Student Conceptions of Effective Classroom Discourse

Sophie Murphy

“Submitted in Partial Fulfillment of the Requirements of the Degree of

Master of Education (with coursework component)”

February 2015

The Melbourne Graduate School of Education

The University of Melbourne
This thesis investigates students’ conceptions of effective discourse within the classroom. It establishes an alternative possibility to a classroom dominated by teacher monologue, and investigates the implications of student learning relating to the types of communication and interaction within the classroom from the perspective of the student. It seeks to find the most effective type of classroom discourse that has significant impact on student learning, examines the conceptions of the surface and deeper levels of dialogue, the power of teacher talk shaping student’s thinking to secure their engagement, and informs students’ expectations and levels of understanding within the classroom. The study explores the limitations of classroom monologue, particularly monologue that is primarily surface level, and the development of effective dialogue that aims to develop deeper thinking and maximise learning outcomes.
DECLARATION

This is to certify that:

(i) The Thesis comprises only my original work towards the Masters except where indicated,

(ii) Due acknowledgement has been made in the text to all other material used,

(iii) The Thesis is 22,065 words in length, inclusive of the Bibliography and appendices as approved by the Graduate School, Faculty or RHD Committee.

Signed:

Sophie Kim Murphy
ACKNOWLEDGEMENTS

I am eternally grateful for my teaching and learning journey with Professor John Hattie as my supervisor. I would like to thank John for his support, encouragement and dedication to his role as my supervisor and mentor at the University of Melbourne. I have learnt so much through his extensive knowledge in education and have loved the whole journey, the success and failures of learning to move from an entire lifetime within a school setting, to that of learning to become an academic researcher. I have loved the many conversations and discussions about the continual search for what works best in the classroom and beyond to maximise learning outcomes for all students. John’s passion, impact and commitment to this field have provided me (and continue to do so) with the motivation and curiosity to search for answers, ask more questions and enjoy the journey.

I recall after our first meeting, the pure excitement and overwhelming urge to research every facet within the educational context that he had written about in Visible Learning and not knowing where to start. The more I research I read, the more conversations I had, the more excited and energized I was. This was the beginning of my journey and I still feel exactly the same now! I have immensely enjoyed exploring what effective classroom discourse looks like and the questions that have developed along the way. I look forward to continuing this exciting journey as a researcher with a PhD, developing this topic further on completion of my Masters with John, I can’t stop now, there is so much more of the ‘narrative’ to discover and explore. Thank you again, I am truly grateful.

Thank you so very much to my family. My beautiful children, Poppy (10) and Charlie (7) who bring inspiration, creativity, laughter, happiness and joy to our home every day, I love you both more than words. A very special thanks to my husband Darren and Gigi, Papa, Nana, Nat, Jess and most precious and beautiful friend, Ange, I could not have done this without their support and love. They have all encouraged me and supported me to take the time to write, think and teach (and continue to do so).
Thank you to Kerry, my fellow educator, writing buddy and friend who shares the passion an enthusiasm for teaching, learning, coffee and making a difference. I have loved our weekends away to write and share thoughts, research, laugh and learn. You have made very long days of writing and thinking so enjoyable.

Thank you Andrew and my other amazing teaching colleagues for the many robust discussions about teaching and learning. Your teaching experiences, passion and excitement inspire me as a teacher and leader to ensure that our K-12 students have every opportunity to have access to the research and explore what works within a K-12 school setting.

Thank you to all of the 600 students whose voices are represented in this study and the teachers who supported this study. A very special thanks to all the students that I have taught over the past 20 years. I have loved my job as a teacher and feel so privileged to have taught children from both primary and secondary settings. I love teaching and am intrigued as to what students believe to be most effective within their learning. This topic interests me so much from the perspective of a teacher who has always talked for a long time, often far too long within a lesson! When it comes to teachers and their discourse, I have so many unanswered questions and a thirst for knowledge and deeper understandings in this area. I have provided full days of monologue and dialogue with many and I acknowledge that, as a teacher who has talked for long periods of time, I can benefit greatly from reflecting and learning from what the students consider to be effective. My direction and future research will take this on board to ensure that it makes the ‘student voice’ visible within this area. I have thoroughly enjoyed the beginning of my academic life as a researcher with the voices and conceptions of students and can’t wait to keep researching and sharing the narrative along the way.
# TABLE OF CONTENTS

ABSTRACT ................................................................................................................................................. ii  
DECLARATION.......................................................................................................................................... iii  
ACKNOWLEDGEMENTS ........................................................................................................................ iv  
LIST OF TABLES ....................................................................................................................................... vii  
LIST OF FIGURES .................................................................................................................................... viii  
CHAPTER 1 – INTRODUCTION................................................................................................................... 1  
CHAPTER 2 – LITERATURE REVIEW.......................................................................................................... 5  
  Teacher Talk......................................................................................................................................... 5  
  Teacher Monologue ............................................................................................................................ 7  
  Classroom Dialogue ............................................................................................................................. 8  
  Listening............................................................................................................................................... 9  
  Levels of Engagement.......................................................................................................................... 11  
  Effective Classroom Discourse........................................................................................................... 12  
  Dialogic Teaching ............................................................................................................................... 13  
  The Role of Classroom Questioning................................................................................................... 16  
  Classifying Classroom Learning.......................................................................................................... 22  
  Concluding Comments....................................................................................................................... 26  
Chapter 3 – METHODS ........................................................................................................................... 28  
  Participants........................................................................................................................................ 28  
  Measures ........................................................................................................................................... 28  
Chapter 4 – RESULTS .............................................................................................................................. 31  
  Demographics.................................................................................................................................... 31  
  Qualities of the Instrument.................................................................................................................. 33  
  Moderator Analyses ............................................................................................................................ 38  
Chapter 5 – DISCUSSION ........................................................................................................................ 53  
  Major Themes.................................................................................................................................... 54  
  Implications For Further Research..................................................................................................... 60  
  Concluding Comments....................................................................................................................... 65  
REFERENCES ........................................................................................................................................... 68  
APPENDIX ............................................................................................................................................... 76
# LIST OF TABLES

Table 1. *Number and Percentage of Males and Females in Each Year Level* ..............32  
Table 2. *Frequency and Percentage of Students Reacting To Their Achievement Level Relative to Their Year Group.* .................................................................32  
Table 3. *Five Factor Solution and Correlations between the Factors for the Teacher Talk Survey* ............................................................................................................33  
Table 4. *Correlations of the Five Factors Solutions* ..................................................37  
Table 5. *Summary Statistics From MANOVA Of The Five Talk Factors Moderated By Sex And Year Level* ..................................................................................38  
Table 6. *Means, Standard Deviation And Summary ANOVA Statistics For Males And Females* ............................................................................................................39  
Table 7. *Summary Statistics For All Five Factors Across Year Levels* .......................41  
Table 8. *Univariate ANOVA Results Across The Five Talk Factors* .........................42  
Table 9. *Student Perception Of Talking In Class* ......................................................44  
Table 10. *Student Perception Of Talking In Class - Comparison With Each Factor* ....44  
Table 11. *Univariate ANOVAs For Teacher Talk Factors Related To Achievement Levels* ..................................................................................................................45  
Table 12 *Student Perception Of Academic Achievement With Each Of The Factors* ...46  
Table 13 *The Teacher Talk Factors* ..........................................................................49  
Table 14. *Cluster Groups with Comparisons with Each Factor* ...............................50
LIST OF FIGURES

Figure 1. Male and Female comparisons of the five factors. .........................................39
Figure 2. Comparison of Year Levels (4-12) with each of the five factors. .................42
Figure 3. Student perception talking in class – moderation effects with factors......45
Figure 4. Student self-perception of academic ability. ..............................................47
Figure 5. Dendogram showing clustering of the 61 teachers....................................48
Figure 6. Cluster groups of teachers identified by the students...............................51
Figure 7. Three identified cluster groups of teachers with each of the 5 factors......53
CHAPTER 1 – INTRODUCTION

Teacher talk and classroom discourse that aims to maximise outcomes has been the topic of educational research for many decades. Such research has sought to discover and reveal what verbal interactions – dialogue, teacher monologue, discussions and questioning should optimally look like. The links between learning and teacher talk are well documented (Alexander, 2001, 2006, 2008; Baker, 1992; Bakhtin, 1981, 1986; Cazden, 2001; Clarke, 2006; Hardman, 2008; Marzano & Simms, 2014; Mehan, 1979; Mercer & Littleton, 2007; Murphy, 2008; Nystrand, 1997) and much of the focus has been on the use and ratio of various forms of language to develop ideas and new knowledge. Teacher monologue (‘teacher talk’) dominates the classroom landscape with teachers spending 70-90 percent of their teaching time ‘talking’ and not engaging students in any discussion (Mercer, 2005).

Prior research in this area has largely focused on discourse features and patterns including interactional patterns, which can enhance learning. Many researchers have embraced the identity of the teacher and the amount of time spent talking. The contribution and development of the students’ conceptions about teacher talk, however, has received relatively little attention. Edwards-Groves and Hoare (2012) identified classroom talk and developing dialogue in classrooms as a quality and essential pedagogical practice, still remain ‘taken for granted’ and remains under examined.

As language is central to learning (Baker, 1992), it is through these interactions that quality learning is created, sharing the goal of the success criterion and knowing how to get there with on-going feedback and dialogue from both student and teacher.

Mercer (1995, 2000, 2005, 2008), for example, has extensively researched teacher talk and has demonstrated the importance of students being involved in active dialogue to develop essential skills, such as questioning vocabulary, and the exploration of their thinking skills. Mercer has been committed to finding theoretically informed ways to help teachers use discourse effectively. Mercer
believes that students must be active in their voice to know where they are, where they need to go, and how they are going to get there (Hattie, 2012). For this to be done effectively, Mercer (2005) argued, students must be able to engage in ongoing dialogue with peers and the teacher.

Classroom discourse is the essential element that holds the lesson together. Mercer and Littleton (2007) described effective classroom questioning techniques as those that are required to move the discourse from monological to dialogical and are done in a planned and conscious way. Wiggins and McTighe (2005) have also suggested that the thinking and planning for ‘essential questioning’ requires the teacher to consciously shift the learner from one concept to another and allow for the effective transfer of understanding with the teacher moving from monological to dialogical. High levels of classroom monologue, opportunities for robust dialogue to occur on an on-going basis are rare and, thus, the ability to transfer conceptual and deep level understandings is limited. Alexander (2008) suggested that teachers need to model talk at its best and that teacher questions must be designed to encourage reasoning and the development of thinking, not just elicit right answers that the teacher is expecting.

The importance of language and teacher talk needs to be explored not only as a means for communicating, but also as tool for thinking. Teacher talk has been described as a means for representing what we experience, to ourselves as well as others (Dawes, Mercer & Wegerif, 2004; Mercer & Littleton, 2007; Nystrand, 2007; Fisher, 2007). We can use language to make problems explicit, consider them rationally and creatively, and devise some possible solutions. Through using language and listening to how others use it, students learn how language can be used to describe the world, to make sense of life’s experience, and to solve problems (Alexander, 2001; Biggs & Collis, 2007; Cazden, 2001; Heath, 1983; Marzano & Simms, 2014; Scott, 2015).

This highlights the problem not just of the amount of classroom time given to classroom dialogue, but also of the awareness of moving students from surface level to deeper level understandings with effective classroom discourse. Teachers rarely
plan for the level of classroom monologue or dialogue, and often much of this discourse is surface level requiring students to remember and recite information (Mortimer & Scott, 2003; Nuthall, 2007; Nystrand, 1997).

Throughout this study, the notion of dialogue versus monologue, and its place within the classroom, will be evaluated. This thesis will explore the key concepts that connect essential and timely dialogue for improved outcomes for all students. Further, it will explore debates surrounding the domination of teacher ‘surface level’ monologue within the Australian classroom, leading to understandings that have low likelihood of being transferred to new contexts and the need for a combination of deeper level understandings without having to rely on memory. This stresses the need for not only a shift to greater amounts of dialogue, but also the creation of dialogue and questioning that effectively move students from surface to deep level understandings.

Students using a ‘surface’ approach see a task as requiring specific answers to questions, thus relying heavily on knowing facts or content; whereas students using a ‘deeper’ approach want to understand, evaluate and make connections beyond the main ideas. When opportunities are provided for students to move from surface to deeper levels of understanding, students are able to go beyond the use of basic knowledge and facts and develop a deeper understanding by making connections and relating ideas beyond what they already know (Hattie, 2012).

There is a requirement for a certain level of trust in a more dialogical classroom, trust not just between teacher and student, but also trust among the students. An aim is that students can articulate their ideas freely without fear or embarrassment when they give any answers, whether correct or incorrect and they should be safe to reach common understanding by allowing mistakes, thoughts, actions and feelings to occur. A supportive environment must be created by the teacher (Zins, Weissberg, Wang & Walberg, 2004) where students feel that they can be involved in dialogical discussions without fear. Hattie (2012) believes that dialogue is an essential tool for learning with students being involved in the whole process of their learning, not just at the end. With this in mind, teachers are able to
continuously learn about their effect and impact, formatively on student learning by engaging in regular dialogue that allows the teachers to engage in the students ‘thinking aloud’ and assisting them achieve their goals. This is where active listening, evaluation and effective classroom dialogue/responses have the greatest impact, as opposed to ineffective dialogue that does not allow on-going learning, success, engagement and deeper level understandings and development of ideas.

The quality of talk within the classroom frames the curriculum, the levels of understanding, and the relationship between student and teacher. Fisher (2007) demonstrated that the dialogue is the cognitive “stepping stone” to student success. In proposing a view from the perspective of the student, this thesis offers a way of extending new knowledge to effective classroom discourse from the perspective of the student, seeking their view on quality ‘teacher talk’ and the movement of discourse from surface level to deeper levels of understanding.

