Impact of dialogic teaching and collaborative activity on learning in the primary...

With Reference to the Current Literature, Evaluate the Impact of Dialogic Teaching and Collaborative Activity on Learning in the Primary Curriculum

This essay will discuss the impact of dialogic teaching and collaborative activity on learning in the primary curriculum. In particular, the literature around how children learn and the effect of active and structured talk on the development of children's learning. Furthermore, this essay will discuss how these theories have led to the increased development of dialogic teaching and collaborative activity and the way in which this has been portrayed through the Primary National Curriculum (2014). Firstly, dialogic teaching and collaborative activity will be summarised, following this, key educational theorists' pedagogical approaches will be discussed, in relation to the way in which these approaches coincide with my experiences as a trainee teacher thus far. I will then discuss how these theories relate to dialogic teaching and collaborative activity and research around the effectiveness of this in the classroom. Finally, I will relate how dialogue and collaboration have been included in the Primary National Curriculum (2014), in particular, within the core subjects English and Maths.

Dialogic teaching and collaborative learning encompass pedagogical practices, promoting socialisation to stimulate pupils thinking and challenge their understanding (Alexander, 2004; Gillies, 2016). Traditionally, the classroom encompassed an initiation-response-evaluation pattern, with most interactions initiated by the teacher (Nassaji and Wells, 2000). However, teachers understanding concerning classroom dialogue is higher than it has ever been before (Mercer and Dawes, 2014). This is because in most classrooms the quiet students tend to avoid engaging in dialogue (Schultz,

2009), and therefore, are less likely to transfer their learning and engage in others learning. Bakhtin (1981) argues that human consciousness is dialogic and collaborative by nature, therefore, through activities requiring interaction between peers, consciousness will become internalised and increased dialogue will have a positive effect on students, especially those who tend to avoid engaging in dialogue. This was confirmed in an early meta-analysis by Johnson, Maruyama, Johnson, Nelson and Skol (1981) involving 122 studies; whereby results informed that cooperation and collaboration results in a more positive outcome than individual efforts and competition between peers. Therefore, the importance of dialogue and collaboration has always been recognised, but only more recently seen as a priority in the classroom. Due to the interest in what assists in children's learning, many researchers have studied what results in children learning, which impacts classroom teaching practices.

Behaviourism, which is an approach encompassing the belief that children learn passively from teachers, due to the stimulus-response relationship, was the prominent theory in the 20 th century. Behaviourism can be traced back to the 19 th century to work by Thorndike (1998) on the Law of Effect, introducing the concept of reinforcement. Later, Skinner (1948) adopted this behaviourist approach, introducing the theory of Operant Conditioning, stating that a behaviour followed by a positive consequence is more likely to be repeated, and behaviour followed by a negative consequence is not likely to be repeated. Operant Conditioning applies to the classroom context and is used widely by many teachers. As a trainee teacher myself, I have experienced the use of negative reinforcement whereby challenging

behaviour from pupils is ignored and other pupils who are behaving are praised positively, causing negative behaviours to be reduced, and positive behaviours to be reinforced.

On the other hand, Dewey (1916), who rejected the prevalent theory of the time, Behaviourism, calling it simplistic, placed greater emphasis on the social context of learning, as oppose to the idea that children are a recipient of knowledge. Dewey (1959) also recognised school as being a social institution and communicated the role of the teacher as being a role of guidance for pupils. Therefore, Dewey (1916) believed that the teachers should be provided with autonomy, as for children, all social communication is educational. Due to Dewey's beliefs, rather than children sitting behind their desks, they should be encouraged to interact with others and engage in hands-on activities as he believed that all social communication is educational. Therefore, children should be encouraged to engage with the wider community in places such as nursing homes, soup kitchens and with local charities.

Many schools encourage this cooperative learning between pupils using cooperative learning principles and techniques, for instance some schools use Kagan structures in order to promote cooperation, such as the Numbered Heads Together Technique (Kagan, 1992). This involves pupils being put into groups of four and then given a number and the class will get given a text to read and the teacher will ask the class a question, the students get together in their groups and come up with an answer and the teacher calls a number (one to four) so that one of the members of the group gives their answer and explains. This requires cooperative learning in that all

members need to be involved in the group, resulting in successful group cooperation.

