

How do different questioning strategies affect student engagement?: Focusing on how questioning impacts participation, well-being and quality of response.

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Word Count: 6575

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Introduction

Aims and Context

Different questioning strategies and pupils selection techniques are employed by teachers every single day, but how do these affect pupil engagement? Leaning on personal classroom experience and literature surrounding questioning, this research looks directly at pupil engagement and questioning strategies. How different questioning strategies affect pupil participation, well-being and quality of response. After teaching a number of lessons in both Foundation phase and KS2 it became apparent to me that how I asked a question to pupils altered their response, ultimately altering their level of involvement in the lesson. My research partner and I were both recently placed in year 5 classrooms, where this initial observation became more apparent over a number of different lessons. In both our classes we saw that pupils were often more engaged when there was a different element added to questioning.

On review of our practice, we saw the opportunity to look directly at three different questioning strategies. Teacher selected, pupil volunteer and pupil randomly selected, these were three different question strategies we had both used whilst on placement, where the level of pupil engagement seemed to differ. The aim of our study was to look directly at these three different questioning strategies relating these back to pupil engagement, and focusing on 3 elements, pupil participation, pupil well-being and quality of response. This led to our proposed question. *How do different questioning strategies affect student engagement? Focusing on how questioning impacts participation, wellbeing and quality of response.*

For my class, this meant that they would be asked to take part in a one-off lesson, which would be observed by my research partner, looking at how the three different questioning strategies affected these three elements and ultimately pupil engagement. This also required three pupils from my class to take part in a short group interview, where I would ask questions to find out their opinions on the three different strategies used. These questions all geared towards having a greater understanding of the three elements of engagement previously stated. This would also be mirrored in my research partners class. The study was carried out in two suburban schools, in south-west Wales. School A, is a school catering to around 150, 3-11 year-olds. The research was carried out in a mixed year 4-5 class, with 31 pupils on role. School B, 2 ½ form entry school catering to over 600 3-11 year-olds. The research was carried out in a year 5 class, with 35 pupils on role. With the new curriculum reform presented by Donaldson (2015), there is a greater need to understand questioning strategies to allow pupil guided education.

Literature Review

Current and relevant literature

There is a depth of research surrounding questioning and its impact on engagement. Early research suggests questioning is the most influential teaching act, as it is the easiest way to stimulate engagement (Wilén and Clegg 1986). With this point somewhat widely accepted, the question arises as to do some questioning strategies bring a cost to pupils, and are we as teachers fully engaging pupils through basic questioning strategies? However, it is believed pupil engagement is not spontaneous. Marzano and Pickering (2011) suggest that teachers have to apply specific and complex strategies to questioning to get effective engagement from pupils. This somewhat contradicts the earlier point suggesting that questioning is the easiest way to stimulate engagement.

It is argued that when a teacher selects a pupil to answer a question they ask a pupil they know is going to know the answer (Myhill and Dunkin 2005). This limits pupil participation, but as argued by Black and William (1998) allows the lesson to keep moving on, but as a result keeps a teacher out of touch with the understanding of the class. It's difficult to state the positive impact this has on whole class pupil engagement. It's important to note in contrast, teacher-selected questioning strategies have been found to allow a teacher to ask pupils for an answer that don't usually give an answer to increasing pupil participation (Mauigoa-Tekene 2006). In the same study, Mauigoa-Tekene (2006) highlights other factors such as the seating plan and line of vision rather than a conscious thought of pupil participation when teachers are asking questions. Suggesting more conscious thought needs to go into the selection of pupils to answer questions.

It's suggested that teachers get a limited response from pupils when they spontaneously pick a child to answer a question (Hardman, Smith and Wall 2003), this raises the question as to why? Do they not understand or not listening? Are they under pressure? Kerry (2002) states that if students know that there is a possibility they may be called upon they will be more engaged. In turn, presenting a more complete answer. It's important to note that questioning does not have to be teacher selected for a high level of engagement, the act of questioning encourages engagement in pupils anyway (Albergaria-Almeida 2010). It's easy to see from a number of different pieces of research there are a number of different views teacher-led questioning can encourage pupil engagement. However, questioning is stated to create engagement alone, and it is not clear if

teacher-led questioning provides the level of pupil conceptual thinking which will now be encouraged in Wales after Donaldsons (2015) Successful Futures.