The following chapters include a literature review based on the main ideas about teacher talk in classrooms and this leads to the research question to be addressed in this study. The first study involves a detailed questionnaire administered to over 600 students seeking their conceptions of teacher talk. The second investigation focuses on a cluster analysis of the same teachers aiming to understand the patterns of teacher talk and its relation to students’ perceptions of their learning and achievement. The final chapter explores possible future research, and aims to answer the major research questions.
CHAPTER 2 – LITERATURE REVIEW

Teacher Talk


The notion of teacher talk and the study of classroom discourse has long been the topic of educational research, dating back over several decades. Many researchers have embraced the identity of the teacher and ‘teacher talk’; particularly referring to the amount of time spent talking (Alexander, 2001; Barnes & Todd, 1995; Cazden, 2001; Hattie, 2012; John & Hymes, 1985; Mercer, 2000; Nystrand, 1997; Smith et al., 2003, 2004). Repeated empirical studies conclude that monological discourse is dominant in classrooms. There continues to be high levels of classroom monologue, high levels of surface level questioning and understandings taking place and there has been little documented research on the students’ perception of classroom talk.

Much of the research within western education systems has explored the notion that teachers dominate the classrooms with teacher monologue, and have instead sought to find the conditions to create a shift towards more collaborative or dialogical models of classroom learning. While research in this area has offered rich insights into the value of teacher talk in small group settings, considerable attention has also been paid to the quality of teacher’s dialogical stance within the classroom (Alexander, 2001; Edwards & Mercer, 1987; Hardman, 2008; Kriewaldt, 2009; Mehan, 1979; Nystrand, 1997; Wells, 1993; Young, 1991). As language and communication is central for every student in every classroom, it is essential to gain an insight from the student perspective on what they perceive is effective. Language
creates the flow of learning; it is through everyday classroom dialogue that language learning is mediated (Baker, 1992; Fisher & Larkin, 2008).

Of all the skills for cultural and pedagogical intervention in human development and learning, talk is the most pervasive in its use and powerful in its possibilities. Talk vitally mediates the cognitive and cultural spaces between adult and child, between teacher and learner, between society and the individual, between what the child knows and understands and what he or she has yet to know and understand. Language not only manifests thinking, but also structures it, and speech shapes the higher mental processes necessary for so much of the learning that takes place, or ought to take place, in school.

(Alexander, 2008, p. 92)

Many educational researchers have provided a theoretical framework for optimal classroom dialogue, particularly based on Russian educational theorist Vygotsky’s ideas of classroom discourse. These researchers have provided depth to the area of exploring language and the development of the relationship between language and thinking within a social theory of mind (Alexander, 2001, 2006; Applebee, 1996; Bakhtin, 1986; Brophy and Good; 1974; Bruner, 1983; Christoph & Nystrand, 2001; Mercer & Littleton, 2007; Nuthall, 2007; Skidmore, 2006; Smith et al., 2004).

With language as the central medium through which children acquire information, Vygotsky (1962) argued that children could problem solve and acquire the essential language tools needed for the development of language and thinking if they were actively involved as participants in dialogue to ‘scaffold’ and build on their ideas. He stated, “A child’s speech is as important as the role of action in attaining the goal. Children not only speak about what they are doing; their speech and action
are part of one and the same complex psychological function, directed toward the solution of the problem at hand” (Vygotisky, 1978, p. 25).

For a student’s thinking and reasoning skills to develop, Vygotsky (1962) claimed that teachers must allow for active, ongoing dialogue to occur, and to ensure that students have the opportunity to develop their inner voice and develop their own language and thinking tools. He emphasized that if active dialogue takes place regularly between student and teacher within the classroom, that the continuing and shared negotiation of meaning and knowing how to articulate shared goals for success can take place.

**Teacher Monologue**

The dominance of teacher talk is often explained in terms of teachers controlling the flow and topics of classrooms. For example, Lemke (1990) claimed that teachers’ domination of classroom monologue is to maintain the social structure of the teacher-student relationship. Nystrand (1997) and Edwards and Westgate (1994) also affirmed that talk and questioning remains with the teacher, and is controlled by the teacher. More recently, Joe, Tocci, Holtzman and Williams (2013), in the Gates “Met” study involving over 3000 teachers found that 60 percent of classrooms observed in their study did not have any classroom discussions over a three month period, instead classrooms were dominated by teacher monologue. Students in this study, however, overwhelmingly argued that they wished to exchange more frequent dialogue within their classroom with both their teacher and their peers.

Nystrand, (2007) believed that the quality of student learning is closely linked to the quality of classroom talk. Teachers who used different modes of interaction placed students in different positions as learners. A lesson where the discourse is controlled by the teacher and is monological only, placed a great emphasis on students relying on working memory alone. Whereas, the teacher who was dialogically organised created a different kind of relationship with their students, these teachers were considered to be more effective, as these lessons enabled students to think, not simply to remember.
Classroom Dialogue

Mercer (1995, 2000, 2008, 2011) has explored the role of language in the classroom and the teacher’s professional role with classroom discourse, providing ways that the teacher can effectively provide opportunities for discussion and dialogue to take place within the classroom. Mercer found that the quality of classroom dialogue could make important contributions to the development of children’s communication skills and their thinking skills, as well as to their attainment in school (Mercer, 2005). If teachers and students are to move through a lesson with high levels of discourse and significant contributions towards their thinking and learning, Mercer and Littleton (2007) believed that classrooms must have the following:

1. Independent tasks- self talk, feedback and reporting
2. Collaborative tasks- questioning, clarifying, discussing and reflecting
3. Guided instruction- questioning, clarifying, feedback and reflecting
4. Teacher modeling- questioning, activating prior knowledge and reflecting.

These categories are similar to the findings of Fisher and Larkin (2008), who argued that students must have an active voice and use their voice independently if they are to achieve growth and develop essential thinking skills. The claim is that students gain independence and academic growth when working towards success criteria with clear and well-articulated learning intentions and a structure where both teacher and student have clarity on achieving their goals through dialogue (Hattie 2012; Mercer & Littleton, 2007; Young, 1991). Smith (2001) noted that language is not merely a tool for describing what one already knows. It is a pervasive process through which we learn about our world and develop our creative and problem solving skills.

Classroom research in the area of ‘exploratory talk’ and cooperative small groups has been shown to enhance thinking and understanding (Barnes, 1988; Mercer, 1995). The type of discourse teachers use have significant impact on
learning within the classroom, particularly how teachers reiterate what is valued in learning and influences a child’s perception of themselves (Johnston, 2004). Teacher talk plays a crucial role in the growth and development of oracy, as teachers model not only the topics of discourse, but also the level of input the students are likely to engage in.

Mercer (2008) argued that if teachers are able to give students the opportunity to work together in small groups in school and capture conversations, which have many of these characteristics, they could use this to further enhance learning opportunities. By making all students participate in classroom dialogue, it becomes visible to all, picking up each other’s ideas. If students engage in active dialogue they can disagree, but if so they can then resolve their differences through further discussion, resulting in deeper learning opportunities by providing reasons for their views and opinions with their peers (Wilkinson, 2005; Wood, 1998).

Mercer (2008) emphasised the importance of ‘dialogical talk’ as a tool to raise student awareness of the potential educational power of talk so that they develop an awareness of the use of ‘talk for learning’ and describe ‘dialogical talk’ as a “teacher’s main dialogical tool” (Alexander, 2001, 2005, 2008; Bakhtin, 1981; Mercer & Littleton, 2007; Nystrand, Gamoran, Kachur & Prendergast, 1997).

**Listening**

Mercer (2000) highlighted the importance of students thinking together through ongoing dialogue and importance of the teacher as an active listener. Mercer argued that teachers who listen to their students have a deeper level of understanding and knowledge about their students’ prior achievement and understanding of a topic. Listening shows humility, true depth of thinking, and requires genuine dialogue between the teacher and student. Mercer believed that teachers who model reciprocity and respect for the students’ perspectives were able to show that they truly value their students, and importantly model to the students’ deeper communication skills more than just the transmission of knowledge (Dawes, et al., 2004).
Active listening is where the teachers show the students that they are listening. Brophy and Good (1974), refer to listening as part of the teacher’s ‘perception check’, whereby the teacher follows a sequence of interactions in which the teacher restates what the student has said and further comments or questions helping the student then clarify if the interpretation of what the student has said is accurate.

Supporting this notion, Alexander (2001) defined the development of building a culture of effective classroom discourse as one that is public and where students can have a confident voice. Students also need to be taught and develop the skills of listening and in turn expect to be listened to. Most importantly, error, misunderstanding, and misconceptions need to be welcomed as opportunities for learning rather than considered shameful or embarrassing for both the student and teacher (Alexander 2001).

Talk becomes critical when students discuss tasks or ideas and question one another, negotiate meaning, clarify their own understanding, and make their ideas comprehensible to students within the class. Mercer (2011) found that it is during collaborative tasks that students must have the opportunity to use academic language with each other if they are to focus on the content and develop understanding. He demonstrated that student’s knowledge and understanding developed by dialoguing with peers and reflecting on their own learning.

Hattie (2012, p. 39) considered that “learning is collaborative and requires dialogue, and this requires teachers to be attentive to all aspects of peer-to-peer construction and mediation (particularly in whole class discussion, by encouraging and creating spaces for all views, comments and critique). This allows teachers to be more aware of the processing levels of different aspects of the activity and how each student’s response indicated the level at which they are processing: that is, the teachers need to listen as well as talk”.

Mercer’s research in classroom discourse has focused on the relationship and connections between language, thinking and learning demonstrating the importance
of involvement in dialogue for children’s learning and development. He found connections and links that dialogue has with cognitive development and demonstrated that language in the classroom is not only a means for communicating, it is also a tool for thinking; it provides a means for representing what we experience, to ourselves as well as others.

Levels of Engagement

The importance of modelling language through effective discourse cannot be underestimated. Mercer (2009) revealed that many children have little opportunity to learn some potentially valuable ‘ways with words’. This can have a significant effect on their attainment in school. Thus, teachers must ensure that the student voice is heard regularly and opportunities are provided for all to engage in dialogue. Mercer (2009) asked students in grades 6 to 12 to wear watches that prompted them to record their experiences. In over 28,000 recordings, teachers were documented as talking 70 to 80 percent of the time. This study again confirmed that high levels of classroom monologue produced the lowest engagement. Mercer discovered that the more the instruction was challenging, relevant, and engaging, the less the teachers were talking and there were greater levels of student voice heard.

According to Mercer, teachers who provided higher levels of engagement for students, regularly asked the students, ‘why’ questions, such as asking students to give reasons for their views, and encouraging them to give reasons to support their own opinions and suggestions. Students needed the opportunity to speak, listen, and think on a frequent basis within the classroom to ensure that the explicit skills developed through speaking and listening were developed. It was through verbal communication, both speaking and listening, that relationships were formed. Classrooms that were dominated with monological teacher talk did not provide this. Quality thinking, questioning and communication were the foundation of both verbal and emotional intelligence (Davis & Sinclair, 2014; Fisher, 2007; Wells, 1999; Wells & Chang, 1992; Wilen, 1991).
Effective Classroom Discourse

A national study within Australia called the ‘Classroom Discourse Project’ sought to describe classroom practices that enhance speaking and listening skills across different subject areas (Cormack, Wignell, Nichols, Bills & Lucas, 1998). The results highlighted how highly influential teachers are in shaping classroom talk and how effective ‘talk for learning’ did not just happen. Effective talk required clarity of task setting (e.g., that the students knew what kinds of talk were required) and appropriate selection of topic (e.g., so that it had relevance to students and they had knowledge to bring to the task) and had an impact on students’ learning when teachers were able to use the ongoing dialogue to formatively assess what the students knew or didn’t know. The project results highlighted a students’ ability to use talk for learning and to demonstrate their understandings. This project confirmed a dominance of teacher monologue within the classroom and concluded that there was significant evidence to demonstrate that teachers can make significant daily impact within the classroom by shaping their classroom discourse more effectively and planning for dialogue. The planning included a need for regular student voice through discussion, followed by a reflection on student voice by the teachers to develop an understanding of where the students are, where they need to go and how they are going to get there.

Nystrand (2007) conducted a large-scale study of the effects of patterns of classroom discourse on student learning in 400 English lessons in 25 US high schools. The major source of evidence was structured in classroom observations, tape recorded lessons, by interviewing participating teachers, and testing student learning outcomes by a written examination, and then scored against a number of criteria. Nystrand concluded that dialogically organised instruction is superior to monologically organised instruction in promoting student learning. Recitational patterns of talk were found to be overwhelmingly prevalent, and they had a negative effect on learning, and it was particularly strongly evident in lower-track classes. Important aspects of the alternative, dialogic approach to instruction highlighted by the study were: the teacher’s use of authentic questions (where what counts as an acceptable answer is not pre-specified); uptake (where the teacher incorporates
students’ responses into subsequent questions); and the extent to which the teacher allows a student response to modify the topic of discourse, a strategy which Nystrand terms ‘high-level evaluation’. He identified a number of specific classroom methods which help to promote the development of dialogic forms of understanding, including the use of learning journals, regular verbal presentations by the students, peer reviews and peer conferencing (Nystrand, 2007).

Lipman (2003) proposed that ‘solidifying’ and reflecting on the work of both Bakhtin (1981, 1986) and Vygotsky’s proposal (1962, 1978) of the fundamental role of discourse in educational settings. Bakhtin (1986) claimed, "If an idea does not give rise to a new question from itself, it falls out of the dialogue" (Bakhtin, 1986, p. 168). Further to this, Bakhtin emphasised the importance of the epistemology of dialogue and the links to our thinking, suggesting that student beliefs that understanding of knowledge is developed through the identification and internalization of the different dialogic discussions and voices of others in dialogue. Bakhtin (1986) believed that when teachers plan for dialogically organised instructions, a public space is created for student responses, thus allowing students to engage in active ongoing dialogue with the teacher and peers. He suggested that the teacher’s voice is but one voice among many, albeit an important one and the teacher must take responsibility to allow the shift to occur such that dialogic whole classroom discourse can occur.

Drawing from the work of Bakhtin, Alexander (1997, 2001, 2003, 2004, 2005, 2006, 2008) has conducted extensive research in classroom discourse, spanning over 30 years. The analysis of classroom discourse; the contexts of classroom discourse and their impact on classroom talk, pedagogy, dialogic teaching, development and evaluation of dialogism has long been a part of Alexander’s ongoing research.

