygotsky's (1978) view has been overlooked somewhat, with the dominance of excessive teacher-pupil talk perspective shining through classroom practice over the past thirty years. Recent research and services within education suggest this approach has damaging effects to pupils' education, with alternatives demonstrating the effectiveness of pupil-pupil talk in education, despite its lack of research focus.

Implications to teaching may suggest the Thinking Together Programme (Mercer, 2004), which is a dialogue-based approach to learning, which looks to combine explorative talk – a way of exploring reasoning, the sharing of knowledge and a commitment to collaborate, may be an effective route to accelerate pupil learning and progress. Research reviewing approximately seven hundred pupils from key stage one to three in England during Maths, English, Science and ICT lessons, found the initiative helped pupils communicate more effectively, helped heighten reasoning and problem solving pupils, individual scores on the research tests improved, pupils progressed significantly in their focus subjects within the study and the level of intellectual conversation increased (Mercer *et al*, 2004; Littleton *et al*, 2005; Kershner *et al*, 2012). Furthermore, support from several evaluation studies in the UK and Mexico (Mercer, Wegerif and Dawes, 1999; Rojas-Drummond *et al*, 2001; Littleton *et al*, 2005) found pupils bought into the concept of 'talk' within learning activities, using words like 'why', 'because' and 'I think' more so in their conversations. A reason behind the success of reasoning behind pupils' explorative talk was due to the successful modelling of desired behaviours. The Thinking Together (Mercer, 2004) is broken up into 12 lessons, whereby the first five lessons are high on teacher-pupil talk; this gives teachers opportunities to model desirable characteristics. From a social learning theory perspective, Bandura (1977) emphasizes the important for individuals to model the attitudes, emotional reactions and behaviours of others to bring about a reproduction of that trait.

However, the risk of the implementation of the Thinking Together Programme in a PE theory context is that there has been no research of this programme from this subject. This consequently demonstrates a significant weakness of the Thinking Together Programme due to its lack of generalizability to the range of subjects found within the national curriculum.

Analysis of Teaching

A typical Thinking Together programme lasts approximately twelve lessons, which is split into two. The role of the teacher in the first part is to engage in a greater amount of teacher-pupil talk, whereas the teacher in the second part will act as a facilitator, encouraging greater pupil-pupil explorative talk (Mercer, 2004). Due to restricted time, my teaching practice, using the Thinking Together programme lasted five lessons. Additionally, due to the schools current drive in increasing pupils' oracy skills, I reduced the amount of teacher-pupil talk seen at the start of the programme in sacrifice for greater pupil-pupil talk. However, the volume of teacher-pupil talk had both positive and negative impacts upon pupil progress.

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Both Edward and Westgate (1994) and Galton *et al* (1999) suggest excessive teacher talk boasts the best approach to maintaining behaviour, despite their research findings proving unrealistic during the time of their research. This is because pupils would be punished for talking in class (Fisher *et al*, 2008:A). However, based upon my evaluations, I found that allowing pupils to have the freedom to discuss without the presence of a teacher's control, but still complying with ground rules, pupils developed some outstanding work and progress within the learning topic. This was because pupils were uninterrupted in their discussions and independent research and were provided with little assistance from the teacher in moulding their answer collectively. In support, a pupil also demonstrated the impact of excessive teacher-pupil talk and how this can hinder progress within a learning topic. When questioned on their knowledge of weight training, the following conversation was produced with pupil A:

Teacher: "Pupil A, what is weight training?"

Pupil A: "Either free-weights or machines found in gyms which help build up different parts of fitness."

Teacher: "To support that statement, what exercises did you chose for your athlete?"

Pupil A: "To help our athlete, who is Mo Farah, we chose dumbbell curls for our biceps, tricep lifts, barbell presses, leg raises and squats."

Teacher: "So why did you choose these activities?"

Pupil A: "Half of these activities we found online, the other half you suggested to us."