Classroom questioning can be seen as contextual clues (Cotton2001), It's important to understand that questioning can improve participation, response quality and pupil wellbeing but can also have a negative impact on these things. Looking directly at pupil volunteer answers research clearly states that pupils volunteer an answer when they think they are correct (Noor 2012). Noor (2012) also states that if there is thinking time pupils are more willing to answer a question. It's stressed that with any questioning strategy if there is thinking time pupils are less likely to be concerned about being selected to answer. However, only selecting pupils that volunteer to answer questions does have its limitations especially on who answers. Margutti (2006) Suggests that it's the phrasing of a question that prompts a pupil to volunteer an answer. Suggesting that you will always have the same pupils volunteering an answer because of the way a teacher phrases the question. If a pupil doesn't want to answer they won't, this provides a question mark when considering pupils engagement through pupil volunteered answers.

Literature supports the idea that questioning encourages pupil engagement and participation through some specific questioning strategies. However, there is some that suggest otherwise. There is little literature looking directly at the elements and specific areas of research being investigated in this study. When directly looking at wellbeing in relation to questioning there is a mix of research. Anderson (2000) conducted research into the anxiety levels experienced by children during questioning. It was stated through research that pupils were scared of failing and scared of looking stupid. Anderson (2000) cites early research from Holt (1982) stating pupils were afraid of being kept back. Crucially Anderson (2000) states the with increased anxiety pupils became disengaged. Finding that anxiety is provoked through question. This highlights the impact questioning could have on pupil wellbeing, stressing the importance of assessing questioning techniques and their impact on engagement.

However, there is a contrast to this point raised by Anderson. There is a slight suggestion that pupils who are originally more anxious about testing in primary school often overcome this and perform well (Wise, McCreedy and Torrance 2008). This raises the question mark over a suggestion that maybe questions that provoke anxiety are preparing and helping pupils to develop for future testing. In my opinion, this is a particular area that needs a significant level of research before can be suggested for practice.

Questioning research also supports the argument of thinking time. Research suggests restricting thinking time after answering a question restricts response quality and pupil participation (Yataganbaba and Yildirim, 2016). This is a consideration to be built into questioning strategies. It's important to state tho that some studies disagree with this. Ingram and Elliot (2014) suggest that thinking time is naturally built into a class and does not need to be a significant consideration. It's important to evaluate how allowing thinking time influences pupil engagement, more directly pupil response.

The research presented supports the main aim of this study, Looking directly at how questioning impacts engagement, and specific elements around engagement. It's important to look at the true influence some of the most common basic types of questioning and receiving an answer have on pupils in a class. With limited research looking directly at this, it was important to understand the level of engagement and what might hinder or promote this through three of the more common questioning strategies used by new teachers.

Methodology

Design, Participants and Procedure.

Our research was conducted as a lesson study. Originating in the 1870's, lesson studies have been supported by a substantial amount of research since then. In particular Peter Dudley starting in 2001. This particular lesson study has taken into account Dudley's (2014) Lesson study handbook, through design and use. In particular, using what is referred to as the UK form of lesson study. The primary definition of this type is that the lesson study focuses on a few pupils with interviews being carried out with these pupils after the lesson. (Lewis and Hurdd 2011). The main benefit of a lesson study for an educator is the simplicity of the method of research Clivaz (2018), Clivaz (2018) follows on with this and states it is an easy way for an educator to look at the implication of different things in a classroom. This research method made it easy for us to understand the implications of pupil selection questioning types had on individual pupils. It allowed us to focus directly on three pupils of different abilities, being able to take on our observations and judgements but also ask them for their opinions to support and provide content to what we as observers have observed.

In contrast, there are points of Lesson studies that come in to question. Buchard and Daniel (2017) stress that we don't fully understand the true impact lesson studies have on teachers practice and pupils in the classroom. They also bring to a head if the researchers don't fully understand the

process, what are the true implications for the study carried out? A number of studies also state that we can't fully implement educational findings from lesson studies because they can often be seen as teacher and class specific. From this very point Lewis, Perry and Murata (2008) boldly concluded that lesson studies don't work, and without a process of reform or further research, they won't. However, since 2008, Dudley among others have provided guidance in this area placing platform for us to carry out our study using this research. It provides a natural environment for the pupils to demonstrate levels of engagement when being questioned, whilst the teachers being the researchers fully understood the implications.