**Dialogic Teaching**

Alexander (2001) developed the term, ‘Dialogic Teaching’ to articulate the power of talk within the classroom that was developed to stimulate and extend
students’ thinking and advance their learning and understanding. He believed that the teacher's role should be to steer classroom discourse within a purposeful framework, offering cognitive challenges and opportunities for sustained thinking, so that students can build on each other's ideas.

Alexander (2005) argued that his dialogic teaching framework could assist teachers in articulating and understanding students’ needs, frame their learning tasks and assess their progress. Further to this, Alexander (2001) outlined that dialogic teaching requires, *Interactions*, which encourage students to think, and to think in different ways; *questions*, which invite much more than simple recall; answers, which are justified, followed up and built upon rather than merely received; feedback, which informs and leads thinking forward as well as encourages; contributions, which are extended rather than fragmented; exchanges which chain together into coherent and deepening lines of enquiry; discussion and argumentation, which probe and challenge rather than unquestioningly accept; professional engagement with subject matter, which liberates classroom discourse from the safe and conventional; and classroom organisation, climate and relationships, which together maximise learning within the classroom (Alexander, 2005).

Alexander’s ‘Dialogic Teaching Model’ is grounded in extensive research on the relationship between language, learning, thinking and understanding. Alexander (2008) is clear to note that dialogic teaching is not just communication skills nor is dialogic teaching a single method of teaching. His notion of ‘Dialogic Teaching’ is an approach that aims to improve students’ powers of communication. He believed that when dialogic teaching is used effectively, that would require teachers to rethink not just the dialogic techniques used within the classroom relationships that are fostered in the classroom, but the balance of power between student and teacher. He believed that the impact of dialogic teaching must become reflected in everyday teaching and visible to both student and teacher to maximise the transfer of knowledge within the classroom. Alexander believed that it must be used with a broad repertoire of strategies and techniques that he outlines to ensure that is used successfully.
Alexander’s (2001, 2008) extensive research has found that dialogic teaching is most effective in classrooms that offer a collaborative, supportive environment that ensures that students and teachers are exchanging dialogue that builds on children’s own understandings, words and thought processes. Further, his research (2001) provided valuable suggestions for the development of dialogic talk within the classroom. Alexander (2008) claimed there is a list of essential elements required for dialogic teaching. He described the primary means of communication as being called, ‘Communicative’, followed by being ‘Social’, as the type of talk that is necessary to build relationships, confidence and sense of self. He described ‘Culture’, as the element of talk that creates individual and collective identities, ‘Neuroscientific’ is described as the spoken language and the essential part of language that build connections in the brain, particularly during the early and pre-adolescent years. ‘Psychological’ is considered to be essential as language and the development of thought are needed in conjunction with each other to assist in the development of what is currently known to what has yet to be known. ‘Pedagogical’, highlighting the need for students to have the opportunity to cognitively enriching talk that engages students. ‘Political’ is the final suggestion, to create learners that can argue, reason, challenge, question, and present cases and evaluate them. This final suggestion allows students to be active within the classroom, not remaining passive listeners who comply and are not able to develop their own voice to engage, question and debate (Alexander, 2008).

Alexander (2008) suggested that teachers need to provide a variety of repertoires and opportunities for students learn to use talk beyond that of rote and recitation and learn to pose their own questions, thoughts to move into deeper levels of understanding that can be articulated verbally, although he believed that recitation had its place and must be considered appropriately. Alexander (2008) reiterates the notion of ‘repertoire’, as not being monologue vs. dialogue. It can be neither one nor the other in isolation, it must be planned carefully and considerably with a variety of classroom interactions to could meet the needs of all students and demands of the modern curriculum.
Alexander’s research encouraged teachers to get their students to ‘think aloud’ and develop their ideas at greater length, for example by the teacher pitching a question at a particular, named individual (managing turn-taking by nomination without competitive bidding), and the use of follow-up questions directed at the same student (extending the teacher-student exchange on a given topic rather than rotating successive turns around the class). He emphasized that teaching talk should not be seen as an inferior, less developed form of language use than writing, but that the development of oracy is an important goal of education in its own right, and that increased competence in oracy accompanies and contributes to the development of competence in literacy rather than being in competition with it (Alexander, 2003).

**The Role of Classroom Questioning**

Pioneering studies into classroom questioning by Stevens (1912), stated that approximately 80 percent of a teacher’s school day was spent asking questions to students and that teachers asked approximately 395 questions each day. The majority of these questions (over 66%) were asked at a low intellectual level, usually requiring little more than rote memory and recall. More contemporary research on teacher questioning behaviours and patterns indicate that this has not changed since Steven’s findings over a hundred years ago. Teachers are still asking between 300-400 questions each day and up to 80% of all questions asked being surface level questions with many of these questions requiring recitation or a memorised answer that does not require conceptual, abstract, deeper level understandings (Biggs & Collis, 1982; Cazden, 2001; Hattie & Brown, 2004; Hattie & Purdie, 1998; Leven & Long, 1981; Marzano & Simms, 2014; Nystrand, 2007, Wilen & Clegg, 1986).

The quality and diversity of the questioning is what has the greatest impact on teaching (Biggs & Collis, 1982). The transfer of factual, surface level understanding to deeper, conceptual understandings can occur through the process of asking questions. Biggs and Collis (1982) suggested that students could become disengaged if classroom questions do not allow for depth and diversity. They demonstrated that teachers could use questioning for deeper level learning
opportunities to go beyond rote and recitation, and use questioning techniques and a framework that could provide deeper levels of analysis from the students.

When teachers consciously move away from asking low-level cognitive questions that students already know the answer to and are able to ask effective and timely questions that promote thinking, further questioning, analysis, students have the opportunity to engage in robust dialogue and acquire a depth of knowledge that allows them to develop a deep, conceptual understanding of the subject matter (Biggs & Collis, 1982; Dillon, 1988; Hattie, 2009, 2012; Marzano & Simms, 2014; Nystrand, Wu, Gamoran, Zeisener & Long, 2003; Tan, 2007).

Effective questioning is a methodology and an art to be mastered, and can have dramatic impact if used appropriately within the context of the classroom (Brualdi, 1998; Harman, 2008; Marzano and Simms, 2014; Nystrand, 1997; Smith et al., 2003, 2004; Wiggins & McTighe, 2005). From a students’ perspective, effective questioning gives them the opportunity to evaluate their progress in terms of their achievements, and demand of the learning situation (Fisher, 2010). The importance of questioning to stimulate thoughts, ideas and understanding from a student’s perspective is the key for students to feel valued and motivated throughout the school day (Zins et al., 2004). Brualdi (1998) believed that it also has the capacity to turn a child off learning if done ineffectively. Brualdi (1998) suggested that if teachers can wait three to five seconds, instead of under two seconds, then the question may elicit student engagement. He noted that students very quickly recognise what type of questions teachers use and often, if students remained silent, the teacher would provide the answer.

Smith, Hardman, Wall and Mroz’s (2004) research into classroom questioning found that there were high quantities of low cognitive level questioning taking place within the classroom. They found that in the literacy and numeracy lessons they observed, that the teachers were designing questions to funnel pupils’ responses towards a required answer. Thus, when teachers are calling for an expected response to questioning in class, it fosters lower order leaning and thinking.
Smith et al. (2004) found that teachers spent most of their time explaining or using highly structured question and answer sequences. Smith et al. (2004) classroom observations outlined that most of the questions that students were asked were low cognitive level questions that did not allow students to move into deeper level questions that promoted high levels of interaction and cognitive engagement. Open questions made up 10% of the questioning exchanges, and 15% of teachers did not ask such questions. Extended dialogue occurred only 11% of the time. Most of the exchanges were short, lasting on average five seconds, and were limited to surface level knowledge that was limited to recitation of three words or less for 70% of the time.

As each lesson unfolds, teachers have the opportunity to use effective questioning to promote classroom discourse to ascertain the amount of surface level teaching necessary to move on to deeper level questioning and understandings being developed. The use of questioning can stimulate discussion and encourage deeper level learning to occur. However, Nystrand and Gamoran (1991) cautions the pace and depth of questions being taught too quickly, as they found that questions and discussions that are too challenging may discourage student questions and student voice, highlighting the importance of surface level understandings having been made before moving on to deeper level learning.

Nystrand (1997, p. 145) defined effective questions as ‘authentic questions’ and further defined these as ‘one for which the asker has not pre-specified the answer.’ This includes open-ended questions with indeterminate answers and requests for information. He believed that an authentic question should be one that allows for various responses, not questions that have a pre-scripted answer in mind. Nystrand (1997) believed that when the teacher engages in authentic questions, the students feel that the teacher is interested in what they think and what they know, as opposed to whether or not they can engage in reciting facts, or repeating material and giving the right or wrong answer.

The effectiveness and authenticity of a question is often revealed by the way the teacher evaluates or follows up the students’ answers and responses; with
teachers becoming aware of their on-going responses to the students answers to create dialogue, Nystrand believes that teachers need to use their responses effectively for ongoing formative assessment and using dialogue to move students to deeper levels of understanding by what he calls ‘uptaking’ student responses through dialogue (Nystrand, 2007).

Authentic questions allow students to feel that the teacher was interested in what they think and what they know, as opposed to whether or not they can engage in reciting facts or repeating material and providing the right or wrong answer. Nystrand (1997) claimed that the presence of authentic questions has the potential to positively alter the discourse within the classroom. When teachers control both the questions and the answer, they provide no voices or influence by the students to alter the flow of classroom discourse. He suggested that metaphorically the most effective classroom discourse within the classroom is like building a fire with the right type of questioning, with enough kindling of the right sort, accompanied by patience and along with the spark of student engagement, a successful fire can be made and burn brightly. Kriewaldt (2009) described questioning as part of the means of discussion, and discussion makes it possible for learners to hear ideas in their peers’ vocabulary, communicate with everyone in the class and challenge both students and teacher thinking.

In contrast, Brophy and Good (1991) maintained that good questions are those that are ‘clear, brief, natural, purposeful, sequenced and thought provoking’. They suggest that the value of questioning and the use of higher order questioning depend on how and why it is used by the teacher. Biggs and Collis (1982) believed that once a question is posed to students, it is recommended that teachers should have an understanding of what students know and don’t know; teachers should focus on starting with, and expanding on, existing understandings. Students and teachers actively sharing knowledge does not happen when recitation is the only method-taking place within the classroom. Monological, organised instruction, such as recitation, elicits performance - while discussion engenders discourse (Nystrand, 2006,2007). Allowing teachers to give students the opportunity to verbally explore and articulate issues aloud in depth, where students not only answer the questions,
but also make further points and contribute to discussions, Nystrand (2007) calls reciprocity – that is, effective planning and teaching with the use of a framework. The SOLO Taxonomy (see below) allows for a depth of questions of the ‘right kind’ asking students to not only think, but, interpret, analyse and generate new understandings and transfer their understandings through effective classroom discourse.

Cazden (2001) found that when questioning, most teachers would use an initiate–respond–evaluate (IRE) cycle. When teachers use the ‘IRE’ cycle, deep level thinking does not occur and this type of questioning only allows students with one opportunity to talk at one time, and often this may be using a word or may not require an entire sentence and does not allow for questioning and independent and extended deep level thinking by the student. Furthermore, Cazden (2001) suggested that the ‘IRE’ methodology does not allow dialogue to take on new pathways of discourse. With this being the case, students can lose interest and become frustrated as they struggle to guess what is in the teacher’s head and the one answer that the teacher is waiting for. Students are given, on average, one second or less to think, consider their ideas and then to think before responding to the question Cazden (2001). Cazden (2001) suggested that teachers asked continuous surface level questions so that they were able to continue the flow of their lesson in the direction they had planned without diversion. Further to this, Cazden found that the less able students (if asked) were given even less time than the more able students to respond to the questions.

The types of questions that teachers ask, and the way that they use them in responding to their students in discussion, significantly influence not only the culture for talk, but also the degree of student engagement and learning (Cazden, 2001). Nystrand (2006) believed that questions that elicit generalization, analysis and speculation, open up the cognitive field beyond recitation or replication of another voice and allows students to move into the extended abstract (see SOLO below). Deeper understandings allow students to transfer their thoughts, concepts and ideas into a different context. When students are able to make connections to ‘transfer’ their understandings from one learning environment to another. Transfer of
understandings allows students to understand, solve problems and extrapolate a variety of principles that can be used in a variety of situations.

Durkin’s (1978) research on language and comprehension instruction confirmed that teachers rely primarily on surface level questioning to check for understanding when he was exploring which types of talk were less or more effective. Durkin (1978) claimed that if questioning was used effectively, it should be considered as an important tool that teachers could use daily in every class. He noted, however, that students also need opportunities for dialogue if they are to learn and to become part of the learning process. Cazden (1988), Hargreaves (2002), and Smith et al, (2003) support the Durkin’s findings (1978), as all supported the notion that there were not enough opportunities that teachers had used to explore ideas at length or that offered rich dialogical discussion through classroom questioning.

Recent research by Marzano and Simms (2014) has highlighted what a potentially powerful tool questioning can be to develop a strong understanding of academic content within the classroom. Marzano and Simms (2014) believed that teachers are asking students too many questions, and are not producing the desired effect of creating effective classroom discourse within their questioning techniques. After Marzano’s extensive work in educational research and observations of teachers, Marzano and Simms (2014) have developed a questioning framework that they believe fit into four differing levels, each of which demands deeper thinking. The four levels include: Level 1- Details, Level 2: Characteristics, Level 3: Elaborations and Level 4: Evidence.