This social idea of human behaviour, recognised by Dewey, was also theorised by Piaget (1936) in his stage theory of child development. Piaget's (1952) theory also captures schemas, which he recognised as the basic building blocks of knowledge, allowing us to build a mental interpretation of the world. Like Dewey, Piaget recognised the importance of satisfying a child's curiosity, in order for learning to take place. According to Piaget (1936), these schemas are only developed by the child when they reach an appropriate stage in their development. These stages include the: sensorimotor stage (from birth to age two), the preoperational stage (from age two to age seven), the concrete operational stage (from age seven to age eleven) and lastly, the formal operational stage (from age eleven onwards). During these stages the child develops different goals; in the sensorimotor stage the main goal is for the child to gain object permanence meaning that they will know an object exists, even if it is not in plain sight. The preoperational stage involves children having the ability to think about things symbolically, so to understand that a word or an object can mean something other than itself. The concrete operational stage concerns the beginning of logical or operational thought, so the child can think internally. Lastly, the formal operational stage involves the ability to think about abstract concepts.

Piaget (1952) did not explicitly relate his theory to education. However, Piaget's theory is based upon the idea that children should only be taught concepts when they reach an appropriate stage of development, which is

applicable to the National Curriculum (2014), as each topic is allocated to differing year groups/key stages. In addition, as seen in Dewey's work concerning the importance of the social context in learning, Inhelder and Piaget (1958) recognised that problem-solving skills cannot be taught, and classroom learning should be student-centred. Therefore, as a trainee teacher applying these theories, it is important to recognise children's stage of development in order for their learning to occur and also to allow their learning to be student-centred rather than rigid, so children can understand and assist their own development.

However, in 2006, the Cambridge Primary Review investigated primary education in England (Edited by Alexander, 2010) and emphasised the narrow nature of the Primary National Curriculum matching ages with stages at school. For instance, the review endorses that the Early Years Foundation Stage should be extended to age six, to allow children to become more socially and linguistically prepared for Key Stage One. Therefore, this stage development theory by Piaget (1936) has both strengths and drawbacks, due to the fact that children do need to make progress in stages of their development, but rigid age-related stages can have a negative effect on pupils' education.

Vygotsky (1978) also developed a Constructivist theory alongside Piaget, accentuating the importance of social interaction for the development of cognition. However, unlike Piaget, Vygotsky did not focus on stages of development and recognised the variation in cognitive development across cultures. Vygotsky (1978) also focused more on the social contributions to children's development, whilst Piaget focused more on the child's self-

initiated development across stages. Moreover, Vygotsky (1978) developed the concept of the Zone of Proximal Development (ZPD), which encapsulates the difference between what an individual can accomplish independently and what an individual can accomplish with assistance and guidance from another, more knowledgeable individual. This process involves scaffolding, which was later introduced as a term by Wood, Bruner and Ross (1976), consisting of the activities provided by the more knowledgeable other, in order to support the other individuals ZPD. This supports the notion that interaction with others is an effective strategy in developing new skills (Vygotsky, 1978). This applies to differentiation in the classroom – often pupils are seated with either more knowledgeable individuals or individuals of a similar ability, depending on the task, so those of a lower ability benefit from working with another more knowledgeable individual increasing their ZPD. This process also has a positive effect on the more knowledgeable individual, as teaching another individual requires understanding in order to describe, which extends their skills socially and educationally.

Bruner (1966) was concerned with how knowledge is represented through different modes, believing in a social cultural perspective of learning through scaffolding in order to assist children in developing skills, alongside Vygotsky. As oppose to Piaget, Bruner (1960) believed that schools waste time matching subject material to cognitive development and this notion of developmental stages determining readiness, as this may cause pupils to be held back by teachers when they assume difficulty of topics. Bruner (1966) developed three modes of representation which are integrated: enactive representation (action-based), iconic representation (image-based) and

symbolic representation (language-based). The enactive mode encapsulates age zero to one, being the first memories experienced, whereby thinking is based upon only physical actions e. g. the action of sucking on a bottle. The iconic mode, ranging from age one to age six, is the visual storing of facts and the symbolic stage, ranging from age seven onwards, concerns information stored as a code, such as in language. For Bruner (1961), education is not to transfer knowledge, but to facilitate a child's thinking – in agreement with Piaget (1936), that children are active participants in their learning process. Therefore, in the classroom, Bruner's (1960) ideas encourage materials in the classroom to be visually, vocally and intellectually appealing, with the introduction of a spiral curriculum, whereby information is simplified as first and then revisited later at a more complex level. This therefore promotes more intuitive thinking within students.