The observation style used was that of an overt observation. It's important to note that the observer had limited interaction with pupils. With pupils being aware of the study, with all having consent and all giving assent to be observed for this lesson. This allowed us to take rich qualitative data away from the lesson study assessing pupil engagement and the three elements stated in the question. Qualitative data provides detailed raw data, providing the possibility to systematically read through to find trends or themes using pre determined evaluation objectives. This view is supported by Thomas (2006), however, in the same report he states that researchers often find qualitative data analysis difficult to understand. With this view being a common trend our observation schedule allowed for incorporation of the Leuven emotional well-being (EWB) and level of involvement (LOI) scales (*Appx 7*). Using the observation schedule in this way we were able to gather rich qualitative data, but also a small portion of quantitative data in which we can draw direct comparisons against a predetermined scale for two of the three elements directly concerned with engagement. At this stage, it's important to note that direct comparisons of EWB and LOI scales between the two lessons are difficult to make because these were judged by different observers both with different values and concerns.

The interview log contained 5 open-ended questions, increasing validity and allowing pupils to express their own opinions about the questioning strategies without being guided by an observer. Both the observations schedule and the interview log allowed us to keep the focus on the predetermined elements related to our overall question. However, using open-ended questions we were able to take in to account the pupil's viewpoints, helping develop our findings and considerations, but also led to changes in our second lesson (*Appx 12*). This also helped us to avoid researcher bias by taking into account the pupils perceptions through the interview process.

From a pool of over 30 pupils in each class, three case studied pupils were chosen from each. One class from each of School A and School B. These pupils were representative of low, mid and

high ability in their classes and were either 9 or 10 years old. It's easy to state the limitations with this small and direct sample, however with time scale and restraints we were under in this study; it was deemed that this was the best way to get a reliable and widespread view of opinions of pupils in the classes. As researchers we felt this was a purposeful sample (Koerber and McMichael 2008), as they represented the certain ability traits we required.

The Study took place over two days, and required a 45-minute lesson and 10-minute focus child group interview in both School A and School B. Prior consent, and assent had been gained using information letters. Both classes received a lesson on St David's Day, where the three types of questioning were being utilised throughout. In both school A and school B each questioning type was used on six occasions in blocks of three, on different occasions. (*e.g. Teacher selected 3x - move on - randomiser 3x etc*). Pupils were told what type of pupil selection/questioning type was going to be used before the question was stated (*e.g. I want volunteers to answer this question, I will choose who I want to answer this, let's use the name randomiser*). Both lessons were started and finished with pupils sat in their seats, all resources were set out and prepared by the researchers before pupils arrived and collected back in before pupils left. Elements of the lesson for School B were changed from that of School A as discussed below. The three focus children from each, class took part in a group interview, this was conducted in two high traffic libraries.

In school A, pupils took part in a class discussion and read a comprehension text before answering questions. The questioning types were present in the class discussion for a 15-minute period of time before the main period of the lesson pupils spent completing the comprehension. Using the pupil interview feedback, as well as evaluating the lesson (*Appx 12*) three small elements of the lesson were changed for school B. As stated the topic was St Davids Day, pupils again worked through a PowerPoint and had a piece of text to read. In school B there was an inclusion of passing a bean bag around the room for pupils that had to answer a question, this was a suggestion to make asking a question more fun. There was also the inclusion of conscious ITT (Independent thinking time) as well as TPS (Think Pair Share), it was made clear to pupils before they answered the question they had this opportunity. The questioning strategies were also used throughout the lesson using pit stops rather than an initial 20 minute chunk at the start of the lesson. These were all included to see if they enhance the techniques in question and when included impacted on the engagement of the pupils.

Ethical Considerations

Ethical Guidelines, Consent and Assent

This study took into account the ethical guidelines put forward by the EWC - Education Workforce council as well as complying with Bera (2011) - Ethical Guidelines for Educational Research and UWTSD Research Ethics & Integrity code of Practice (2017-2020). While carrying out a study of this type there is a number of elements to consider. Pupil and school anonymity was a high priority in this study in consideration with GDPR, UWTSD policy as well as the school's policy. Agreement from the two schools in question were gained before this study was presented to the UWTSD ethics committee, this form was also assessed by the City and Council of Swansea on the schools request Ethical approval was granted for this study the week commencing 18/01/19.