In the Level 1 ‘details’ framework, Marzano and Simms (2014) suggested that questions were asked to ensure that students were able to recall details about specific types of information. Level 1 questions are described as "lower level questions." However, Marzano and Simms (2014) maintained that these types of questions must have their place in learning new content. The second level moved the focus to the general category to which a Level 1 topic belongs. In the second level, Marzano and Simms (2014) focused the shift from a specific person or place to
the general category to which that person or place belongs. Level 2 questions asked students to describe the characteristics of a given category this involved comparing and contrasting. Marzano and Simms (2014) believed that cognitively Level 2 questions required a broader perspective than Level 1 questions require. Level 3 questions asked students to elaborate on the characteristics of and elements within a category. It is suggested in this level that questions required students to explain the reasons something happens. Level 3 questions also required students to explain the effect of something. Marzano and Simms (2014) considered that level 3 questions are more cognitively complex than Level 2 questions because students must explain the working dynamics of how or why certain things occur or exist. Level 4 questions required students to provide support or evidence for their elaborations. Teachers are asking students in this final level to identify sources that support their elaborations. They require students to explain the reasoning behind their elaborations; the premises, rules, or generalizations they used to form their conclusions; or any exceptions that their conclusions don't seem to explain. When answering in this level, the students are required to analyse and articulate their own thinking and question beliefs and opinions of their own and others.

Marzano and Simms (2014) concluded that teachers must plan for deep thinking and move through each of the levels of questioning, considering the details they want to highlight on the topic and construct appropriate questions for each level and making sure that all students have opportunities to respond. Planning a lesson that uses all four of these levels can transform classroom questions into analytic tasks that require students to think at increasingly complex levels.

Classifying Classroom Learning

A number of frameworks and classification systems to categorise questioning levels have been developed or adjusted for the classroom setting much like Marzano’s four levels of questioning. Bloom’s Taxonomy, a classification system developed in 1956, categorizes intellectual skills and behaviour important to learning into six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation, with sophistication growing from basic knowledge-recall skills to the
highest level of evaluation. While Bloom’s Taxonomy has facilitated evaluating the level of teacher questions there has (surprisingly) been little research to support the hierarchy and value of the Bloom model and it does not hold together well from logical or empirical perspectives (Hattie & Purdie, 1998; Marzano & Simms, 2014). The Taxonomy mixes outcomes (knowledge, comprehension), ways of thinking (analysis and synthesis), and evaluation, which can occur at each of the previous five levels.

An alternative taxonomy with a greater corpus of research support is the SOLO (Structure of the Observed Learning Outcomes) Taxonomy developed by Biggs and Collis (1982). This taxonomy will be used in the current research. The SOLO Taxonomy allows students to engage in active and collaborative dialogue within five different levels of thinking. The five levels are: Pre-structural, Uni-structural, Multi-structural, Relational and Extended Abstract.

‘Pre-structural’, the first level of the taxonomy is described as the student having no prior knowledge or understanding they are able to demonstrate, ‘Uni-structural’ is the second level, this level identifies that the student has one idea about the subject and can perform single tasks. The students are able to articulate one piece of information in isolation. In this surface level, teachers have asked students to identify a single idea. ‘Multi-structural’ is the third level, where the student can understand several components but the significance of the whole is not determined. Ideas and concepts around an issue at this stage are not related together. This is the level of thinking whereby the teacher is asking their students to, describe, list, combine and summarise. ‘Relational’ is when the student moves in to a deeper level of understanding and the forth level within the taxonomy. In the relational level, students are able to make connections between facts and theory, action and purpose. Students in this level are able to shows an understanding of several components, which are, integrated conceptually showing understanding of how the parts contribute to the whole. Teachers in this level are asking students to compare and contrast, explain causes, analyse, relate, and organise and justify, this is the first level of understanding that moves students from surface level understandings to deeper level, conceptual understandings. ‘Extended Abstract’, is
the final stage of the taxonomy, where the student conceptualises at a level extending beyond what has been explicitly taught. This deep level of understanding is transferable and generalisable to different areas of learning. When students are at this level, they can evaluate, theorise, generalise, hypothesise, reflect, generate, prove, compose, design and construct to maximise learning and understanding.

The SOLO Taxonomy provides a visible framework that ensures students are given the opportunity to move from surface level (Uni and Multi) to deeper level (Relate and Extend) understandings. When used effectively, teachers and students can engage in a common language that is simple, yet robust, ensuring that students have the opportunity to move from surface to deeper levels of learning. The art of asking the right questions at the appropriate time is the key to success for both students and teachers. The SOLO Taxonomy provides a clear framework for all parties to be able to articulate and understand what each level means, where you are and where you need to go to achieve success. The simple language of each level allows this to be visible, verbalized and understood by all.

The SOLO Taxonomy consists of two major categories each containing two increasingly complex stages: surface and deep (Surface = Uni-structural and Multi-structural; Deep=Relational and Extended Abstract). Hattie and Brown (2004) suggested that the taxonomy makes it possible, in the course of learning, teaching, or assessing a subject to identify in broad terms the level at which student is currently operating. Hattie and Brown (2004) contended that the SOLO Taxonomy framework is a basis for progressing students up the four levels, allowing teachers to be guided by a framework that can assist in the development of programs that enable students to enhance the depth of their learning.

Another framework that can be used alongside the SOLO Taxonomy that is able to assist in the planning and development of questioning, deep level learning and dialogue was created by Wiggins and McTighe (2005) to build expertise with curriculum development and planning. The UbD (Understanding by Design) framework highlighted the need for teachers to use essential questioning to demonstrate the importance of questioning within the classroom and planning for it.
prior to teaching. Wiggins and McTighe (2005) believed that without an adequate framework, teachers risk writing curriculum around content only, instead of desired performances requiring understanding, uncritical thinking, inert knowledge and a lack of transfer will be the rule, not the exception. They suggested that curriculum is not a list of places to visit, but an engaging and effective itinerary. When using backward by design successfully, teachers can ensure that students are able to transfer goals and tasks that require problem solving, questioning, critical thinking and persistence.

Wiggins and McTighe (2005) believed that the UbD framework provides teachers with “what architects provide builders, a blueprint designed to show how parts relate to a whole and how a work plan can be inferred to ensure that the building ends up the way it was envisioned.” Hattie (2012) refers to this as learning intentions and success criteria. The curriculum and its goals and outcomes must be visible and clear for the learner who must know what success looks like as they begin to study, where they are and how they are going to get there. This can be accomplished with ongoing effective classroom dialogue. Each stage of the UbD planning brings together students and the curriculum as it clearly outlines the desired results of each stage, including: established goals, understandings, essential questions from the students and the teacher, acquisition, ongoing formative assessment, transfer tasks and learning activities.

Furthermore, the challenges for teachers are to ensure that students are knowledgeable and also can be taught how to develop deeper understandings and questions through critical analysis. Students, it is commonly claimed, need to become innovators, problem solvers and consider issues from multiple perspectives. Teachers need to create learning environments whereby students move past surface level understandings and become ‘deep sea divers’ and develop deep understandings that they can transfer understandings and skills taught. Hattie, (2012) referred to these as surface, deep or conceptual understandings with students developing multiple learning strategies and a desire to master learning, and willing to take risks to enjoy the challenges of learning. He stated that, “students must learn how to have respect for themselves and others, develop into citizens who
have challenging minds and a disposition to become active, competent, and thoughtfully critical participants in our complex world.” (Hattie, 2012) For student’s to achieve these outcomes, Hattie (2012) argued that teachers must set “challenging goals, rather than ‘do your best’ goals”, inviting students to engage in these challenges and commit to achieving these goals.

The development of critical thinking skills that allow students to experience the process of discovery in a positive, open minded way means a shift in mindset for many teachers who find themselves seeing through the eyes of the student (Hattie, 2012). If students are actively involved in classroom discourse, they have the opportunity to take risks and become open to deep level learning, questioning and importantly making mistakes so that they can adapt and learn. Active dialogue is most effective when this can be done together with the teacher regularly.

Concluding Comments

Effective discourse and questioning within the classroom, particularly the presence of student impact questions, with a clear purpose, clarity surrounding clear learning intentions, common language, success criteria, planning, expectations with the use of a robust framework can ensure deep level learning can occur. The types of questions that teachers ask and their responses to these questions inherently shape student knowledge and understanding. The structure around whole class discussion, small groups, and how this is structured, also has a significant impact with the use of questioning. (Applebee, 1996; Nystrand, 1991, 1997).

Teacher monologue ad low level questioning has significant impact on deep level understandings. Alexander (2005) believed that there are three possible consequences of teacher monologue leading to cognitively undemanding experiences for students: the consequences being that students may not learn as quickly as they might, that students will not develop the narrative, explanatory and questioning ability needed to show their understanding, problem solve, and actively make independent decisions about where they are in their own learning, what success looks like and how to get there. The final consequence being that, teachers themselves, may have misunderstandings about the learners’ current understanding,
thus missing essential formative assessment and diagnostics moments within the classroom that do not allow students to maximise their learning outcomes and achieve success.

The structure, flow and quality of classroom discourse appears central to the classroom and will affect what students learn and how well they learn it (Nystrand, 1997). As the teacher is the facilitator of discourse and instruction, he or she provides the opportunity for the development of conceptual understanding and the flow and movement of the level of discourse (Mortimer & Scott, 2003; Wiggins & McTighe, 2005).
This chapter outlines the methodology used to frame the study and collect, organize and analyse the data arising from the questionnaire. The focus of the study asking about teacher talk from a student perspective led to a questionnaire being developed that was suitable for primary and secondary participants. The measures, the procedures of the study, and the statistical methods will be outlined in this chapter.

Participants

The participants of the study consisted of 600 students in a Prep-Year 12 school co-educational school in the Western Suburbs of Melbourne. The participants were male and female from 9 years of age (Year 4) to 18 years of age (Year 12). The school is an Independent K-12 school in the western suburbs of Melbourne, and included both male and female students. 660 students in Years 4-12 were given consent forms and a Plain Language Statement to be signed by both the students involved and their parents, providing information to parents with specific details of the nature, purpose, confidentiality, context and the requirements for consent to be obtained (90% consented).

Measures

An online questionnaire was given to the 600 students who returned the signed consent form. The questionnaire was created for this study by the researcher, Sophie Murphy and supervisor, Professor John Hattie (see appendix). Each item was carefully considered to answer the research questions. The survey aimed to understand how the students felt about how much and what type of talking was occurring within their classrooms. To evaluate the quality of the scale, estimates of reliability and factor analyses were used.

The first section of the questionnaire allowed students to think openly about how they felt about teachers who spent most of the class time ‘talking’. The students were asked to mark their responses on a Likert scale of one to six with two anchor terms at each end of the scale (from 1 to 6).
The next section was created to trigger specific thought processes about a particular teacher that the students had to name, including the year level and subject that they taught. The students had to answer a series of 36 questions that were presented as a Likert Scale from 1, “never” to 6 (“all of the time”). The questions were posed in different ways to ascertain how strongly the students agreed or disagreed to a particular statement when in the named teacher’s class. A further seven questions were asked to specifically outline what they would prefer the teacher to do within the class, rather than teach by talking (from strongly disagree to strongly agree).

The final section of the questionnaire included dichotomous questions that asked the students answer yes or no about specific information about themselves, including year level, sex and a self-report statement of where they were academically compared to their peers within their year level, from well above average to well below average.

The questionnaire was deemed as the most reliable way to ensure that the large sample of students was answering the same questions in the same way. The questionnaire was created to measure the different conceptions of teacher talk between year levels, primary and secondary, characteristics and impact of specific teachers listed. The questionnaire sought to find what the students believed to be the most effective way that teachers use classroom discourse. The aim was to provide high a quantity of responses over a series of year levels that could provide reliable, confidential and honest responses. As the researcher was present when the questionnaires were completed, any misconceptions could be outlined and clarified during the completion of the questionnaire.

The questionnaire was read aloud to students in Years 4, 5 and 6 as they completed the survey online within their class groups. With all other students from Years 7-12, the survey was completed online within the school day, with the researcher supervising all students across the school. The students were able to access the survey on the school portal using their school identification number and
password. Ethical consent was gained from the University of Melbourne, and the Principal of the school where the research took place.

**Statistical methods**

The demographics of the students were explained using frequency analyses. These relate to sex, whether they claim to talk a lot in class or not, and their perceived achievement level. A maximum-likelihood factor analysis with oblique (Oblimin) rotation was used to evaluate the qualities of the Teacher Talk items. To determine the number of factors the screen test, the percentage of total variance, and the number of meaningful loadings on the factors was used. In light of meaningful interpretation the reliabilities of each factor was estimated using Cronbach’s coefficient alpha.

A series of moderator analyses were conducted using multivariate analyses of variance (MANOVA). This determines the overall differences across all factors, and then where there were statistically significant differences, univariate anovas are used to determine the specific factors that most contribute to these overall differences. The moderators include sex, year level, and self-reported achievement. Finally, an average score on the five factors is calculated for each of the named teachers. A cluster analysis is used to group the teachers into various subgroups using a hierarchical k-group cluster analysis and the resulting dendogram (picture of the relations between teachers) is used to identify meaningful clusters.
CHAPTER 4 – RESULTS

This research investigates the student's conception of how much time individually named teacher’s talk for in each lesson, and what students do and feel when teachers are talking for long periods of time. It explores the students’ conceptions of their own attention and focus in the classroom when the teacher talks, and the ratio of teacher monologue and dialogue in the classroom, their preferences of what effective discourse encapsulates and looks like.

The chapter begins with an overall discussion of the student attributes, the qualities of the instruments (including factor and reliability analyses), a series of moderator analyses, and a clustering of the teachers.