Thinking Together lesson two had 53% of pupil-pupil teacher talk and 30.4% teacher-pupil talk whereas Thinking Together lesson three had 44% pupil-pupil talk and 39% teacher-pupil talk. Feedback from pupils and my assessment for learning found decreased teacher-pupil talk increased engagement, thought, behaviour and problem solving within the learning task. These findings provide support for a range of research surrounding this topic (Rojas-Drummond, 2001; Mercer *et al*, 2004; Littleton *et al*, 2005; Kershner *et al*, 2012). Furthermore, I found increased teacher-pupil talk, as witnessed by pupil A and myself, decreases pupils' opportunities to develop language, which is a critical component of the curriculum in the views of Dawes (2015). This also decreased opportunities to collaborate (Mercer *et al*, 2004) and problem solve. These findings oppose Vygotsky's (1978)'s and Bruner's (1996) views on learning because both feel learning should be collaborative. Implications to pupil progress suggests decreasing teacher-pupil talk increases pupils chances to become collective learners throughout and decreases their chances to become problem-solvers. Wider implications suggest also that increasing pupil-pupil talk opportunities enables pupils to progress in skills required outside of the learning environment. As suggested by Aldous Huxley (1958), "Language has made possible man's progress from animality to civilization;" by encouraging greater pupil-pupil talk, pupils are able to progress in skills such as delegation, oracy, reasoning, questioning, listening and agreement, which are all skills necessary outside of school.

However, I disagree partially that teachers should completely disregard negative views that excessive 'chalk and talk' teaching is harmful in the learning process. In support of Scott (1998) plus Nunan and Bailey (2009), I found increased teacher-pupil talk, such as the statistics of teacher-pupil talk, provides greater support to pupils when delivering information that is of greater difficulty. My argument is if I had left pupils in this task to be independent, very little work would have been completed, or work would be incorrect. A learning example to support this demonstrated a danger of the teacher acting as a facilitator and allowing pupils to become independent in their research is

that pupils may have developed an answer they feel is correct for a question based upon their research, and websites may be correct in what they have written, however this answer may not be necessarily correct when compared to the specification for the course. Failure to detect this early on in the lesson may mean progress could be hindered because their collaborative research may be uncorrelated to the needs of the course. By increasing teacher-pupil talk, pupils in difficult topics, they would receive greater support/scaffolds to become successful learners throughout the topic. This therefore provides some support for Gove (2012); there should be occasions in learning where pupils are led by the expert, the teacher.

On analysis, there are specific components of the Thinking Together programme pupils struggled to progress within, for example asking good questions, criticising and challenging thoughts plus changing their mind. Traditional Thinking Together programmes, as discussed by Mercer (2004), start with 4/5 lessons of high teacher-pupil talk, following a 'chalk and talk' principle and finish with 6/7 lessons of high pupil-pupil talk, with teacher-pupil talk minimised. Mercer (2004) states the purpose of this format is for pupils to observe modelled behaviours from the teacher at the start of the programme, however, the schools drive to develop pupils oracy skills encouraged the reduction in teacher-pupil talk and an increase in pupil-pupil talk. Despite minimal research demonstrating the effects of modelled behaviour on explorative talk in the classroom, a reduction in teacher-pupil talk and lessons available affected pupil's progress behind specific aspects of Thinking Together. A factor behind why pupils struggled to ask good questions, criticise, challenge thoughts plus changing minds is because there was a lack of modelled behaviour from the teacher that pupils could learn from. As previously discussed by Bandura (1977), desirable attitudes, behaviours and emotional attitudes must be demonstrated by role models for these traits to be reproduced. Because a lack of time was dedicated behind the modelling of specific behaviours, pupils were unable to recognise or reproduce these behaviours. However, when given the opportunity to practise, pupils can progress. For example, learning tasks expected pupils where necessary to justify their choice of selected information, which is encouraging reasoning. Pupils towards the end were seen to use 'I think' and 'because' more frequently in their conversations. The following conversation provides support:

Teacher: "Group 1, how many sets and reps are required to develop muscular endurance?"

