

Development of learning objectives through reflection



The Williams report is based around educational best practice to enable young learners to acquire an understanding and appreciation of mathematics and its importance to their lives. " The foremost concern, drawn from Ofsted and the Primary National Strategy findings is the need to strengthen teaching that challenges and enables children to use and apply mathematics more often, and more effectively " (Williams: 2008 para. 223)

Reflecting on my practice will enable me to recognise my strengths, development needs and improve my practice to benefit all learners. Petty says: " Effective teachers are always changing what they do; this is because they are continually learning how to teacher better." (2009: 520)

Activating prior learning by constructing links, good planning and the conditions of the classroom can contribute to the effective opening of a lesson. Walker Tileston: " Unless connections are made to their prior learning, comprehension and meaning may be dramatically lessened." (2004: 21). Therefore I ensured I revisited previous learning by looking at the way children approach word problems through reading the problem, highlighting the key words/numbers and choosing the appropriate operation before solving it. I then ensured they had chance to apply their skills to some word problems so I could assess their understanding and they could test their knowledge. When children gave correct answers during the mental/oral, I constantly praised them to build their self-esteem and confidence. Fontana says using praise and encouragement has " a vital role to play in keeping children involved and interested in their work, and in helping them to build upon current achievements by raising their confidence and their belief in their own abilities." (1985: 80) Giving children word problems to solve is an

important aspect of mathematics because it is an opportunity for them to use their knowledge of operations/ mathematical vocabulary and apply it to real life problems. Bottle says: “ Giving children a real context for their problem solving gives them the best opportunity to become fluent in using mathematical skills and procedures.” (2005: 33)

After the mental/oral starter I ensured the learning objectives and success criteria were visible and shared with the children, so they could see what they were learning and what they had to do to be successful. I then asked questions on what methods the children used for addition and subtraction, which gave them a chance to actively participate and broaden their mathematical knowledge. The NNS says: “ Through a process of regular explanation and discussion of their own and other people’s methods they will begin to acquire a repertoire of mental calculation strategies.” (1999: 7)

I continued to ask questions throughout the lesson to enable me to assess children’s understanding, assessing common mistakes, analysing their methods and explore their language and vocabulary. Claxton says “ good learning starts with questions, not answers.” (1990: 78) I ensured I was asking open ended questions in the main activity and plenary because I wanted to find out more about pupil’s understanding and to use their ideas to focus discussion about concepts. Kyriacou says that “ open and higher-order questions are more intellectually demanding and stimulating.” (1995: 38) However during the mental/oral I tended to ask closed questions to keep the pace flowing. I tried to ensure I was giving the children ‘ thinking time’ after each question so they did not feel under pressure. Harries and Spooner say: “ Being asked to respond at speed is identified as a source of great
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anxiety.” (2000: 36) This is why I decided to give the children number fans to show their answer, so they did not feel put on the spot. However I may have given them too long to answer as the rest of the class lost focus slightly. One strategy I could have used to avoid this was to ask a child a question, give them time to think about an answer, then ask other children in the class questions before returning to the pupil who had been given time for a response. This also would have enabled me to keep the pace flowing and help everyone reach their potential. I had to try and keep the pace of my whole class teaching at the correct level, as the class has a wide variety of learners with different abilities, therefore going too fast could cause the lower ability pupils to become lost and going too slow could mean the higher ability pupils are not being challenged. Wajnryb says: “ Students whose learning pace is faster than the pace of the lesson are prone to becoming bored, losing motivation and tuning out of the lesson.” (1992: 118)

When I introduced the new topic of adding or subtracting multiples of ten I could have given the children time to discuss the methods they might use in groups beforehand. This would have given them the confidence to participate more when I gave them questions to answer. Brown says: “ The opportunity for children to discuss ideas and express their own opinions is crucial.” (1998, 43) Additionally during the questioning I only asked the children who had their hands up for the answers, rather than asking other children to see if they all understood. I could have provided more opportunities for student participation by getting them to write an answer and present it back to the class, which would encourage every child to use mental calculation. The NNS says “ An ability to calculate mentally lies at the

heart of numeracy.” (1999: 6) Giving the children mental calculations also contributes to the development of better problem-solving skills and gives them a sense of real life, as Thompson says: “ Most calculations in real life are done in the head rather than on paper.” (2010: 163)

The whole group teaching was beneficial as it enabled me to see the capabilities of all those in the class and adapt my practice accordingly. I organised the pupils on the carpet, to ensure everyone could see and so I could monitor behaviour, it also enabled me to notice changes in their posture and facial expressions, giving me clues about their understanding. Whole class teaching also meant I could interest the children in the subject they were covering rather than trying to stimulate their interest individually. Dean says: “ An important part of the teacher’s role is to stimulate and interest children in whatever is to be learned. This is a valuable part of working with the whole class...” (2001: 62)

Before I sent the children to their tables to undertake their written activities, I ensured I explained and showed the children what I expected them to do, which aided their understanding. Teachers need to know the extent of their children’s mathematical abilities in order to set appropriate activities, so as this was my first maths session I had to ask the class teacher to help me with this. O’Brien and Guiney believe planning towards differentiation is imperative and “ should be seen as integral to learning...It is a concept that has to be seen in an inclusive way, applying to everyone.” (2001: ix)

Therefore although children had the same learning objective, they recorded their answers in different ways. The lower ability pupils had to colour in the requested numbers on a number square, where as the other children had to

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write the numbers, which tested all children whilst allowing them to work at their own pace. When the children applied their mathematics on their tables I ensured myself and the LSA worked with different groups in different sessions, so all children did not become too reliant on support and have the opportunity to work independently. Ball agrees saying “ you have a choice between killing your pupils’ interest and giving them a taste for independent thinking.” (2002: 17)

The activities the children were completing all involved adding and subtracting multiples of ten, however children had completed addition problems first so assumed the whole activity contained addition problems. Briggs and Davis say: “ Here the child immediately sees something familiar within the task and assumptions about the level of attention needed to complete the task.” (2008: 47) In future I will inform the children that there is a variety of symbols within their work so they need to read the number sentence before working out the answer. Giving children a number square to use, however, did assist them with their learning as they could visually picture the numbers and see what they had to do to get the answer. The higher ability pupils struggled with partitioning numbers, so they resorted back to the more familiar method of counting on or back to the required numbers. Although they did not use the required method, they still referred back to their previous knowledge and applied it to their work. Mooney et al say children tend to “ use those that they have confidence with,” which “ are likely to be earlier strategies that pupils revert to if not clear about new ways of working.” (2009: 15)

Ofsted (2001) believe that the plenary session is the least successful part of the daily mathematics lesson. Therefore I wanted to ensure my plenary was not occupied by tidying up and that it did not become a reporting-back session for the children I had not worked with. This is why I set up a challenge of matching questions to the relevant answer, which would enable me to see what the children had learned or were struggling with.

You have to demonstrate that you enjoy teaching, then challenge and assist children by engaging them with well-paced differentiation and thinking rationally about their needs, before being able to take positive action to increase their quality of learning. I am hoping that as they master information and skills, they not only learn more content, but will also become more able and motivated to take responsibility for their own learning. I am also hoping that I can develop a wider range of skills, and the knowledge of when to use them.