Demographics

There were similar percentages of males and females across the Year levels (Table 1. *Number and Percentage of Males and Females in Each Year Level*). Half the students (N=303) claimed that, “I do not talk a lot in class” and (N=297) claimed that “I talk a lot in class”. Compared to others in their year groups, the majority of students classified themselves as Average or Above Average in their schoolwork, with only 7% claiming they were below average. There were no differences in the percentages for these six responses for “talking in class” moderated by males and females (chi-square = 7.04, df = 5, p = .218).
Table 1. *Number and Percentage of Males and Females in Each Year Level*

<table>
<thead>
<tr>
<th>Year level</th>
<th>Female</th>
<th>%</th>
<th>Male</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>28</td>
<td>43.8%</td>
<td>36</td>
<td>56.3%</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>27</td>
<td>49.1%</td>
<td>28</td>
<td>50.9%</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>52.7%</td>
<td>26</td>
<td>47.3%</td>
<td>55</td>
</tr>
<tr>
<td>7</td>
<td>54</td>
<td>50.5%</td>
<td>53</td>
<td>49.5%</td>
<td>107</td>
</tr>
<tr>
<td>8</td>
<td>36</td>
<td>46.2%</td>
<td>42</td>
<td>53.8%</td>
<td>78</td>
</tr>
<tr>
<td>9</td>
<td>38</td>
<td>45.2%</td>
<td>46</td>
<td>54.8%</td>
<td>84</td>
</tr>
<tr>
<td>10</td>
<td>29</td>
<td>47.5%</td>
<td>32</td>
<td>52.5%</td>
<td>61</td>
</tr>
<tr>
<td>11</td>
<td>26</td>
<td>54.2%</td>
<td>22</td>
<td>45.8%</td>
<td>48</td>
</tr>
<tr>
<td>12</td>
<td>21</td>
<td>43.8%</td>
<td>27</td>
<td>56.3%</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>288</td>
<td>48.0%</td>
<td>312</td>
<td>52.0%</td>
<td>600</td>
</tr>
</tbody>
</table>

Table 2. *Frequency and Percentage of Students Reacting To Their Achievement Level Relative to Their Year Group.*

<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well Above Average</td>
<td>100</td>
<td>16.7</td>
</tr>
<tr>
<td>Above Average</td>
<td>258</td>
<td>43.0</td>
</tr>
<tr>
<td>Average</td>
<td>200</td>
<td>33.3</td>
</tr>
<tr>
<td>Below Average</td>
<td>35</td>
<td>5.8</td>
</tr>
<tr>
<td>Well Below Average</td>
<td>7</td>
<td>1.2</td>
</tr>
<tr>
<td>Total</td>
<td>600</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Qualities of the Instrument

A maximum-likelihood factor analysis with oblique (Oblimin) rotation was used to identify the optimal number of factors and factor pattern from the 54 items in the Teacher Talk Survey. It was found that five factors provided the optimal number of factors (there were too few items loading on a sixth factor), and these five explained 47% of the total variance (and all had eigenvalues > 1). The pattern matrix and correlation between factors are provided in Tables 3 and 4.

Table 3. Five Factor Solution and Correlations between the Factors for the Teacher Talk Questionnaire

<table>
<thead>
<tr>
<th>Positive to teacher talk</th>
<th>Negative to teacher talk</th>
<th>Dialogical talk</th>
<th>Monological talk</th>
<th>Other than talking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Talk Time (TTT) is Enjoyable</td>
<td>0.81</td>
<td>0.03</td>
<td>-0.08</td>
<td>-0.03</td>
</tr>
<tr>
<td>TTT is Helpful</td>
<td>0.84</td>
<td>0.04</td>
<td>-0.02</td>
<td>-0.05</td>
</tr>
<tr>
<td>TTT is Useful</td>
<td>0.81</td>
<td>0.05</td>
<td>0.01</td>
<td>-0.02</td>
</tr>
<tr>
<td>TTT is my favorite way to learn</td>
<td>0.86</td>
<td>-0.06</td>
<td>0.01</td>
<td>-0.06</td>
</tr>
<tr>
<td>I like to learn listening to TT</td>
<td>0.84</td>
<td>-0.05</td>
<td>-0.04</td>
<td>-0.01</td>
</tr>
<tr>
<td>I find TT interesting</td>
<td>0.75</td>
<td>0.01</td>
<td>-0.13</td>
<td>0.01</td>
</tr>
<tr>
<td>I can concentrate easily with TTT</td>
<td>0.77</td>
<td>-0.06</td>
<td>-0.07</td>
<td>0.04</td>
</tr>
<tr>
<td>This teacher involves others with TTT</td>
<td>0.03</td>
<td>-0.10</td>
<td>0.74</td>
<td>0.02</td>
</tr>
<tr>
<td>This teacher ask lots of questions</td>
<td>0.03</td>
<td>-0.14</td>
<td>0.72</td>
<td>0.07</td>
</tr>
<tr>
<td>This teacher uses TTT regularly to provide feedback</td>
<td>-0.10</td>
<td>-0.03</td>
<td>0.69</td>
<td>-0.04</td>
</tr>
<tr>
<td>Question</td>
<td>Score 1</td>
<td>Score 2</td>
<td>Score 3</td>
<td>Score 4</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>Questions are asked regularly within TTT</td>
<td>-0.08</td>
<td>-0.05</td>
<td>0.69</td>
<td>-0.03</td>
</tr>
<tr>
<td>This teacher involves all students in classroom discussion</td>
<td>0.02</td>
<td>-0.11</td>
<td>0.66</td>
<td>0.06</td>
</tr>
<tr>
<td>I often have a chance to talk to classmates about what we are learning</td>
<td>-0.06</td>
<td>-0.04</td>
<td>0.63</td>
<td>0.05</td>
</tr>
<tr>
<td>My voice is heard often in the classroom</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.58</td>
<td>-0.02</td>
</tr>
<tr>
<td>This teacher talks to different students</td>
<td>0.12</td>
<td>-0.05</td>
<td>0.57</td>
<td>0.04</td>
</tr>
<tr>
<td>This teacher uses visuals</td>
<td>-0.06</td>
<td>0.05</td>
<td>0.56</td>
<td>0.03</td>
</tr>
<tr>
<td>I like TTT as it gives me time to think</td>
<td>-0.32</td>
<td>-0.04</td>
<td>0.56</td>
<td>0.01</td>
</tr>
<tr>
<td>I'm often asked to speak in class</td>
<td>-0.06</td>
<td>0.26</td>
<td>0.55</td>
<td>-0.12</td>
</tr>
<tr>
<td>This teacher moves around the room when speaking</td>
<td>-0.09</td>
<td>0.07</td>
<td>0.50</td>
<td>0.01</td>
</tr>
<tr>
<td>I find TTT useful</td>
<td>-0.36</td>
<td>-0.07</td>
<td>0.47</td>
<td>0.01</td>
</tr>
<tr>
<td>Opportunity to speak in class with more circle time</td>
<td>-0.37</td>
<td>-0.09</td>
<td>0.39</td>
<td>0.00</td>
</tr>
<tr>
<td>This teacher talks in the class often</td>
<td>-0.03</td>
<td>0.03</td>
<td>-0.13</td>
<td>0.78</td>
</tr>
<tr>
<td>This teacher loves to talk</td>
<td>-0.09</td>
<td>-0.03</td>
<td>-0.01</td>
<td>0.75</td>
</tr>
<tr>
<td>Statement</td>
<td>Value1</td>
<td>Value2</td>
<td>Value3</td>
<td>Value4</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>This teacher talks in the same way</td>
<td>-0.02</td>
<td>0.12</td>
<td>0.05</td>
<td>0.53</td>
</tr>
<tr>
<td>This teacher talks whole class often</td>
<td>0.01</td>
<td>-0.04</td>
<td>0.29</td>
<td>0.45</td>
</tr>
<tr>
<td>My voice is only heard in circle time</td>
<td>-0.08</td>
<td>0.62</td>
<td>-0.03</td>
<td>-0.04</td>
</tr>
<tr>
<td>I am never chosen to speak in class</td>
<td>-0.05</td>
<td>0.57</td>
<td>-0.05</td>
<td>-0.03</td>
</tr>
<tr>
<td>I find TT Boring</td>
<td>0.31</td>
<td>0.57</td>
<td>-0.10</td>
<td>0.12</td>
</tr>
<tr>
<td>I want to be asked to speak in class more</td>
<td>0.08</td>
<td>0.56</td>
<td>0.06</td>
<td>-0.08</td>
</tr>
<tr>
<td>I do not feel heard in class</td>
<td>0.06</td>
<td>0.56</td>
<td>-0.20</td>
<td>0.07</td>
</tr>
<tr>
<td>I feel scared to question</td>
<td>-0.09</td>
<td>0.54</td>
<td>0.06</td>
<td>0.00</td>
</tr>
<tr>
<td>I don’t enjoy listening to TT</td>
<td>0.30</td>
<td>0.53</td>
<td>0.09</td>
<td>0.01</td>
</tr>
<tr>
<td>This teacher rarely speaks to me</td>
<td>-0.02</td>
<td>0.52</td>
<td>-0.02</td>
<td>-0.01</td>
</tr>
<tr>
<td>I feel distracted by TT</td>
<td>0.32</td>
<td>0.52</td>
<td>-0.03</td>
<td>0.13</td>
</tr>
<tr>
<td>I rarely get the opportunity to speak in class</td>
<td>-0.07</td>
<td>0.51</td>
<td>-0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>TTT off topic often and not relevant</td>
<td>0.16</td>
<td>0.51</td>
<td>-0.07</td>
<td>0.22</td>
</tr>
<tr>
<td>This teacher talks to the same students</td>
<td>-0.02</td>
<td>0.45</td>
<td>-0.10</td>
<td>0.09</td>
</tr>
<tr>
<td>I find it hard to remember with a lot of TTT</td>
<td>0.22</td>
<td>0.44</td>
<td>-0.02</td>
<td>0.15</td>
</tr>
<tr>
<td>I would like to be involved more in classroom discussion rather than TTT</td>
<td>0.00</td>
<td>-0.12</td>
<td>0.11</td>
<td>-0.01</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>I would like the teacher to ask more questions to clarify understandings rather than TTT</td>
<td>0.07</td>
<td>0.05</td>
<td>-0.08</td>
<td>0.02</td>
</tr>
<tr>
<td>I would like the teacher to use pictures and diagrams rather than TTT</td>
<td>0.15</td>
<td>0.04</td>
<td>-0.08</td>
<td>0.02</td>
</tr>
<tr>
<td>I would like the teacher to engage in more listening rather than TTT</td>
<td>-0.02</td>
<td>-0.01</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>I would like the teacher to continue teaching as they are</td>
<td>-0.08</td>
<td>0.23</td>
<td>-0.03</td>
<td>-0.14</td>
</tr>
<tr>
<td>I would like more activities rather than TTT</td>
<td>-0.09</td>
<td>-0.18</td>
<td>0.21</td>
<td>0.03</td>
</tr>
<tr>
<td>I would like to work in small groups more often than TTT</td>
<td>0.00</td>
<td>0.02</td>
<td>0.04</td>
<td>0.09</td>
</tr>
<tr>
<td>I would like to be given the opportunity to ask more questions rather than TTT</td>
<td>0.06</td>
<td>0.29</td>
<td>-0.11</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Note. Boldface denotes correlations greater than 0.30 to identify factors.
The five factors could be clearly labelled: the first factor is labelled *Positive to Teacher Talk*. The items in this factor came at the start of the survey, were not linked to a specific teacher, and were all relating to being positive in response to the *Teacher Talk*. All other factors were linked directly to a named teacher so that the students could specifically think about all components of the survey in relation to a current teacher. The second factor was labelled *Negative to Teacher Talk*. This highlights how the students feel heard and how they believe the dialogue/monologue impacts them in a negative way. The third factor is *Dialogical Talk*, and it highlights the amount of time the teacher spends talking, and if they involve others, or do not use a more monological method of teaching. The fourth factor, *Monological Talk* indicates the amount of time the specific teacher spends talking and how much they like to talk. The fifth factor, *Other Than Talking* gives the students a chance to give an opinion on what other methods of teaching would indeed be better from them rather than Teacher Talk.

The correlations between the factors are sufficiently low to support that they are independent factors. The estimates of reliability (coefficient alpha) of these five factors were sufficiently high to provide confidence in using total scores in subsequent analyses: Positive to Teacher Talk $\alpha = .94$, Negative to Teacher Talk $\alpha = .87$, Dialogical talk $\alpha = .91$, Monological Talk $\alpha = .92$, and Other than Talking $\alpha = .79$.

### Table 4. Correlations of the Five Factors Solutions

<table>
<thead>
<tr>
<th>Correlations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive to Teacher Talk</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative to Teacher Talk</td>
<td>0.25</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialogical Talk</td>
<td>0.51</td>
<td>0.27</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monological Talk</td>
<td>-0.11</td>
<td>-0.14</td>
<td>-0.09</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Other than Talking</td>
<td>-0.05</td>
<td>-0.26</td>
<td>-0.07</td>
<td>0.13</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Moderator Analyses

A MANOVA was used to ascertain differences between males and females and across grades (Years 4-12) (Table 5). There was no statistically significant interaction between Year Level and Sex, but there were main effects for Year Level and Sex.

Table 5. *Summary Statistics From MANOVA Of The Five Talk Factors Moderated By Sex And Year Level*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks Lambda</th>
<th>Mult. F</th>
<th>Df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year Level</td>
<td>.825</td>
<td>2.85</td>
<td>40, 2522</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Sex</td>
<td>.974</td>
<td>3.12</td>
<td>5, 578</td>
<td>.009</td>
</tr>
<tr>
<td>Year Level * Sex</td>
<td>.932</td>
<td>1.02</td>
<td>40, 2522</td>
<td>.429</td>
</tr>
</tbody>
</table>

Females outscored males for all five factors, but only two are statistically significant (Table 6). Females outscored males in terms of ‘Positive to Teacher Talking’ and ‘Monological Talk’ (see Figure 1). The females’ preference was that they liked the teacher to engage in ‘Dialogical Talk’, including regular questioning, use of visuals, being involved in discussion, receiving feedback, learning from talk and having their voices heard. Like the girls, the boys also preferred Monological Talk and were Positive to Teacher Talk, and liked Dialogical Talk and Negative to Teacher Talk.
### Table 6. Means, Standard Deviation And Summary ANOVA Statistics For Males And Females

<table>
<thead>
<tr>
<th></th>
<th>Female (N=288)</th>
<th>Male (N=312)</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>MS</th>
<th>F</th>
<th>Df</th>
<th>P</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive to Teacher Talk</strong></td>
<td></td>
<td></td>
<td>3.17</td>
<td>1.23</td>
<td>2.92</td>
<td>1.19</td>
<td>8.75</td>
<td>6.00</td>
<td>1,598</td>
<td>.015</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Dialogical Talk</strong></td>
<td></td>
<td></td>
<td>3.97</td>
<td>1.01</td>
<td>3.93</td>
<td>0.95</td>
<td>.31</td>
<td>.32</td>
<td>1,598</td>
<td>.569</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Monological Talk</strong></td>
<td></td>
<td></td>
<td>4.43</td>
<td>0.91</td>
<td>4.22</td>
<td>1.01</td>
<td>6.62</td>
<td>7.18</td>
<td>1,598</td>
<td>.008</td>
<td>0.22</td>
</tr>
<tr>
<td><strong>Negative to Teacher Talk</strong></td>
<td></td>
<td></td>
<td>2.88</td>
<td>0.94</td>
<td>2.88</td>
<td>0.94</td>
<td>.00</td>
<td>.004</td>
<td>1,598</td>
<td>.950</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>Other than Talking</strong></td>
<td></td>
<td></td>
<td>3.78</td>
<td>0.90</td>
<td>3.68</td>
<td>0.90</td>
<td>1.77</td>
<td>2.18</td>
<td>1,598</td>
<td>.140</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Figure 1. Male and Female comparisons of the five factors.
The female students identified a number of connecting features, which they claimed helped their learning. The examples given by the female students resonated with their preferences of how they show a greater need for their teachers to allow and develop their capacity to become more involved in dialogical discussion and have their choices regularly heard.