Pupil B from group 1: "A higher amount of reps is needed but the amount of sets we complete is the same or similar. We need more reps because this would copy the things, like a marathon runner would do over and over again plus we do not want the athlete to get tired, so the amount of reps they do would be similar to their activity. I think this reduces their chances of being tired."

This conversation therefore shows a higher level of reasoning, thought, research and the use of collaborative thoughts to provide an outstanding answer. Additionally, this conversation also provides support for numerous Thinking Together studies, such as Mercer, Wegerif and Dawes, (1999); Rojas-Drummond *et al*, (2001) and Littleton *et al* (2005), who found pupils started using words like 'why', 'because' and 'I think' more so in their conversations. This conversation additionally supports The Department for Education's (2012) Outstanding Physical Education (PE) for All report, which states PE teachers talk too long and pupils are not provided with enough activity time. Through learning objectives like "to practice the ground rules for talk", pupils were encouraged to practice their use of reasoning and sharing information to generate the formulation of information.

An additional factor behind the unsuccessful progression of specific traits seen within the Thinking Together tally, developed by Mercer (2004) was potentially down to the ground rules set. Pupils agreed on a set of ground rules at the start of the programme, however none of these ground rules

provided any consideration to the assessment of explorative talk set by Mercer's (2004) checklist. For example, no rule set considered pupils asking good questions, whereas the assessment tool assessed whether pupils asked good questions. Alternatively, learning tasks and one of the rules set suggested pupils must contribute to the group with information before a collective answer is written. When given opportunities to practice, pupils can progress within specific traits of the Thinking Together programme. On reflection, if I was to teach this programme again, I would consider using a set of buzz words that follows the any key words from any assessment tool, to provide some continuity.

Conclusion

As Vygotsky (1978) and Bruner (1996) both support the case for collective, problem based learning and the need to dismiss 'chalk and talk' teaching in education, Gove's (2012) views contrast against current thinking and claims there is still a need for 'chalk and talk' teaching because pupils must learn from the expert. Based upon my implementation of the Thinking Together programme (Mercer, 2004) in five GCSE PE theory lessons, I can conclude that there is a need for a reduction in the amount of teacher-pupil talk in the classroom and pupils completely support this. Pupils feel that teachers interfering in their learning affects their progress within the subject, and evidence supports this. I am fully supportive of the range of research that argues 'chalk and talk' teaching must be removed from the learning environment because this increases pupils' opportunities to progress within the curriculum content and skills witnessed outside of the learning environment, such as delegation, negotiation, reasoning and information sharing.

However, there are situations in learning where this approach is not supportive of progress, for example when desired behaviours have not been modelled by teachers or when curriculum content is of greater difficulty. I found that in these situations, higher teacher-pupil talk and lower pupil-pupil talk is critical because when pupils are left to work independently in work that is of greater difficulty, no progress is made at all. Therefore I feel that there is a need to support Vygotsky (1978), Bruner (1996) and Gove (2012), although there is a case with each of their theories that I disagree with, and that teaching and learning should be open to constant adjustment to suit the needs of all pupils, as expected in standard five of the Department for Educations (2011: B) Teaching Standards.

Mercer's (2004) Thinking Together programme has provided a fantastic basis to help improve the progress of pupils within the curriculum for GCSE PE plus develop life skills pupils need outside of the learning environment. Despite this project lasting 50% shorter than the traditional Thinking Together programme it is great to witness some progress by pupils. An issue with the Thinking Together programme is that there is a lack of support for new teachers looking to implement Thinking Together for the first time in their lessons. No support is provided in attempting to support teachers in implementing the use of pupils asking good questions within a group task environment. What could enhance the use of this programme is if I completed the full twelve lessons, to see if my findings would correlate to the findings of other research after the same period of time and if I compared my experiment group to a control group.

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