Whilst carrying out classroom research there are number of specific pupil ethical concerns due to the fact they are under 18. However it's important not to overstate the seriousness of the ethical issues, but explain them in a child-friendly way (Jones, 2015), as for the pupils what they are doing is just like any other lesson. Parental consent was gained through the form of a signed permission slip, parents had access to the information letter if requested. Pupils were fully aware of the study and what was going on, verbal assent was given by all pupils in the class after reading the pupil targeted information sheet, as well as receiving a verbal explanation from the teaching researcher. Pupils were explained the opportunity of the right to withdraw at any point, they were explained the use the Emoji card and if they turned their card over they were no longer taking part in the study. The interviews were carried out in high traffic areas so pupils felt comfortable and didn't feel they were under any pressure, the interviews were presented as a chat to the pupils rather than an intense interview. Anonymity was stressed to all participants throughout the study.

Lesson Study 1 (School A)

Results and Analysis

Firstly looking at the qualitative observation notes (*Appx 1, 2 & 3*) directly looking for trends in wellbeing, participation and quality of response that support or hinder engagement from the question type. It's clear to see that teacher selected promoted a good level of response from pupils A1 and A3, they showed signs of good wellbeing, participation and in turn high engagement, pupil A2 appeared to be less so. Participation was low, and through body language cues it appeared this pupil was uncomfortable answering a questioning, leading to a lower level of response. This pattern of

response continued throughout randomiser selected questions. Pupils A1 and A3 offering showed high level of engagement. Pupil A2 started to appear uncomfortable but did show increased signs of engagement. Volunteer selected appeared to break this pattern with all pupils participating well and appearing comfortable. Volunteer questioning appeared to prompt a higher level of engagement in the three focus pupils than the other questioning types. Looking at observational notes, good well-being increased pupil engagement.

It is important to note before analysis that pupil A2 was of lower ability than A1 and A2. The qualitative observation data of School A highlighted two important things. It showed that the volunteer question type prompted a better wellbeing in pupils, this, in turn, prompting a higher level of engagement for all pupils during this time. From this we can formatively and subsequently state that a positive wellbeing correlates with an increase in engagement. The second point of note is that the lower ability pupils quality of response and participation was negatively impacted and wellbeing severely impacted when it wasn't their choice if they wanted to answer the question. From this we can state that not having the choice to answer or not can be anxiety provoking for a pupil of lower ability and leading them to become less engaged. This assumption supports Literature earlier stated by Anderson (2000).

The trends found in the qualitative data can be also be identified through the use of the Leuven scale during the observation. Leuven scale highlights the level of involvement and EWB of the pupils (Appx 7).

	A1		A2		A3	
	LOI	EWB	LOI	EWB	LOI	EWB
Teacher selected	3	4	2	2	4	3
Volunteer	4	4	4	3	3	4
Randomiser	4	4	3	2	3	3

Figure 1: Shows the Level of involvement (LOI) and Emotional wellbeing (EWB) scores against the Leuven scale (Leavers, 2005) for each questioning type.

Looking at Figure one above it's easy to see that there was only small changes for LOI and EWB for pupils A1 and A3, throughout the lesson and questioning types. It also Supports the spike seen through trends in the qualitative data in EWB for pupil A2 and A3 during the volunteer question type. The results also highlight a significant growth from a 2 to 4 in LOI for the lower ability

pupil. This raises questions on what support can be offered to lower ability pupils to allow this comfort throughout different questioning types. Figure one also gives us a visual representation of how pupil A1 of higher ability was less affected by the questioning type, this could lead to a formative assumption that pupils of higher ability, or pupils that are more confident in this way are less affected by the questioning type.

Looking directly at the Interview logs (*See appendix*), the common trend presented was that pupils felt they paid more attention to the lesson during the randomiser (stated by students as lollipop sticks). They said this was because they felt they needed to make sure they knew the answer because they didn't know if they were going to get called upon or not. Another trend throughout the interview logs show that pupils felt they would be more engaged with all types of questioning if there was a fun element incorporated into them. The interview log for pupil A2 (*Appx 2*) also confirms assumptions made through the observation schedule, that pupil A2 was happier when being able to volunteer an answer for a question stating "it was my own choice to answer". It's crucial to note that both pupil A1 and A2 stated that they preferred volunteering an answer rather than being called upon, pupil A3 preferred the lollipop sticks because they thought it was more fun. The logs also show us that pupils don't feel how the questioning strategy used impacts on the quality of response the pupils give back to the teacher.