The females outscore the males on their enjoyment of teacher talk and how this impacts on their learning. The females preferred timely individual assistance where teachers were walking around the classroom. Students want to access help as they need it, and the females wanted the monitoring, checking and helping more than the males who completed the questionnaire.

All students identified that persistence in explaining and using different approaches to teaching, through different levels of questioning and dialogue with the use of visuals, and the ability to explain content in different ways, was highly valued by all students.

There were overall differences across Year Levels (4-12) on all five factors (Table 8). The mean and standard deviation for responses to all five factors, across Year Levels are provided in Table 7 and Figure 2. Comparison of Year Levels (4-12) with each of the five factors.

The univariate F-ratios show that there were differences on all five factors (Table 8). The means for all five factors are reasonably constant during the primary school years and then two year levels go up and the next three year levels go down until Year 11. In Year 12 there is a reversal. Of course, the sample size is small so care is needed not to over interpret but this Year 11 to 12 change is possibly related to students choosing to stay in school to sit a major high stakes University entrance related examinations. This may indicate that students want maximum teacher guidance, and directives that will help in anticipating and passing exams (but this would need further investigation beyond this study).
Table 7. *Summary Statistics For All Five Factors Across Year Levels*

<table>
<thead>
<tr>
<th>Year level</th>
<th>Positive to Teacher Talk (TT)</th>
<th>Dialogical Talk (TT)</th>
<th>Monological talk (TT)</th>
<th>Negative Teacher Talk (TT)</th>
<th>Other Than Talking (TT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>4</td>
<td>3.04</td>
<td>1.05</td>
<td>3.83</td>
<td>0.78</td>
<td>4.23</td>
</tr>
<tr>
<td>5</td>
<td>2.81</td>
<td>1.08</td>
<td>3.77</td>
<td>0.99</td>
<td>3.88</td>
</tr>
<tr>
<td>6</td>
<td>3.36</td>
<td>1.06</td>
<td>3.76</td>
<td>0.65</td>
<td>4.28</td>
</tr>
<tr>
<td>7</td>
<td>2.88</td>
<td>1.29</td>
<td>4.12</td>
<td>0.94</td>
<td>4.40</td>
</tr>
<tr>
<td>8</td>
<td>3.34</td>
<td>1.41</td>
<td>3.63</td>
<td>1.24</td>
<td>4.41</td>
</tr>
<tr>
<td>9</td>
<td>3.11</td>
<td>1.22</td>
<td>4.03</td>
<td>0.92</td>
<td>4.28</td>
</tr>
<tr>
<td>10</td>
<td>2.99</td>
<td>1.21</td>
<td>3.92</td>
<td>1.13</td>
<td>4.34</td>
</tr>
<tr>
<td>11</td>
<td>2.74</td>
<td>1.21</td>
<td>4.46</td>
<td>0.89</td>
<td>4.62</td>
</tr>
<tr>
<td>12</td>
<td>3.06</td>
<td>1.08</td>
<td>4.05</td>
<td>0.81</td>
<td>4.42</td>
</tr>
<tr>
<td>Total</td>
<td>3.04</td>
<td>1.21</td>
<td>3.95</td>
<td>0.98</td>
<td>4.32</td>
</tr>
</tbody>
</table>
Table 8. *Univariate ANOVA Results Across The Five Talk Factors*

<table>
<thead>
<tr>
<th></th>
<th>MS</th>
<th>F</th>
<th>Df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive to Teacher Talk</td>
<td>2.93</td>
<td>2.02</td>
<td>1,591</td>
<td>.042</td>
</tr>
<tr>
<td>Dialogical Talk</td>
<td>3.63</td>
<td>3.95</td>
<td>1,591</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Monological Talk</td>
<td>2.19</td>
<td>2.39</td>
<td>1,591</td>
<td>.015</td>
</tr>
<tr>
<td>Negative to Teacher Talk</td>
<td>2.84</td>
<td>3.30</td>
<td>1,591</td>
<td>.001</td>
</tr>
<tr>
<td>Other than Talking</td>
<td>3.17</td>
<td>4.05</td>
<td>1,591</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Figure 2. Comparison of Year Levels (4-12) with each of the five factors.
There was a statistically significant difference relating to whether students reported their own talking in class (Wilks Lambda = .977, Mult F. = 2.80, df = 5, 594, p<.017). There were two of the 5 SDI factors that contributed to these differences: Dialogical Talk (F=7.61, df = 1, 598, p=.006), and Other Than Talking (F=6.36, df = 1,598, p=.012). The students who do not talk a lot in class were more Positive to Teacher Talk, Monological Talk, and Other than Talking: that is they preferred Teacher Direct Talking. The students who claimed to talk a lot in class were more positive to Dialogical Talk, compared to Negative to Teacher Talking (Table 10 and Figure 3).
Table 9. Student Perception Of Talking In Class

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not talk a lot</td>
<td>303</td>
<td>50.5</td>
<td>50.5</td>
<td>50.5</td>
</tr>
<tr>
<td>I talk a lot</td>
<td>297</td>
<td>49.5</td>
<td>49.5</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>600</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

Table 10. Student Perception Of Talking In Class - Comparison With Each Factor

<table>
<thead>
<tr>
<th></th>
<th>I do not talk a lot</th>
<th>I talk a lot</th>
<th>Total</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive to Teacher Talk</td>
<td>3.11</td>
<td>2.97</td>
<td>3.04</td>
<td>-0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialogical Talk</td>
<td>3.84</td>
<td>4.06</td>
<td>3.95</td>
<td>0.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monological Talk</td>
<td>4.29</td>
<td>4.35</td>
<td>4.32</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative to Teacher Talk</td>
<td>2.90</td>
<td>2.85</td>
<td>2.88</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other than Talking</td>
<td>3.64</td>
<td>3.82</td>
<td>3.73</td>
<td>0.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td><strong>303</strong></td>
<td><strong>297</strong></td>
<td><strong>600</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Those students who claimed to talk a lot preferred more Dialogical and Other than Talking compared to those who claimed to not talk a lot in class.
A MANOVA indicated that there were statistically significant differences in self-reported achievement on teacher talking, dialogical talk and negative teacher talk (Wilks Lambda = .94, Mult. F = 2.53, df = 15,1635, p<.001). The reactions to teacher talk are related to beliefs about their achievement levels specifically for Dialogical Talk, Positive to Teacher talk, and Negative to Teacher Talk (Table 11).

Table 11. Univariate ANOVAs For Teacher Talk Factors Related To Achievement Levels

<table>
<thead>
<tr>
<th></th>
<th>Df</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive to Teacher Talk</td>
<td>4, 595</td>
<td>3.82</td>
<td>2.63</td>
<td>.034</td>
</tr>
<tr>
<td>Dialogical Talk</td>
<td>4, 595</td>
<td>2.80</td>
<td>2.97</td>
<td>.019</td>
</tr>
<tr>
<td>Monological Talk</td>
<td>4, 595</td>
<td>.32</td>
<td>.34</td>
<td>.851</td>
</tr>
<tr>
<td>Negative to Teacher Talk</td>
<td>4, 595</td>
<td>4.96</td>
<td>5.78</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Other than Talking</td>
<td>4, 595</td>
<td>1.53</td>
<td>1.89</td>
<td>.111</td>
</tr>
</tbody>
</table>

Figure 3. Student perception talking in class, moderation effects with factors.
Table 12. Student Perception Of Academic Achievement With Each Of The Factors

<table>
<thead>
<tr>
<th></th>
<th>Positive to Teacher Talk</th>
<th>Dialogical Teacher Talk</th>
<th>Monological Teacher Talk</th>
<th>Negative Teacher Talk</th>
<th>Other than Teacher Talk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Well Above Average</td>
<td>3.01</td>
<td>1.30</td>
<td>3.97</td>
<td>1.14</td>
<td>4.29</td>
</tr>
<tr>
<td>Above Average</td>
<td>2.96</td>
<td>1.15</td>
<td>4.05</td>
<td>0.95</td>
<td>4.34</td>
</tr>
<tr>
<td>Average</td>
<td>3.04</td>
<td>1.18</td>
<td>3.90</td>
<td>0.90</td>
<td>4.30</td>
</tr>
<tr>
<td>Below Average</td>
<td>3.61</td>
<td>1.38</td>
<td>3.51</td>
<td>1.01</td>
<td>4.40</td>
</tr>
<tr>
<td>Total</td>
<td>3.04</td>
<td>1.21</td>
<td>3.95</td>
<td>0.98</td>
<td>4.32</td>
</tr>
</tbody>
</table>
One of the issues is the lesser number of students who rated themselves *Average* (n=200) and *Below average* (N=35). These students rated *Positive Teacher Talk* lower than their (claimed) brighter peers, and rated *Dialogical Talk* and *Negative teacher talk* higher than their brighter peers. The average and below average are more content to be less involved in classroom discussion.

Figure 4. Student self-perception of academic ability.

**Clustering the Students**

There were 61 teachers identified by the students and the average score on the five Factors was calculated for each teacher. A cluster analysis was used to group the teachers into groups based on their profile of scores across the five factors by the students. A dendogram provides a depiction of the teachers most related and most distant from each other. There were five teachers that were clear outliers and for quite different reasons and thus could not reasonably be “grouped” together so this cluster of teachers (at the bottom of the dendogram) was excluded from further analyses. This analysis led to identifying three distinct groups of clusters: the first cluster had 36 teachers, the second 9, and the third cluster had 11 teachers.
Figure 5. Dendogram showing clustering of the 61 teachers.
The first cluster include teachers 1 to 36, the second cluster teachers 37 to 45 and the third cluster the remaining four teachers (teachers 46 to 57). There were overall statistically significant differences across the five teacher talk factors relating to these three clusters (Wilks Lambda = .12, F=10.93, df=1, 147, p<.001. All five-teacher talk factors contributed to these overall differences (Table 13)

### Table 13 The Teacher Talk Factors

<table>
<thead>
<tr>
<th></th>
<th>MS</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive to teacher talking</td>
<td>5.457</td>
<td>3, 57</td>
<td>26.20</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Dialogical talking</td>
<td>4.069</td>
<td>3, 57</td>
<td>27.28</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Monological talking</td>
<td>1.350</td>
<td>3, 57</td>
<td>6.98</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Negative to teacher talk</td>
<td>1.222</td>
<td>3, 57</td>
<td>5.85</td>
<td>.001</td>
</tr>
<tr>
<td>Other than talking</td>
<td>0.962</td>
<td>3, 57</td>
<td>3.66</td>
<td>.017</td>
</tr>
</tbody>
</table>
Table 14. *Cluster Groups with Comparisons with Each Factor*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Positive to Teacher Talk</th>
<th>Dialogical Teaching</th>
<th>Monological Teaching</th>
<th>Negative to Teacher Talk</th>
<th>Other than talking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>1</td>
<td>2.96</td>
<td>0.39</td>
<td>3.99</td>
<td>0.32</td>
<td>4.11</td>
</tr>
<tr>
<td>2</td>
<td>2.61</td>
<td>0.39</td>
<td>4.56</td>
<td>0.33</td>
<td>4.71</td>
</tr>
<tr>
<td>3</td>
<td>3.89</td>
<td>0.44</td>
<td>3.36</td>
<td>0.58</td>
<td>4.61</td>
</tr>
<tr>
<td>Total</td>
<td>2.99</td>
<td>0.69</td>
<td>4.04</td>
<td>0.59</td>
<td>4.32</td>
</tr>
</tbody>
</table>
Figure 6. Cluster groups of teachers identified by the students.

Cluster 1 is notable because it had low Positive to Teacher Talk, medium Dialogical Talk and Monological Talking. Cluster 2 had highest combination of both Dialogical and Monological talking. Cluster 3 had low Dialogical Talk and high Monological teaching and students who claimed to be Positive to Teacher Talk. It does seem that reactions to Monological and Dialogical talk is not a contrast, and thus the balance may be more important to either/or. It is likely that the positive response to teacher talk may be a function of this balance and invites more research as to the balance. Classroom observations will be a focus of further research to explore this in greater detail.
A cluster analysis of the means across the five factors for each teacher led to three reasonably distinct clusters, including a combined group that included a mixed variety of Year 4-Year 12 teachers, named the dialogically effective group and 2 other groups, one which was distinctly primary teachers, named the MTT, who have the students for the majority of the school day. The second cluster consisted primarily of secondary teachers, named the LTT, who have a limited amount of time with the students, only teaching their subject area and the third was a combination of both primary and secondary, named the CTT, combined group of MTT and LTT.
CHAPTER 5 – DISCUSSION

This thesis explored the notion of ‘what is effective classroom discourse?’ from a students’ perspective. The study sought to find what students believe to be the most effective ways that their outcomes are maximized through classroom dialogue and monologue and through the students’ conception of teacher talk. It documents a students’ perception of specific teachers and their thoughts about the discourse within named teacher’s classrooms. According to Fisher and Larkin (2008), the conception of how the student feels about these exchanges is essential in finding out a student’s cognitive and communicative beliefs. Flutter (2007) contended that it is the voices of students that can provide a significant contribution to the understanding of what constitutes accomplished teaching.