In line with this work by Vygotsky, Mercer (2008) worked to demonstrate the quality of talk, socially and educationally, between children during collaborative activities in the classroom. However, contrasting Vygotsky's ZPD, Mercer (2002) proposed the Intermental Development Zone which allows individuals to interact and develop with one another, without the influence of a teacher. Mercer (1996) introduced three distinctive ways of talking and thinking: disputational talk (disagreement and individualised decision making), cumulative talk (whereby speakers build on what others have said) and exploratory talk (which occurs when children engage constructively with one another's ideas). Mercer, Wegerif and Dawes (2013) conducted a study on primary school children in order to improve the quality of their collaborative activity through developing their use of dialogue for

their reasoning skills. They discovered the value of language in reasoning and collaborative activity. During my experiences as a trainee teacher so far, I have experienced this in the classroom when the pupils are set a task to do in groups, without much guidance from the teacher, and following this a discussion with the whole class consolidates the children's learning.

In agreement with these theorists promoting the importance of social interaction within the classroom, Alexander (2018) introduced the concept of dialogic teaching. Alexander (2017) categorised dialogic teaching within the classroom into five types of talk: rote, recitation, discussion, instruction and dialogue. Alexander (2017) also believed that dialogic teaching needs to be collective, reciprocal, supportive, cumulative and purposeful, in order to be effective. Dialogue in the classroom is used for educational and social progress, involving either teacher-pupil talk which is usually ' asymmetrical' as the discussion is led by the teacher, or ' symmetrical' whereby peers have equal control over the discussion (Mercer and Dawes, 2008). Discussion in the classroom can be active whereby pupils have control over their own discussion, or structured, whereby the teacher will ask questions to focus the discussion (Mercer and Dawes, 2008).

Alexander (2013) has worked to address the quality of classroom talk, leading the 2010-2013 government to review the National Curriculum, and in February 2012, in response to Alexander, the Department for Education considered these issues and this lead the UK government to take spoken language more seriously in its framework for the 2014 revised National Curriculum for England. Alexander (2013) proposed this due to evidence from over twenty major international studies showing that high quality

classroom talk raises standards in the core subjects. Alexander (2013) also pointed the positive effects of dialogic teaching in terms of how social disadvantage can lead to difficulties in communication and development and therefore talk in the classroom can lead to effective outcomes for these children.

The positive effects of dialogic teaching have also been emphasised in studies such as that by the Cambridge Primary Review Trust/The University of York Dialogic Teaching Project, funded by the UK Education Endowment Foundation (Alexander, 2018). This was carried out between 2014 and 2017; the pilot study took place in ten primary schools in London and the trial took place in 78 schools in the cities of Birmingham, Bradford and Leeds. The studies concluded that, in comparison to ' control schools', the children in dialogic teaching schools made two additional months' progress in English and Science and one additional month progress in Maths. Children who were eligible for free school meals made two additional months progress in English, Maths and Science, compared to control schools. The benefits of dialogic teaching in science has also been identified by France (2019).

These findings are also supported by studies such as that by the Educational Endowment Foundation (EEF, 2017); the programme ' thinking, doing, talking science' aims to encourage pupils to discuss their thoughts. In 2012 the EEF funded a trial in 40 schools, which resulted in pupils making three additional months progress in science, showing particular benefits for those eligible for free school meals. The second trial, which took place in over 205 schools, however, found no evidence on the effects of progress in science. However, those eligible for free school meals made a small amount of

progress and pupils' interest in science and self-efficacy increased. These differences may have been due to the different modes of delivery in these trials – the first trial involved the training directly, yet the second trial involved the programme developer training the programme to teachers. Moreover, dialogic teaching has been found to have a positive effect in increasing vocabulary for pre-schoolers with Autism Spectrum Disorder (Grygas Coogle, Floyd and Rahn, 2018) and the language of pupils who have English as an additional language (Haneda and Wells, 2008). However, France (2019) identified that there are several factors which need to be considered when engaging in dialogue in the classroom, for successful outcomes to occur: the amount of time spent engaging in dialogue, the nature of the dialogue and the use of questioning to challenge thinking.

Dialogic teaching, following Alexander's (2013) review of the National Curriculum, is incorporated into the National Curriculum (2014) in all subjects. The National Curriculum (2014) only directs how to teach phonics, so there is scope on how to teach the other subjects leaving room for dialogic teaching and collaborative activity as the teachers wish. Firstly, vocabulary development is identified as a key area in allowing pupils to acquire language and vocabulary in their learning across the whole curriculum, therefore, it states that teachers should develop pupils' vocabulary actively as it is vital for understanding in all subjects. In the National Curriculum (2014) for English specifically, the importance of spoken language in the development of cognitive, social and linguistic skills is identified. Therefore, recognising that teachers should ensure the development of pupils' confidence in their speaking and listening skills

through collaborative activities and dialogic teaching strategies. Furthermore, the importance of participation in discussions, presentations, performances and debates and considering and evaluating other opinions and ideas is identified. This was further noted in the non-statutory information, whereby the importance of pupils gaining opportunities to work in groups of different sizes is acknowledged – in small groups, larger groups, in pairs and working as a whole class. It is acknowledged than from year one, pupils should be participating in discussions and turn-taking. In the Ofsted (2012) report ' Moving English Forward' it was discovered that in one primary school, time was spent to ensure for good quality discussion in class with the children and in particular, constant dialogue was observed in the Nursery class which is essential for developing language skills in the children.