To analysis this data is difficult. Results from School A, tell us a number of things, both observational notes and interview notes taken prove the importance of wellbeing for pupils when answering a question. Where higher ability is concerned the questioning type does not seem to impact wellbeing on the surface from an observational stance. However, as referenced to by the pupil in interview feedback, for lower ability pupils questioning types seem to have a much bigger impact on wellbeing. From the observation notes it's clear to see that the volunteer questioning type increased participation and well-being. However it is important that in the interview, pupils stated they paid more attention when using the name randomiser because they didn't know if they were going to be picked, this increasing engagement. However, by taking into account *Fig 1* this is where both pupil A2 and A3 had the lowest emotional wellbeing scores. The results from School A helped us change our study for school B.

From this analysis using our reflective pro-formula (*Appx 12*) the question arose as, is there anything we can do to increase engagement from all questioning types? Highlighting the points brought forward of negative wellbeing and incorporating a fun element into the questioning strategies. The inclusion of a bean bag to pass around the classroom was incorporated on the

recommendation of the pupils from School A. I also followed this up with incorporating ITT and TPS into the lesson so that all pupils were confident with an answer. We also decided to state the type of question I was going to use as the teacher, before asking the pupils the question whilst in School B. It was also not the positioning of the observer impacted upon what they were able to see from all pupils, this was agreed to be changed so that the observer had a complete view of focus pupils.

Lesson Study 2 (School B)

Results and Analysis

The same Observational schedule was used for school B, the interview log was slightly adapted to allow all pupils thoughts to be recorded more easily on one sheet, questions did not change. Pupils lesson objective was to APK St David's day. Pupils successfully did this through the use of resources and class discussion. Pupils Achieved the Learning objective by keeping up with the class discussion and independently thinking about St David's day. This is a lesson structure the pupils were familiar with. In future teaching this lesson could be improved through the use of more complex resources, incorporating elements of DCF for the pupils.

From observational notes in School B it's easy to see the impact the added beanbag had on the lesson. For Pupils B2 and B3, there was a substantial increase in engagement for both pupils, through the introduction of the bean bag. These were pupils of mid and lower ability, it's important to note that the higher ability pupil B1 showed a good level of engagement throughout all questioning types however expressed some distress when the bean bag was involved. Pupil B1 also showed a level of uncertainty and unrest during the question randomiser, verbally stating "I am under pressure". Pupils B2 and B3 seemed to find this questioning technique exciting, B2 showing visible disappointment when they weren't initially chosen by the randomiser. It's important to note that ITT time and the use of the bean bag seemed to positively impact pupil B3 engagement and participation in the lesson, however these elements did not improve the quality of response. From this data we can see that the elements incorporated to our questioning styles did increase the majority of pupil engagement. However they did decrease the higher ability pupils wellbeing, when added to the question types. It's important to note that pupil B1 was more than happy to let others do the work when others became more engaged into the lesson.

The use of the Leuven scale paints much the same picture. Findings in Figure two show us that both pupil B2 and B3 engagement levels increased or stayed the same for all questioning types

when ITT or the bean bag were incorporated into the questioning strategies. From the Leuven scale pupil B1 does not appear to be affected by the question type all to much, or the incorporation of other stimuli. Before additional stimuli were introduced all pupils scores would suggest that had a normal level of engagement. Teacher selected reducing B3 LOI, this could be suggest to be down to lower ability and not fully understanding, whilst the randomiser had a negative impact on pupil B1 wellbeing.

	B1				B2				B3			
	Before		After		Before		After		Before		After	
	LOI	EWB	LOI	EWB	LOI	EWB	LOI	EWB	LOI	EWB	LOI	EWB
Teacher selected	3	3	3	3	3	4	5	4	2	3	3	3
Volunteer	3	3	2	3	3	3	5	4	3	3	4	4
Randomiser	3	2	3	3	4	3	5	5	4	4	4	4

Figure 2: Shows the LOI and EWB for each questioning strategy before and after incorporating ITT or the bean bag.