This study aimed to identify the characteristics of effective classroom dialogue from the students’ perspective. The 54 items in the questionnaire set out to probe the key theoretical issues identified within the literature surrounding the dominance of monological talk from the teacher and the depth of understanding taking place within the classroom. Lemke (1990) claimed that teachers’ domination of classroom monologue is to maintain the social structure of the teacher/student relationship. In particular, Alexander’s (2001) assertion that talk is often perceived as social rather than cognitive; Nystrand (1997) and Edwards and Mercer (2000) assertion that talk and questioning remains with and is controlled by the teacher; and more recently Joe, Tocci, Holtzman and Williams (2013) in the Gates MET study, suggested that 60 percent of classrooms observed in their study did not have any classroom discussions over a three month period. This study explored students’ perceptions of teaching and the impact this has on their learning. Students in this study overwhelmingly highlighted the need to work with peers and exchange more frequent dialogue within their classroom with both their teacher and their peers.

The factor analysis of the Teacher Talk items identified five factors, which were labelled: *Positive to Teacher Talking, Negative to Teacher Talk, Dialogical Talk, Monological Talk and Other than Talking*. There were moderation effects across the
five factors for sex, year level, student (self) perception of talking in class and academic ability. The major moderators were then analysed with the five factors.

**Major Themes**

Three major themes can be identified from a students’ perspective after analysis from the results of this thesis.

**Theme 1: Student conceptions of teacher talk.**

The questionnaire titled ‘The Teacher Talk Survey’ was described to students as one that would help them understand how much talking is taking place within the classroom. Students were advised to answer every question as honestly as they could to help understand how they think and feel about teachers talking in the classroom. There was much support for the underlying psychometric properties of this instrument.

Five factors were identified through factor analysis; the first ‘*Positive to Teacher Talking*’ did not identify a specific teacher, and students were introduced to the concepts of how they felt during class time when the teacher spends most of the time talking. The students had to identify notions around concentration being easy/hard, interest/boredom, like/dislike, useful/useless, helpful/unhelpful and enjoyable/frustrating. All other factors were specifically related to a teacher who students were asked to identify and to the subject that the teacher taught.

The second factor identified was ‘*Negative to Teacher Talk*’ that identified how the students felt pertaining to their relationship with the teacher, and why they dislike teacher talk and the impact this has on them negatively in the classroom.

The third factor identified was ‘*Dialogical Talk*’ whereby the students could identify how they felt about their involvement in the classroom with the teacher identified: how students feel that they are learning from teacher talk, and how they feel about and how often they contribute, ask questions, are asked questions, speak, and are given the opportunities to speak, and how they feel about this. The fourth factor being ‘*Monological Talk*’ enabled students to express how they felt when and
The students could dependably distinguish between these five attributes of classroom talk; Monological Talk had the highest mean with the students initially stating that they enjoy teachers talking a lot. When asked to identify a specific teacher and make connections to their own learning, Negative Teacher Talk had the lowest mean. Students initially responded with teacher talk as a positive as it would seem the students only know all teachers as having high levels of teacher talk, as identified in the Monological Talk. However, when given the options of other than talking, many of the students responded wanting options other than talking, such as more opportunity to be involved in the classroom discourse with their teacher and peers individually and small group settings.

Theme 2: Student conceptions of teachers using effective dialogue/monologue.

Surprisingly, when analysing the clusters of teachers, three clear groups of teachers emerged from the identified five factors:

The first group being named the ‘MTT (majority time teachers)’- being those teachers that teach these students for the majority of the school day and the school year. These teachers were primary teachers and teachers within the year 9 program that had the same students for the entire school day, with the same setting as the primary school. The second group being the ‘LTT (limited time teachers)’, being those teachers who are subject specific teachers, seeing these students not for the entirety of the school day or year. These teachers were secondary teachers that taught in specific subject areas. The third group being called the ‘CTT (combination time teachers)’. These teachers were a combination of LTT and MTT.

MTT were identified as all Junior School teachers (4-6) and teachers from Year 9, this group of teachers operate and teach in similar settings to each other as they teach all classes for the entirety of the day, teach all different subject areas with
the students in their home group, and collaborate regularly and have regular and on-going dialogue as an entire Year level.

LTT were identified as Senior School teachers, teaching years 7, 8, 10, 11 and 12. All of these teachers teach within their own subject specific area and collaborate with other teachers in their subject department only. There was a similar pattern that emerged within both MTT and LTT, with both of these 2 groups having high levels of classroom discourse and the students preferring classroom dialogue rather than monologue.

It became evident that the majority of students who completed the questionnaire believed that all teachers in all three groups have high levels of teacher monologue in the results section. -See results section with the teacher talk means, with the students who highlighted the primary teaching and secondary teaching group wanting more involvement in classroom dialogue. The students in MTT and LTT wanted a chance to be heard, have regular dialogue with their teacher and peers, and wanted to be listened to. They wanted to gain more feedback through on-going classroom dialogue, to know how to achieve their goals. Students across the first two groups indicated that they would like to see differences with the ratio of teacher to-student, student-student dialogue and less teacher monologue. The students in the combined/ effective classes would not change the frequency of dialogue, even though the identified teachers had a high frequency of teacher monologue. These teachers were described as those who allowed students the adequate wait time and thinking time to answer questions and engage in classroom discussions/dialogue. Thinking time and wait time can support and allow necessary processing time for students to think about and clarify their thoughts (Alexander, 2001; Cazden, 2001; Ingram & Elliott, 2014).

The LTT is seen by the students as those teachers who will often not allow for hearing other students aloud or engage in regular classroom dialogue. Students believe that these teachers know their students well: they indicate that there are a lot of interactions due to the large amounts of teacher talk.
The MTT group of teachers are those the students indicate as the teachers who does not regularly engage in classroom discussions or allow for regular student voices to be heard. This group also does not move around the room as often and, like LTT also loves to talk. The students believe that this group does not know them as well as the LTT. Students identified these teachers in both the LTT and MTT as groups of teachers, as teachers who loved to talk, and often the classroom was dominated by teacher monologue. The students in these groups did not enjoy listening to the regular classroom monologue and would often lose focus on what was being said: they hoped that this teacher could use other strategies that included more students in dialogue with both the teacher and other peers.

The third and final group was a combined group of teachers CTT. These teachers clearly stood out as the most effective group, whereby students felt that they thrived on the teacher dialogue that was occurring in these classrooms. The students who identified teachers in the third cluster, the combined/effective group of teachers, were interestingly those students that least liked teacher talk. However, this group thrived on rich dialogue of the teacher identified, and would not change the way that a specific teacher engaged in positive classroom dialogue or monologue. These students identified a group of specific teachers that provided a classroom where they (the students) were cognitively challenged, had regular dialogue with both their teacher and their peers, and had many opportunities to engage in active dialogue that allowed them to extend their thinking and build upon their own, and hear opinions from other students or the named teacher. Furthermore, these students did not want any changes to the classroom environment and did not want anything to change.

The students identified multiple ways that these teachers use discourse within the classroom. They were teachers who had developed a large repertoire of discourse techniques that were being used to develop and engage students in both dialogical and monological discussions that were authentic and meaningful. The students believed that they were ‘all’ active participants with this teacher and that, although the teacher loved to talk, there was a belief that all students had an active voice. The learning intentions were clear, they knew where they were, what success
looked like and, most importantly, how to get there with on-going effective classroom dialogue: - as did their teacher (Hattie, 2012).

The teachers in the CTT were identified as those where the dialogic nature that they shared with the students indicated more student involvement in learning, in which students had the opportunity to engage in the teachers’ thinking and understanding, even though the teachers used monologue regularly. Alexander (2008) identified similar features as ‘essential features’ in the dialogic classroom as collective, reciprocal, supportive and purposeful. The teachers highlighted in the third and most effective group were those who promoted growth and development of ideas, and where all students were able to articulate ideas free of judgments, and where mistakes and misconceptions were valued. Without this, the teacher loses many opportunities for exploring errors and misconceptions collectively with each student. These students identified a teacher that had developed a confident culture around talk as one where students both listened and required to be listened to, and expected to be listened to, and these students felt confident that their mistakes would be viewed as a learning opportunity.

The teachers in the CTT were seen as those who were inclusive to all and thus a supportive environment was created where all students felt that all ideas were worthy, and that each class member could contribute to ideas and discussion without fear of saying something wrong or being told by the teacher that they were wrong. The students felt that these classroom teachers had created a safe culture for classroom dialogue. When the culture of safe classroom dialogues produce interactions from all students occur regularly. Productive interactions are achieved when teachers are receptive to a range of students’ ideas and they are able to prompt and challenge the students’ thinking and reasoning (Biggs & Collis, 1982; Ingram & Elliott 2014, Moyles, Hargreaves, Merry, Patterson & Esarte-Sarries, 2003; Marzano & Simms, 2014; Scott, 2015; Wilkingson & Silliman, 2000).

The students felt comfortable within the environment that the CTT had created and where all student voices are heard and valued. Teachers in the CTT were not only able to engage in dialogue, but also listen to the students. To create a
culture of quality classroom discourse, teachers must devote time to dialogical
discussion and active listening to their students to sustain deeper level opportunities
and become active participants within their own classroom. Furthermore, Hattie,
(2012) concluded that teachers must show students that they are actively listening,
suggesting that this can be done with ongoing formative assessment and engaging in
active dialogue to help the student understand what success looks like and how to
get there with clear learning intentions.

When it comes to the effectiveness of dialogue, with the CTT, the students
identified that the teacher was able to listen and engage in regular monologue and
dialogue regularly. The researchers identified that the frequency and type of
dialogue was important, however the students identified that the interaction
between the teachers and all students within the class were significant in what the
student perceived to be most effective. They identified that the discourse (whether
it was monological or dialogical, must involve all students, must be on task and it
was challenging and monological and dialogical at the appropriately match the
appropriate time in order to move students from surface to deeper level
understandings.

This group of teachers were identified as ‘active listeners.’ Listening can
inform teachers about where a student is in terms of their learning, what knowledge
they bring, the gap between where they are and where they need to go to achieve
success and maximise their outcomes, and for students to articulate their
understandings and misconceptions (Cazden et, al., 1985; Hattie, 2012; Smith et, al.,
2003; Wells, 1999). The students believed that this group of teachers’ value listening
to the dialogical exchanges within the class. Hattie (2012) argued that listening
involves both students and teachers addressing questions, concerns and the
evaluation of differing ideas and collectively resolving these ideas. He claimed that
when classrooms are dominated by teacher monologue, it demonstrates to the
students that they do not own the subject content, but instead content belongs to
the teacher. Listening needs dialogue and dialogue needs listening.
Theme 3: Student conceptions of the importance of relationships and feeling heard within the classroom.

The study highlighted that students were more likely to engage in extended talk, and enjoyed being a part of whole class questioning. They collaborated with their teacher and peers regularly when they were motivated by the classroom discourse that was occurring. The relationships between student and teacher had significant impact when the students felt that they (and others) were heard and engaged in regular dialogue, and that, in turn, they were able to develop a positive academic growth trajectory with these teachers. The students knew that not only were they heard in this class, but that all students were valued and heard by this teacher: the dialogue was not dominated by particular students or by the teacher.

Further to this, Alexander (2008) has suggested that dialogic classroom interactions be used to provoke student thinking by asking authentic questions that engage what the students think and know. The students highlighted that teachers in the third group were those who had high expectations and asked questions that extended them and challenged them to think and achieve success. Nystrand (2007) describes this process as ‘uptake,’ when teachers can develop positive and authentic interactions through questioning, dialogue and positive interactions with students and the teacher. In doing so, students have the opportunity to articulate, develop and extend their thinking and ideas to deeper level understandings, and the ability to transfer this knowledge to new settings (Wiggins & McTighe, 2005).

Implications For Further Research

1. If not dialogue vs. monologue, then what qualities do the teachers who are proficient at dialogic teaching exhibit?

As this study has highlighted, the students’ main concern is not whether or not the teacher talk is monological or dialogical, but rather how they are involved in the dialogue and the type discourse/questions that the teacher uses. This study highlights the need for greater exploration of specific types, balance, and interactions between types of questioning; involvement and dialogic teaching in order to improve and clarify what is effective talk in the classroom. Students in the
study indicated that they needed the time to reflect, and have classroom teachers who encouraged positive risk-taking where students could speak and ask questions on a regular basis and, indeed, flourish in this environment. This seems to be one of the requests from the students in Group 3. The students in all Year levels (Years 4-12), however, wanted to be involved in a discussion, be asked more questions, and be able to ask questions.

Teachers’ questioning can stimulate students’ motivation, focus their attention, help students learn and think better, and also help the teacher know how well a student’s learning is (Dillon, 1988). Therefore, the investigation on a teacher’s questioning behaviour and method has been an important issue in the language classroom and must come together when looking at the most effective classroom discourse.

2. Cognitive development through classroom discourse/questioning to create deep level learning experiences.

Questioning is an essential component of on-going formative assessment. It enables all class members, including the teacher, to think and to extend thoughts and understandings. On-going questioning makes thinking visible to all in the class; thus highlighting the student’s perceptions of teachers who do not engage or interact with students, with their own classroom practice being dominated by teacher monologue. Students identified teachers who had a monological approach to teaching as not engaging the students with questioning and, thus, being unaware of their abilities. Students in these classes were often given tasks that they already knew and did not always know what success looked like and, if they did, they were unaware of how to get there. Effective questioning to develop the deeper understanding were from those teachers who asked questions to all students, and the classroom environment was one where error was celebrated and questioning was encouraged. Students acknowledge that they not only learnt from their teacher, but powerful learning opportunities were often gained when another student asked or answered a question in a way that facilitated a depth of meaning situated within their own world and their own language. More evidence is needed on how to implement impact questions.
A high proportion of students from this study indicate that monological practices are ineffective for them, and that they understand that information, knowledge and skills are retained when there is discussion and on-going dialogue happening with the teacher and peers. However the third group brought a depth of thinking and processing, together with high expectations, inclusiveness of discourse that incorporates dialogue and monologue. How regularly do teachers in this group evaluate ideas being brought forward, and provide a depth of thinking and processing on which questions best support the attainment of dialogue and understanding needed for student success.