In the National Curriculum (2014) for Mathematics, the quality of pupil's mathematical vocabulary and the ability to present justifications is necessary. However, as oppose to English, talk tends to be more structured and less active in maths lessons, due to the fact that there is not as much scope for discussion as there is for English; the only discussion is directed towards justifying answers to a question. This was identified by Attard, Edwards-Groves and Grootenboer (2018) when stating how teaching mathematics involves structured talk, especially when developing reasoning, fluency, and problem solving whereby exchanges tend to follow an initiation-response-feedback pattern, alongside teacher control. From my experience as a trainee-teacher, dialogic teaching is applied to lessons involving problem-solving mainly, in pairs and groups. This was emphasised in the Ofsted (2012) ' Mathematics: Made to Measure' report, whereby the children

were making cuboid nets and good quality dialogue was observed between the pupils, whilst they assisted one another during this challenging task.

The importance of dialogic teaching and collaborative activity is identified across most other subjects in the National Curriculum (2014). In Science in particular from Key Stage one, it is expected that pupils will begin to use simple scientific language to communicate their discoveries to their peers and ask questions and carry out experiments collaboratively. Mercer, Dawes and Staarman (2009) presented two case studies which demonstrated dialogue between teachers and pupils during primary school science lessons and concluded identifying the importance of dialogic pedagogy for learning, as this leads to higher motivation and engagement amongst pupils.

In conclusion, this essay has addressed theories concerning developmental learning and their impact on the classroom environment, in particular, how these theories have moved from seeing learning as a stimulus-response relationship to becoming more focused on the importance of the environment and other individuals in our learning. The development of dialogic teaching has been identified, from the initial roots of dialogic teaching to the introduction by Alexander (2004) and the recognition of positive impacts of dialogic teaching and collaborative activity socially and educationally is recognised. The development of the Primary National Curriculum (2014) has been portrayed, accentuating the importance of dialogue throughout the subjects in the updated curriculum. This research, alongside my experiences of dialogic teaching and collaborative activity in the classroom, has led me to realise the importance of teaching revolving around dialogue and collaboration, and the positive effects of this on not

only children's learning, but also their social skills. I will therefore include dialogue and collaboration into my classroom lessons as I now realise the positive impact that this has on all pupils.

Word count: 3, 204.

References

- Alexander, R. J. (2004). ' Dialogic teaching and the study of classroom talk', *International Conference Keynote Address,* 44(3), pp. 103-111.
- Alexander, R. J. (2013). ' Improving oracy and classroom talk in English schools: Achievements and challenges', *Primary First* , 10, pp. 22-29.
- Alexander, R. J. (2017). *Towards dialogic teaching: Rethinking classroom talk.* 5th edn. Dialogos.
- Alexander, R. (2018). ' Developing dialogic teaching: Genesis, process, trial', *Research Papers in Education* , 33(5), pp. 561-598.
- Attard, C., Edwards-Groves, C., and Grootenboer, P. (2018). ' Dialogic practices in the mathematics classroom', *Mathematics Education Research Group of Australasia,* pp. 122-129.
- Bakhtin, M. (1981). *The dialogic imagination: Four essays.* University of Texas Press, Austin.
- Bruner, J. S. (1960). *The process of education* . Cambridge, Mass: Harvard University Press.
- Bruner, J. S. (1961). ' The act of discovery', *Harvard Educational Review* , 31, pp. 21-32.
- Bruner, J. S. (1966). *Toward a theory of instruction* . Cambridge, Mass: Belkapp Press.

- Cambridge Primary Review (2010). *Children, their world, their education: Final report and recommendations of the Cambridge Primary Review.* Routledge. Available at: http://cprtrust. org. uk/wp-content/uploads/2014/06/FINAL_REPORT_BRIEFING_REVISED_5_14. pdf. (Accessed: 07/10/2019).

