

What effects does ‘wait time’ have on pupils’ responses to questioning?

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Rationale

Wait time is a term coined from Mary Budd Rowe, and refers to the period of silence that follows teacher questions and students’ completed responses (Rowe, 1972). The wait time periods, she discovered, seldom lasted more than 1.5 seconds, in a standard classroom setting. Rowe (1972) found that when between 3-5 seconds of wait time was provided, several positive things happened: students’ responses were more in-depth and accurate; the amount of children who provided no response or replied “I don’t know” decreased; and also the scores of student’ on academic achievement tests tended to increase (Rowe, 1972).

Not only did the implementation of wait time benefit students but Tobin (1987) found that it also has positive effects on teachers. Tobin (1987), found that teacher’ questioning strategies tended to be more varied and flexible; they lower the quantity and raise the quality of their questions; and they also increase the amount of high order thinking questions asked.

This Practitioner Inquiry stemmed from a desire to increase pupil participation when asked questions about their learning; and to discover if they are less vocal because they lack understanding, or if they are simply not provided with a significant amount of time to answer.

Aims

The aim of this inquiry was to test the hypothesis that using 5 seconds of wait-time between question and response leads to increased participation. The reason to give 5 seconds wait time was based on the positive effects it had on pupils’ responses in Stahl’s (1990) report.

Methodology

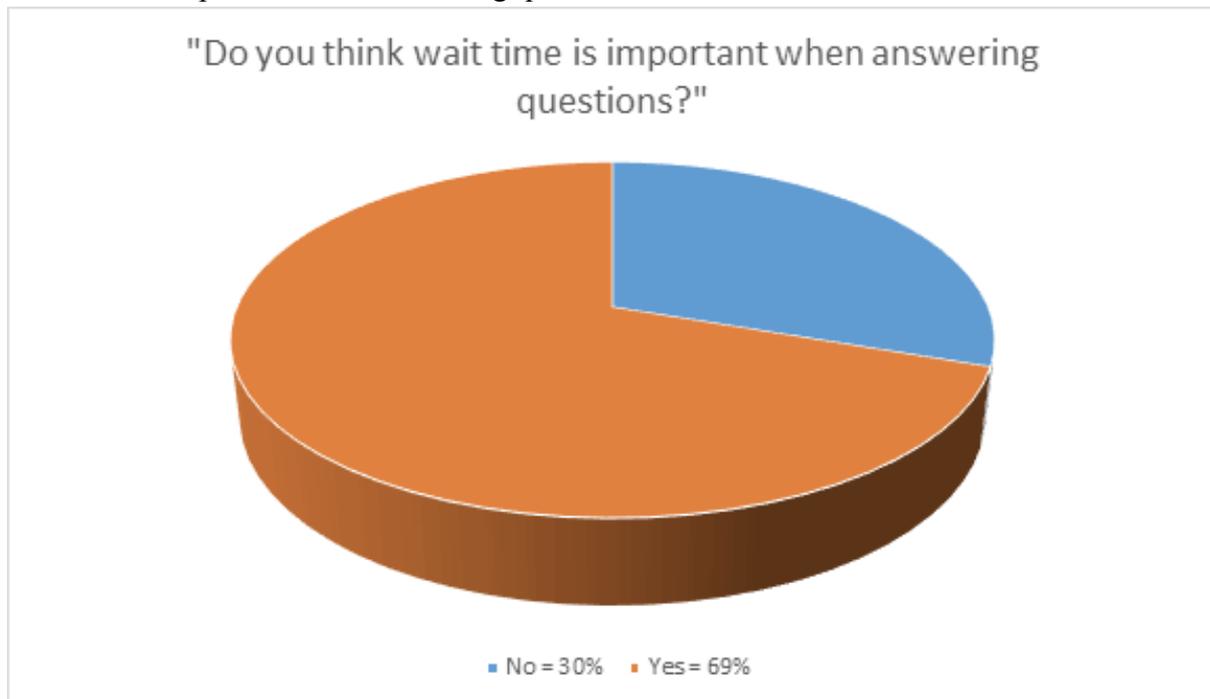
The inquiry took place over a 4-week period and the participants were 23 children aged between 6-7 years. At the beginning of the first week, a question was posed to the class, asking if they believed wait time to be important or not; an explanation of what wait time is, was provided to the children. Children were asked to answer either ‘yes’ or ‘no’, and the findings were recorded in a chart, shown in findings 1. A focus group of children was formed to question them further about their reasoning for their answer on the importance of wait time. To ensure fairness, children were selected from both opposing answers; 2 pupils from ‘yes’ and 2 pupils from ‘no’. Highly able children were selected to from the focus group, in order to provide more rich and meaningful answers. In the focus group, children were asked to explain their answer and elaborate on their thinking; some occasional support and prompts were needed for this. The results of some of the feedback gathered can be found