As the students who identified the most effective teachers were the most engaged, could effective classroom dialogue build meaning and ensure success in their student’s learning? Moreover, how are these students moving from surface level to deeper level depths and understanding without any misconceptions within their learning and thinking process on an on-going basis? The exploration and development of a model/Framework that enables students to effectively move through the differing levels of understanding within a timely manner to achieve a ‘transfer’ of their understanding and knowledge in an authentic way to a new and unfamiliar idea or concept to make connections, patterns and form new and more advanced understandings will maximise student outcomes.

3. Level of Evaluation- impactful feedback

Setting up a communication system that shapes the lesson and the roles that students play is a major determinant of the engagement levels within the class (Alexander, 2001, 2008; Hattie, 2012; Mercer & Littleton, 2007), providing effective evaluations on how productive their communicative approach with discourse is, and ascertain if this leads to further opportunities to engage students to explore and develop through their own ideas and questions (and that of others) within the class. This will create a classroom cultural that is supportive and inclusive of all ideas, and combine the use of teacher questioning that allows all learners to know what
success looks like, and provide clear learning intentions and clear explanations on how to get there.

Successful classrooms use discourse to provide students with the opportunity to move beyond surface level understandings to much deeper levels that can be transferred to other contexts. Making feedback visible with discourse, and ensuring that students and teachers can articulate the learning intentions and success criterion of each lesson. Appropriate and timely verbal feedback is crucial. Students need to know and verbally articulate, where they are now?, Where they need to go? and ‘How are they going to get there?’ Hattie (2102) describes this as learning intentions that ensure that effective interactions occur regularly and dialogue than can correct misunderstandings as they happen and ensure students are able to achieve success through ongoing, impactful feedback.

4. Building student/teacher relationships through dialogue

Many studies have shown that students need to have the opportunity to articulate their ideas freely without fear or embarrassment (Alexander, 2001; Mercer 2008). With the teacher allowing and accepting the wrong answers, and reaching a common understanding by allowing mistakes, thoughts, actions and feeling to happen. A supportive environment must be created by the teacher (Zins et al., 2004) where students feel that they can be involved in dialogical discussions without fear, or where there is constancy and equality of the amount of teacher time given one-to-one with individuals.

5. How can teachers reflect on their own practice and develop effective classroom interactions with discourse?

Do teachers’ perceptions of teacher talk match that of students? With the use of cameras and classroom observations, how can teachers use this feedback to specifically look at the use of eye contact, interactions, listening, connections to all students, engaging all students, setting high expectations and ensuring that all students are moving from surface level to deeper level understandings, and do students have sufficient time to think and respond to questioning? What type of questioning is being used?
Further follow up studies are required to answer the original research question, being ‘What is the most effective type of classroom discourse?’ It is suggested that further research would clarify, strengthen and extend on some of the conclusions of this study. This research hopes to benefit classroom teachers and develop quality dialogue with students, assisting in the development of how teachers are able to coordinate and develop dialogue with students as a developed skill, rather than those who do it ‘naturally,’ and those teachers who are not aware of the significance of their own classroom interactions. Students in this study provide an insight into the nature of dialogic pedagogy and its importance and contribution to efficacy surrounding everyday classroom discourse: ideas that will lead all teachers to have classrooms that are rich with effective classroom dialogue and engage in regular discourse, that allows teachers to maximise their student outcomes, every moment, with every student in the class. The research provides insights into language being central to learning, and makes visible the role of talk within the classroom to benefit students and indeed impact their learning.
Concluding Comments

While teacher monologue has its place in the classroom, this research has highlighted that students want also to engage in regular classroom discussion and dialogue. Nonetheless, the research highlighted some surprising differences between groups of teachers that each student has identified. The students reported that there are certain characteristics and exceptions where teacher monologue is accepted and, indeed, students with these teachers identified are able to thrive with the teacher monologue in this specific class; in fact they enjoy it. For classroom monologue to be successful and engaging, the setting must be one where the students in the class feel empowered with classroom discourse that involves all class members, expectations are high and the classroom language is not constrained by monologue, but enables questioning, prior knowledge to be valued, and where new thoughts and ideas and all students have a voice. Hattie (2012) articulates this with the notion of clear learning intentions and success criterion. Teachers who adopt these notions know the students through effective formative assessment, and students know where they are, where they need to go, and how they are going to get there. These classrooms provide the opportunities for teachers to guide the discourse and become an equal participant in the students' discourse. The importance of a teacher's dialogical stance within the context of the classroom, including effective classroom questioning techniques and a conscious shift by the teacher from monological to dialogic must be shared and made visible with both student and teacher (Mercer & Littleton, 2007; Young, 1991).

The quality talk within the classroom frames the curriculum, the levels of understanding and the relationship between student and teacher. Effective classroom discourse is the cognitive stepping-stone to student success (Fisher, 2007). In proposing a view from the perspective of the student, this study offers a way of extending new knowledge to effective classroom discourse from the perspective of the student, seeing their view on quality ‘teacher talk’. The students in this study had a clearly defined preference for on-going dialogue and interaction with the teacher and their peers. The students were asked about the characteristics of specific teachers have in productive classroom discourse. Characteristics that
impact student learning, extending the ability to think and feel positive and engaged with classroom discourse is explored and the teachers who use both monologue and dialogue regularly also include all students and students have a sense of not only high expectations in this class, but also have clarity with learning intentions and know how to achieve success, moving through levels of understanding that allow all students to develop a deeper understanding of new and developed knowledge, skills and understanding with dialogue.

Through effective and timely monologue and dialogue, the students were able to articulate that teachers can elicit students' every day, 'common sense perspectives, engage with their developing ideas and help them overcome misunderstandings. When students are given opportunities to contribute to classroom dialogue in extended and varied ways, they can explore the limits of their own understanding. At the same time they practice new ways of using language as a tool for constructing knowledge. The structure, flow and quality of classroom discourse are central to the classroom and will affect the direction and impact of the lesson. While discussion or dialogue involves a relative decrease in the amount of teacher talk and increase in student talk, the involvement of the teacher is a vital component of the dialogic technique. Students are guided through the learning process by carefully crafted interactions, rather than left to discover – or not - important ideas, information, concepts and ways of interacting.

Use of a framework and research such as Alexander’s Dialogic Teaching Model, Biggs and Collis’ SOLO Taxonomy, or Marzano’s systematic approach about how to create connections and move from surface level to deeper level understandings through effective classroom discourse may assist teachers in making further connections, which engage and foster learning through dialogue. The implementation of the curriculum with the teacher seeing through the eyes of the student is an essential element in maximising learning outcomes. Issues such as diversity, inclusion, student voice and social justice in terms of curriculum conceptualization and implementation, pedagogies and assessment strategies must be considered. (Alexander, 2001, 2008; Biggs & Collis, 1982; Hattie, 2012; Marzano & Simms, 2014; Nystrand, 1997; Ritchhart, Church & Morrison, 2011).
Students in this study highlighted a need to feel that they can express their ideas freely, without fear of embarrassment over wrong answers. Arguably, the research by many of which are committed to exploring the depths of effective discourse, seek ways of translating their work into classroom practice. Indeed, the complexity of findings and process to attaining sustainable ‘dialogic teaching’ requires a level of familiarity for the teachers to us the process and steps required to plan, execute and reflect on this regularly. Determining the steps teachers can take to promote effective classroom dialogue and questioning, rather than teacher monologue from the student perspective is developed within this thesis, yet still remains a central concern of future research. Future research will explore the notion of talk being involving, on task, having clarity and importantly moving students into deeper levels with the use of monological and dialogical discourse. Further research from this study will elaborate on the claims about effective classroom discourse and the need to be more nuanced than just looking at the frequency, the type of teacher talk, but instead finding out more about the interaction between the challenge and nature of the discourse.
REFERENCES


Kriewaldt, J. (2009). ‘He talks to you, not at you’: Attending to learners’ perspectives to enhance understanding of accomplished teaching. Refereed paper presented at ‘Teacher education crossing borders: Cultures, contexts, communities and curriculum’ the annual conference of the Australian Teacher Education Association (ATEA), Albury, 28 June – 1 July.


The Teacher Student TALK survey

This survey aims to help us understand how much talking there is in your class. It is really important to answer every question and as honestly as you can as this will help better understand what you think. There is no need to put your name so your honest answers are very welcomed.

When my teacher spends most of the class time talking to us ... I find this:

1. Encouraging  1  2  3  4  5  6  Discouraging
2. Interesting  1  2  3  4  5  6  Boring
3. I like learning like this way  1  2  3  4  5  6  I do not like to learn this way
4. My favourite way to learn  1  2  3  4  5  6  My least favourite way to learn
5. Useful  1  2  3  4  5  6  Useless
6. Helpful  1  2  3  4  5  6  Not helpful
7. Frustrating  1  2  3  4  5  6  Enjoyable

Name of your teacher__________________________________________________________________________

This teacher teaches me which subject/Year level

________________________________________________________________________________________

76
For the next set of questions use this scale - (circle one for each question)

<table>
<thead>
<tr>
<th>Hardly</th>
<th>Ever</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very</th>
<th>All the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

When in this teacher's class ...

1. I get an opportunity to ask lots of questions  
   | 1 | 2 | 3 | 4 | 5 | 6 |
2. I do not get an opportunity to speak  
   | 1 | 2 | 3 | 4 | 5 | 6 |
3. This teacher talks to the whole class often  
   | 1 | 2 | 3 | 4 | 5 | 6 |
4. This teacher always involve students in the discussion  
   | 1 | 2 | 3 | 4 | 5 | 6 |
5. My teacher rarely speaks to me in class  
   | 1 | 2 | 3 | 4 | 5 | 6 |
6. The only time my voice is heard is during circle time  
   | 1 | 2 | 3 | 4 | 5 | 6 |
7. My classmates and I often have the chance to be involved in discussions about learning with each other during class time  
   | 1 | 2 | 3 | 4 | 5 | 6 |
8. I know that I am learning in this class because the teacher provides lots of information to me about my learning  
   | 1 | 2 | 3 | 4 | 5 | 6 |
9. Regular questions and comments by my classmates helps me understand things I did not understand before  
   | 1 | 2 | 3 | 4 | 5 | 6 |
10. Regular questions and comments by my teacher helps me understand things I did not understand before  
    | 1 | 2 | 3 | 4 | 5 | 6 |
11. I enjoy listening to the teacher teach us by talking and explaining everything  
    | 1 | 2 | 3 | 4 | 5 | 6 |
12. I don't enjoy listening to my teacher teach us by talking and explaining everything  
    | 1 | 2 | 3 | 4 | 5 | 6 |
13. I like the teacher talking because it gives me a chance to think about the information they are asking  
    | 1 | 2 | 3 | 4 | 5 | 6 |
14. When the teacher talks a lot I feel like I know I am going to learn something useful  
    | 1 | 2 | 3 | 4 | 5 | 6 |
15. When the teacher talks a lot I enjoy learning this way because I like to listen and not talk  
    | 1 | 2 | 3 | 4 | 5 | 6 |
16. When teachers talk a lot, I find it hard to remember what I was taught  
    | 1 | 2 | 3 | 4 | 5 | 6 |
17. He or she loves to talk  
    | 1 | 2 | 3 | 4 | 5 | 6 |
18. My teacher talks for a long time most lessons  
    | 1 | 2 | 3 | 4 | 5 | 6 |
19. My teacher always teaches in the same way- by talking to the whole class a lot
20. He or she loves to involve other people in the class discussion

21. I am asked to speak a lot in front of the class

22. My voice is heard often in the class

23. This teacher always asks the same students to answer questions in this class

24. When hands are up the teacher will often ask different people to answer the question or to contribute to discussion

25. I put up my hand often to answer questions or make a comment, but I never am chosen to answer or contribute

26. When the teacher talks a lot I feel bad because I would like to be asked more questions to become an active class member

27. My teacher often moves around the room listening to what we are saying

28. This teacher speaks directly just to me often not just the whole class

29. I feel like I have a good relationship with this teacher

30. I am scared to ask questions or be asked questions in front of the class

31. When the teacher talks a lot I feel happy because I don’t need to make a comment or answer questions

32. In class I talk a lot

32. When the teacher talks a lot I often will play with things on my table or look out the window and think about other things

33. When the teacher talks a lot I think that it is really boring and I don’t look forward to the class because of this

34. When the teacher talks a lot I feel like the teacher goes away from the topic or aim of the lesson often and start talking about things that are not relevant

35. When the teacher talks a lot I don’t enjoy working this way

36. Ask the class more questions

Rather than teach our class by talking to the class, I would like my teacher to …
37. Work in small groups where students do most of the talking to each other

38. Continue to teach this way, I like listening to me teacher teach by talking to our class for most of the lesson on that topic.

39. Keep asking us question regularly to clarify my understanding.

40. Help me to elaborate on my ideas by involving more students into the whole classroom discussion.

41. Set up more group work activities- this works much better for me

42. Create more circle time opportunities

Some background information about me (Circle one)

43. I am in Year

44. I am Male Female

45. Overall, compared to students in my Year group, I would say that my school work is generally (circle one):

<table>
<thead>
<tr>
<th></th>
<th>Well Below</th>
<th>Below</th>
<th>Above</th>
<th>Well Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>Average</td>
<td>Average</td>
<td>Average</td>
<td>Average</td>
</tr>
</tbody>
</table>

Thank you for completing ALL of the questions
Minerva Access is the Institutional Repository of The University of Melbourne

Author/s:
Murphy, Sophie Kim

Title:
Student conceptions of effective classroom discourse

Date:
2015

Persistent Link:
http://hdl.handle.net/11343/54885

File Description:
Student conceptions of effective classroom discourse