The group interview (Appx 11) allows us to add content to the findings made in the observation. Pupil B1 had a lower EWB score for the question randomiser this was also noted through observation notes, During the interview this pupil stayed *"it was creepy, I didn't like it"* when questioned about the name randomiser. This question strategy appeared to place a level of uncertainty for this pupil. Where our observations show an increase higher level of engagement when name randomiser was used the interview notes tell us that the pupils found this more nerve wracking because they didn't know if they were going to be called upon. This finding creates a suggestion about how negative anxiety could be an influencer for positive engagement. All 3 pupils agreed that allowing volunteers to answer the questions was liked because they could choose to answer when and if they knew. Proving the idea that if pupils perceived their quality of response to be good their engagement was increased. The most important factor taken away from the interview is that all pupils stated they enjoyed the name randomiser when the bean bag was used, they stated this created a *"fun factor"*.

In analysis from all aspects of this lesson study the 'fun factor' of the question strategy seemed to improve the engagement of the pupils especially for the mid and lower ability pupils (B2 & B3). This however did not seem to impact on the higher ability pupil (B1), there seemed to be a constant level of engagement from this specific pupil throughout all question types. From this we can state that adding an extra element to the questioning strategies has a bigger impact on lower

ability pupils than higher ability pupils. We can also state from these findings that by increasing the engagement of the other pupils the higher ability pupil was not responding as much to the question types as before. This suggests that for some students if others are highly participating they will take a back seat, potentially impacting engagement. Randomizing selection was preferred by all pupils for exciting element, but our observations and interview statements do show that there was an increase in anxiety during this question type. This needs to be linked into research to understand the impact of anxiety on engagement.

What was learned from this lesson is that the questioning strategies impact different ability pupils in different ways. For my future practice I will take from this study that using different questioning strategies and incorporating different elements will engage more pupils across the whole class. I was also surprised about the motivation my class had to complete this lesson/study. For me this was a big learning experience as it highlighted some specific areas of my teaching I could improve just by making small adjustments.

Discussion

Findings, Related literature and analysis.

Cross comparing the study carried out in School A and School B the results highlight two specific areas of note. All pupils said that they liked volunteer selected questioning, because they felt more comfortable, data from the leuven scale proves engagement was high during this questioning type, through our notes even though engagement may have been high it did not always provide the best quality of response. Turner and Patrick (2004) reflect this finding by stating that pupils are happy to volunteer an answer... but this often requires more support and development of the thinking. It's important to not findings from school B state how one student was happy to sit and let others answer the questions. Turner and Patrick (2004) again reflect this by stating that only calling on volunteers limits whole class participation.

Another important finding was the link between wellbeing and pupil engagement. Findings from both School A and School B appeared to find that both an increase and decrease in well being increased engagement. This is proven by pupils stating they paid more attention during the randomiser because they were "unsure" and "nervous" they were going to be called upon. Research supports this with in a systematic way. Whether there is pleasant or unpleasant emotional stimuli a person's focus or engagement is improved (Henderson, Bradley and Lang, 2017). This research

finding helps us understand our research finding of increased engagement through an anxiety provoking experience and that of a fun element.

Findings also suggest that the questioning type didn't seem to impact the engagement of higher ability pupils. Cotton (2001) suggest that for a higher ability pupil it is not the prompt of asking a question or knowing they are going to have to answer a question that stimulates engagement but more importantly the context of the actual question for these pupils. This highlights the importance of stimulating questions for higher ability pupils. In School B it was evident that the higher ability pupil even tho appeared to stay engaged throughout the lesson become less involved when other pupils became more engaged with the class.

The results support the use of a lesson study as it allowed us to gather detailed qualitative data within a natural setting which allowed context to be added to the study for future practice. Marble (2012) supports this by stating that lesson studies allow critical evaluation for teachers to make progress in their own practice. Due to the fact this study was being carried out to aid student teacher development. Lesson studies allow collaborative learning for teachers and students (Puncher and Taylor 2006). This method of research proved to be the most suitable considering the scale and purpose of this study.

For my class this study highlights the impact the additional elements added to questioning had on pupil engagement. It also showed me how my class interacts and works with different questioning strategies. From the results of this study I will begin to incorporate different types of questioning and pupil selection strategies into my classroom. This study however highlights however that there needs to be a balance of questioning strategies as well as additional elements incorporated into a lesson to increase all pupil engagement. Areas highlighted, including Well being quality of response and participation will be impacted from this level of engagement if due consideration is paid in this area. This point supported by additional research stating that a pupil being engaged in school has positive benefits on wellbeing and level of achievement (Pietarinen, Soini and Pyhältö, 2014).