in findings 2. Field notes and data were gathered during 6 lessons, on different areas within the curriculum (literacy, numeracy and health and wellbeing). A variety of questions were asked during each of these lessons, at different stages within the lesson; however, 3 main questions were asked in each lesson, and the total amount of students to raise their hands was recorded. In lessons 1a, 2a and 3a, no wait time was given. In lessons 1b, 2b, and 3b, 5 seconds wait time was given. The results of this can be viewed in findings 3. Throughout these lessons, observations were carried out to test the theory that answers will be more in-depth if wait time is implemented. These observations were recorded in note-form. A professional analysis of this was structured; this can be found in findings 4.

Findings

Findings 1: Questionnaire.

The chart below illustrates the response to the question asked to the children, “Do you think wait time is important when answering questions?”



From table 1 it is evident that children place a lot of value on wait time. Therefore it is crucial that this be implemented into practice.

Findings 2: Focus Group Responses.

Yes, I do think that wait time is important:

“I think wait time is important because sometimes I don’t know the answer straight away and I sometimes need to have a little think. Sometimes I forget the answer and if I try to answer too fast, it’s not the answer I was going to say.”

“It is important because if you asked me 7x2, then I might need time to work out what the answer is and I might not just know the answer to that one.”

No, I do not think that wait time is important:

“I don’t think it’s important because it’s fairer if the person who knows first gets to answer.”

“I don’t think wait time is important because I don’t need it. I usually know the answer.”

Findings 3: Data collection.

This table shows the total number of pupils who raised their hand to answer 1 or more of the 3 questions asked within each lesson. It illustrates when wait time was implemented and also when it was not.

| Lessons | Without Wait Time (A) | With Wait Time (B) |
|-------------------------|------------------------------|---------------------------|
| 1. Literacy | 12 | 14 |
| 2. Numeracy | 15 | 21 |
| 3. Health and Wellbeing | 11 | 14 |
| Total | 38 | 49 |

Findings 4: Professional analysis of observations.

Through observations it was evident that the quality of response increased greatly, when children were given wait time, compared to when they were given no wait time. Answers given were much more rich in content and provided more reasoning and thought, than those answers provided with no wait time. It was noted in the observations that the fluency of the response was better in those answers provided with wait time, and much less so in those answers provided without wait time. It was recorded that when children were providing a response without wait time, they often provided an answer, which made little sense; moreover, the child tended to take pauses throughout providing their answer. Perhaps if they had been provided with wait time in the first place, then their answer would have been much more fluent. Answers provided when wait time was given, allowed for more higher order thinking questioning to take place, as children appeared to be more confident in their answer and seemed happy to engage in more challenging questioning.

Conclusions

As shown in findings 3; the number of pupils to raise their hands to answer questions about their learning, increased when a period of 5 seconds wait time was provided. This was especially significant in numeracy, where there was an increase of 6 pupil responses. It did not appear to have as big an impact on literacy, as there were only an additional 2 responses;

however, there was still an increase when wait time was implemented. Health and Wellbeing saw an additional 3 responses from pupils.

It is clear from the focus group responses and questionnaire that the vast majority of children place a lot of value on wait time, and some require this time to either work out or piece together their answer. This was also made clear from the professional analysis of the children's quality of answer, when wait time was implemented; not only were answers more fluent and rich in content, it also allowed for more challenging questions to be asked, and children showed more confidence when tackling these sorts of questions.

Notable limitations of this inquiry were the short period of time that it was conducted within. Perhaps a longer period of time would have allowed for more quality evidence gathered.

The results of this inquiry support the findings of Rowe (1972), in showing that when pupils are provided with wait time to formulate an answer to a teacher's question, then this will generate more responses, than if no period of wait time is provided; meaning that the hypothesis of this inquiry was supported.

Implications for Future Practice

As a result of the findings of this inquiry, future practice can be improved to ensure that wait time of 3-5 seconds is provided to pupils in order to generate a greater number of pupil responses. It is clear from the results that children may in fact have an answer to a teacher question but they do not volunteer this answer, as they may not be given an appropriate amount of time to formulate their answer. The implementation of wait time may give the child in question the time required to generate their response.

Bibliography

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