- Department for Education (2014). *The National Curriculum in England.* Available at: https://assets. publishing. service. gov. uk/government/uploads/system/uploads/attachment_data/file/425601/PRIMARY_national_curriculum. pdf. (Accessed: 08/10/2019).

- Dewey, J. (1916). *Democracy and Education* . NY: Macmillan Publishing Co., Inc.

- Dewey, J. (1959). *The Child and the Curriculum* . 5 [th] edn. Chicago: University of Chicago press.

- EEF (2017). *Evaluation of a CPRT/University of York study: Improving children's learning through dialogic teaching.* Available at: https://educationendowmentfoundation. org. uk/projects-and-evaluation/projects/dialogic-teaching. (Accessed: 08/10/2019).

- France, A. (2019). ' Teachers using dialogue to support science learning in the primary classroom', *Research in Science Education* , pp. 1-15.

- Gillies, R. M. (2016). ' Dialogic interactions in the cooperative classroom', *International Journal of Educational Research* , 76, pp. 178-189.

- Grygas Coogle, C., Floyd, K. K., and Rahn, N. L. (2018). ' Dialogic reading and adapted dialogic reading with pre-schoolers with autism spectrum disorder', *Journal of Early Intervention* , 40(4), pp. 363-379.

- Haneda, M. and Wells, G. (2008). ' Learning an additional language through dialogic inquiry', *Language and Education,* 22(2), pp. 114-136.

- Johnson, D. W., Maruyama, G., Johnson, R., Nelson, D. and Skon, L. (1981). ' Effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis', *Psychological Bulletin* , 89(1), pp. 47-62.

- Kagan, S. (1992). *Cooperative Learning* . 7 th edn. Dan Juan Capistrano, CA: Resources for Teachers, Incorporated.

- Mercer, N. (1996). ' The quality of talk in children's collaborative activity in the classroom', *Learning and Instruction* , 6(4), pp. 359-377.

- Mercer, N. (2000). *Words and minds: How we use language to think together.* London: Routledge.

- Mercer, N. (2002). ' Developing dialogues', *Learning for Life in the 21st Century* , pp. 141-153.

- Mercer, N. (2008). ' The seeds of time: Why classroom dialogue needs a temporal analysis', *The Journal of the Learning Sciences* , 17(1), pp. 33-59.

- Mercer, N. and Dawes, L. (2008). ' The value of exploratory talk', *Exploring Talk in School* , pp. 55-71.

- Mercer, N., Dawes, L. and Staarman, J. K. (2009). ' Dialogic teaching in the primary science classroom', *Language and Education* , 23(4), pp. 353-369.

- Mercer, N. and Dawes, L. (2014). ' The study of talk between teachers and students, from the 1970s until the 2010s', *Oxford Review of Education* , 40(4), pp. 430-445.

- Mercer, N., Wegerif, R. and Dawes, L. (2013). ' Children's talk and the development of reasoning in the classroom', *British Educational Research Journal* , 25(1), pp. 95-111.

- Nassaji, N. and Wells, G. (2000). ' What's the use of ' triadic dialogue'? An investigation of teacher-student interaction', *Applied Linguistics* , 21(3), pp. 376–406.

- Ofsted (2012). *Moving English Forward* . Available at: https://assets. publishing. service. gov. uk/government/uploads/system/uploads/attachment_data/file/181204/ 110118. pdf. (Accessed: 09/10/2019).

- Ofsted (2012). *Mathematics: Made to Measure* . Available at: https://assets. publishing. service. gov. uk/government/uploads/system/uploads/attachment_data/file/417446/ Mathematics_made_to_measure. pdf. (Accessed: 09/10/2019).

- Piaget, J. (1936). *Origins of intelligence in the child* . London: Routledge & Kegan Paul.

- Piaget, J. and Cook, M. T. (1952). *The Origins of Intelligence in Children* . New York, NY: International University Press.

- Inhelder, B. and Piaget, J. (1958). *The Growth of Logical Thinking from Childhood to Adolescence.* New York: Basic Books.

- Schultz, K. (2009). *Rethinking Classroom Silence: Listening to Silent Voices.* New York: Teachers College Press.

- Skinner, B. F. (1948). ' Superstition' in the pigeon', *Journal of Experimental Psychology* , 38, pp. 168-172

- Thorndike, E. L. (1998). ' Animal intelligence: An experimental study of the associate processes in animals', *American Psychologist* , 53(10), pp. 1125-1127.

- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes* . Cambridge, MA: Harvard University Press.

- Wood, D., Bruner, J. and Ross, G. (1976). ' The role of tutoring in problem solving', *Journal of Child Psychology and Child Psychiatry* , 17, pp. 89−100.