Conclusion

Critical analysis

This study highlighted a number of areas for consideration when improving future practice. The findings of this study have identified questioning strategies and additional elements that can improve pupils engagement throughout a lesson. It has also highlighted the impact questioning strategies and pupil selection techniques have on pupils of different abilities.

Although the findings of this study will help to influence the future practice of the researchers, it is important to look at certain drawbacks in the research. The sample of pupils for this study was small, this makes the results hard to generalise and implement in future practice without conscious consideration. It's difficult to state that the results are representative across the population of the class let alone, KS2, the school or wider cohorts. It could also be stated that there was bias from the observer due to the subjectiveness of the observation schedule. With it having specific areas of focus for the observer to look at. With the observers being lead researchers of this study their may have been a subconscious thought of literature in this area. There also has to be the consideration of the subconscious ability to guide observation notes in towards the aim of the study.

To reduce the bias stated can be difficult in a study of this type. For a wider generalisation to the class the session could have been videotaped, with observations of pupils being done after. The session would also have to be carried out across year groups and schools to make more generalisable. Independent observers could have been used or multiple observers could have been used to avoid observer bias. Less directed observation schedule may have allowed more general observations from the observer.

None of these methods were previously piloted by myself or my research partner. However, after the first lesson study there a number slight tweaks to the study including but not alone interview note taking, elements of the specific lesson as well as observer classroom positioning. As researchers we felt there were always going to be elements of the lesson we would needed to change, however through a pilot study we would have been able to appropriately adjust observer positioning and our interview log before the start of our first lesson study.

As stated above this experience will help shape how I approach questioning and in particular these three basic questioning types investigated. The research allows me slightly more understanding on how I can add different elements to my questioning strategies to increase engagement for all ability pupils. It has also allowed me a greater understanding of the importance of using different types of questioning to keep this level of engagement high. To add, the findings have allowed me to understand how different questioning strategies impact on lower, middle and

higher ability pupils, the way that wellbeing influences engagement, as well as how quality of response and participation is impacted by this. In future teaching I will make a conscious effort to monitor pupil engagement, through understanding how different elements used through questioning can keep pupils engaged throughout. To teach this lesson again I would add incorporate the use of questioning back channels, this would incorporate DCF into the lesson but would also allow pupils to answer a question anonymously. It would be interesting to see if pupils were engaged and delivered more responses to a question if they knew others didn't know it was them delivering a response.

To conclude, this study has highlighted three crucial points, pupils enjoy having a choice to answer a question or not, positive and negative pupil wellbeing was found to positively impact upon pupil engagement and the questioning strategy used impacts different ability learners in different ways. The findings of this study have provided a baseline knowledge to be taken into further practice, a crucial area to be aware of and an important area to provide provision when in the classroom. It appears that simple questioning isn't enough to stimulate and engage all pupils. However, for some higher ability pupils it is all that is needed to increase engagement. It is noted that wellbeing impacts upon engagement as does pupil participation and the quality of response. Finally, I can fully state that with a conscious effort and planning, that teacher selected, volunteer and randomised question strategies with the inclusion of some specific elements to stimulate lower ability pupils can all increase engagement in different pupils across the classroom.

Recommendations

As stated this study will help me to consciously think about pupils engagement and how I can adapt areas of not just my questioning but all aspects of my lessons to improve engagement. The findings of this study have helped identify a number of factors that impact pupil engagement when looking at a small area in questioning. In teaching practice I hope to take note of these elements and make sure that I am supporting pupils in all possible ways to improve engagement through not only questioning, but all areas where these elements impact upon pupil engagement. If I was to do a lesson study again I would adapt my interview log so that it is better suited to conducting group interviews as I felt that this made note taking difficult during the time. Using video or audio recording would also help in with this allowing for greater detail to be taken from the interview and classroom observation.

Moving forward these findings can be used as a baseline understanding of how basic questioning strategies used by trainee teachers impact upon pupil engagement. The findings highlight areas in which engagement are impacted when questioning strategies are used, the results also highlight elements that can be incorporated to improve pupils engagement. Due to the scale of the study it is difficult for this study to be generalised and incorporated to classes outside of the two classes this study took place in. To gather a full understanding of how questioning strategies impact pupil engagement, this study needs to take place on a much large scale to have an impact on general teacher practice.

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