The use of wait time in the classroom using a Think, Pair, Share approach to answering questions

Lucy Clyde

Group 2B

Rationale

Stahl (1990) states that teachers do not provide pupils with a beneficial amount of thinking time before answering a question. Black *et al*. (2004) explains that expecting an answer after only a short wait time can only encourage short memorised facts opposed to in-depth detailed understanding. It is argued that extending the period of wait time between asking a question and expecting a response can encourage pupils to develop their thoughts and reasoning, providing a thorough response. The amount of time a teacher allows their pupils to answer a question is key, as questions that require thought should have an increased wait time as this produces measureable increases in learning (William, 2011).

Think, Pair, Share is a strategy used as a means of assessment to check for understanding of questions, which allows pupils to participate and engage in their learning through discussion. Braun (2017) highlights that Think, Pair, Share increases pupil participation and confidence by sharing their ideas with a partner; this being an area I was interested in developing as a means of assessing pupil learning and ensuring all pupils were actively engaged in their learning (Raba, 2017). Within this learning technique, individual participation and peer discussion is promoted, as pupils think through questions following a three step process:

1) Think: Pupils are given individual thinking time to formulate their own answers and reasoning to the question posed.
2) Pair: Pupils are paired with a peer to discuss their own and their peer's answers.

3) Share: Pupils in their pairs share their ideas with the whole class. The theory is that pupils will be more confident in providing their ideas to the class with the support of a fellow classmate and that their ideas will be more developed through this process.

It is argued that a Think, Pair Share approach to assessment is beneficial as it allows teachers to gain new information about pupil understanding, therefore, enabling teachers to use that information to change practice to better facilitate pupil learning (Ruiz-Primo, 2011).

All this considered, introducing wait time and a Think, Pair, Share approach into lessons is an interesting topic to investigate pupils' understanding, communication and listening skills (Brady & Tsay, 2010).

Aims

The aim of the enquiry was to examine the use of wait time in a classroom setting using a Think, Pair, Share approach to answering questions. The focus was to prepare higher order questions relating to pupil learning, in order to determine the extent to which increased wait time impacted on the quality of responses from pupils.

Methodology

This enquiry was carried out over a four-week period within a National 5 Physical Education class, covering two lessons per week and compromising a class size of 30 pupils. At the end of each period, pupils were asked questions to test their understanding of the lesson. Pupils were given time to individually consider their answers, think about a response, and then share their ideas with a partner before coming together to share a considered, joint answer with the class. Initially, pupils were given no wait time before sharing their answer with a partner. The wait time was then increased by 30 seconds each week, to finish after 1minute and 30seconds by the final week of the enquiry. One period each week, pupils used wait time and Think, Pair, Share to provide verbal answers to the class, and during the second period, written answers were given via exit passes.

During the enquiry period, pupils' engagement was observed and recorded along with notes relating to the quality of pupils' answers. These observation notes considered the quality of pupils' answers and the level of discussion created between them from the questions.

Since this enquiry investigated National 5 pupils' answers, the researcher judged the quality of pupil answers based on whether it would receive a mark at SQA level. Their answers were deemed 'Good' if they managed to achieve a mark; 'Fair' if they were close to achieving a mark; and 'Poor' if they did not achieve a mark. Therefore, the quality of pupil answers was judged based on teacher judgement and SQA marking criteria.

Findings

Below are examples of some responses from pupils within this enquiry and the quality of their answers. A 'Good' response had to have enough detail included within their answer in order to achieve a mark. An example of a 'Good' response was:

> *"CRE has a negative impact on my performance within basketball. This is because I get tired towards the end of the game so my performance levels drops. This means that I start to make silly mistakes, like passing to the wrong person, so the ball gets intercepted and my team are less likely to score".*

An example of a 'Fair' response was:

> *"CRE had a poor impact on my basketball performance because I tire towards the end of the game so I can't run as fast to intercept balls from the opposition".*

An example of a 'Poor' response was:

> *"CRE impacts negatively on my performance because I get puffed out at the end of the game and am panting for breath in basketball".*

Over the four week enquiry, there was a noticeable change in the quality of verbal responses provided by pupils; increasing wait time while using a Think, Pair, Share approach. This is presented in the graph below.
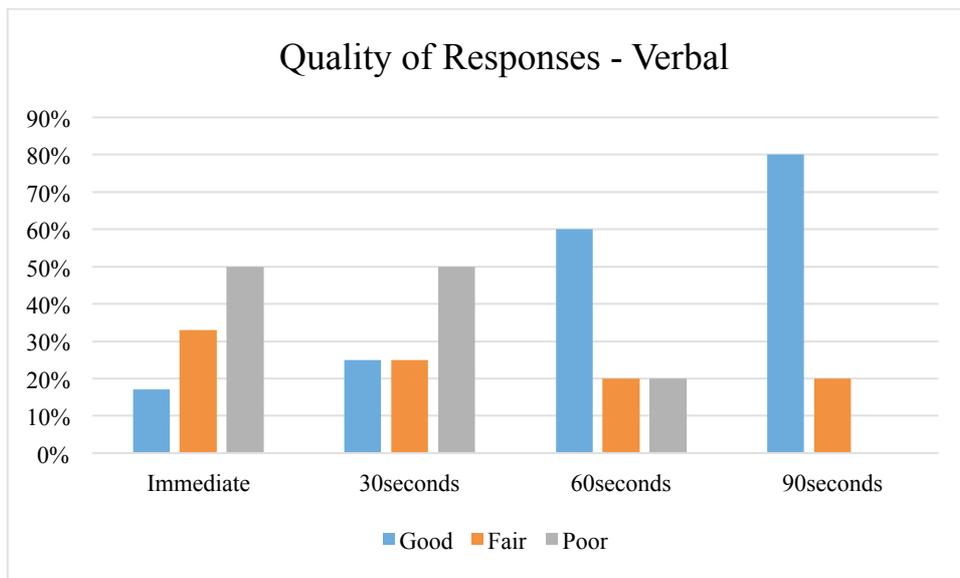
Figure 1: Quality of responses via verbal answers.

Figure 1 shows that during week 1, using no wait time, the quality of pupil answers was weak with 50% of their answers being classed as 'Poor' and only 17% responding with 'Good' answers. The graph shows that as wait time increased, the number of 'Good' responses from pupils also increased, going from 17% in week 1 to 80% in week 4. As the 'Good' responses increased so the 'Poor' responses decreased, showing that increasing wait time, alongside a Think, Pair, Share approach, improves pupils overall understanding and ability to provide depth to their answers.

Observations, through a reflective diary, also show similar findings. In week 1, it was noted that "answers were short with little information provided", whilst in weeks 3 and 4 is was noted that "pupils' length of answers increased and information given was valuable through providing depth".

Figure 2, below, illustrates the quality of answers given by pupils through written answers in the form of exit passes.

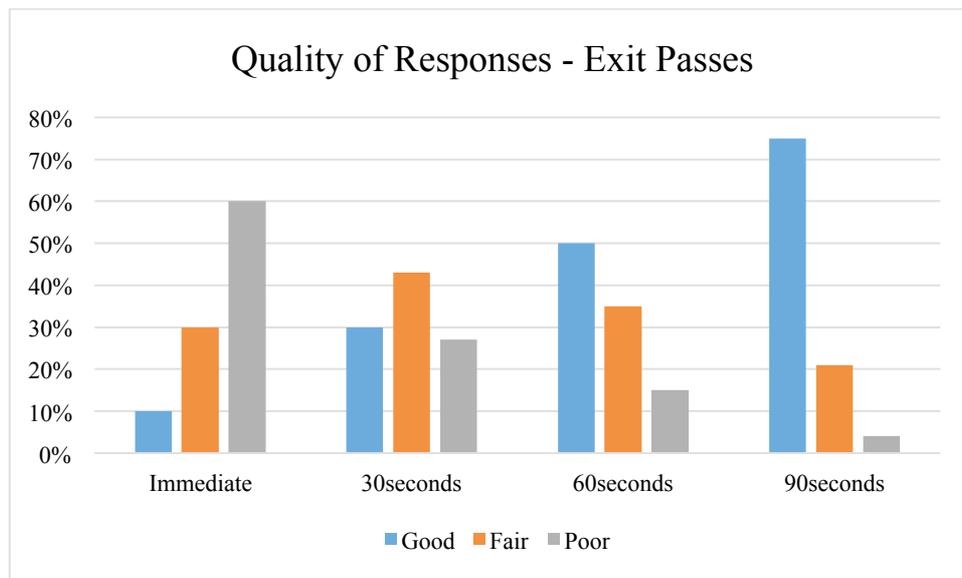Figure 2: Quality of responses via written answers (exit passes).

Figure 2 highlights, similarly, that the quality of responses increased from week 1, with only 10% of pupils providing a 'Good response', to week 4 where 75% provided a 'Good' response. Interestingly, the 'Fair' responses, unlike the 'Good' and 'Poor' responses, showed no obvious pattern as the study progressed; increasing between weeks 1 and 2 from 30% to 43% before falling to 35% in week 3 and then again to 21% in the final week. It could be argued that this result may be due to external factors, such as the need to change out of PE kit having an impact on the quality of pupils' responses. This factor was noted during the week 3 observation diary: "Two pairs visibly rushed their responses as they wanted more time to get changed".

Conclusion

To conclude, over the four-week period of this enquiry, the quality of pupils' responses to answering questions substantially increased by incorporating wait time and a Think, Pair, Share approach. Through observing pupil responses, it was evident that when pupils were given no wait time, there were few responses and the majority who did respond lacked depth and understanding. As the wait time increased, the depth and value of their answers increased.

Incorporating wait time and a Think, Pair, Share approach allowed pupils to collect their thoughts, share them with a peer and become more confident with their answer before feeding back to the class. It is argued that the sharing of thoughts and having a combined answer gives pupils more confidence to share an answer with their class and this has a positive impact on learning and teaching. The evidence suggests that pupils are more confident after discussing their thoughts with a partner and that as using Think, Pair, Share encourages them to engage in meaningful dialogue about their learning, whilst also helping them to appreciate others' perspectives and ideas. This helps develop fundamental life skills such as collaborative working.

Using wait time through Think, Pair, Share is a way to incorporate Cooperative Learning into the classroom, giving pupils the opportunity to actively process and develop a meaningful understanding of class material. Therefore, using this approach is very useful to teachers as it offers a valuable form of formative assessment (Cooper & Robinson, 2002), discovering what stage pupils are at within the learning process and allowing teachers to plan ahead and cater for their pupils' developmental needs.

Implications for Future Practice

The findings and conclusions of this practitioner enquiry present some limitations, in order for a more in-depth investigation, further research should be completed with more participants, across more schools and over a longer period of time so as to gather detailed findings on the impact on pupils of wait time using a Think, Pair, Share approach when asking questions. This would allow for more meaningful and representative results.

This enquiry backs up the theory that longer wait times and using Think, Pair, Share approach should be incorporated between questioning and answering, to allow pupils to improve the quality of their answers, through discussion and collaboration, and to give pupils more confidence when answering questions.

References

Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2004) Working Inside the Black Box: Assessment for Learning in the Classroom, *Phi Delta Kappan*, 86(1), pp. 8-21.

Brady, M., & Tsay, M. (2010) A Case Study of Cooperative Learning and Communication Pedagogy: Does working in teams make a difference? *Journal of the Scholarship of Teaching and Learning*, 10, pp. 78-89.

Braun, B. (2017) What does Active Learning Mean for Mathematics, *Notice of the AMS*, 64, pp. 124-129.

Cooper, J.L., & Robinson, P. (2002) Getting started: Informal small-group strategies in large classes, *New Directions for Teaching & Learning*, 81, pp. 17.

Raba, A. (2017) The influence of Think, Pair, Share (TPS) on improving students' oral communication skills in EFL classrooms, *Creative Education*, 8, pp. 12-23.

Ruiz-Primo, M. (2011) Informal formative assessment: The role of instructional dialogues in assessing students' learning, *Studies in Educational Evaluation*, 37(1), pp. 15-24.

Stahl, R.J. (1990) Using Think-Time behaviours to Promote Student's Information Processing, 1st Ed. Arizona: Arizona State University.

William, D. (2011) *Embedded Formative Assessment*, Ebook Edition, Bloomington: Solution Tree.