I AM THINKING OF A NUMBER

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Extended abstract

It is often difficult to find activities that are suitable for a whole class at the beginning of a year. The children are new to their teacher, whose routines, classroom and mathematical norms are not yet in place. It is not yet clear to the teacher what level of mathematics is already in place for each child, and which ideas are secure. Finding open, engaging activities with high ceilings and low thresholds which can help a teacher learn about his / her class and their mathematical needs can be a challenge. This paper describes a lesson with a Grade 2 class held close to the beginning of a school year which was designed to assess number sense and create opportunities for mathematical discussion and learner initiated explanation and recording. The paper is an example of a first attempt by a teacher in this school to formally write up a lesson reflection, which allows the teacher to notice pertinent elements of one of her lessons, with a view to sharing this for discussion with colleagues.

At the beginning of the year, planning lessons that allow for mathematical discussion and give insight into children's development levels can be challenging. This "I am thinking of a number" lesson was found to be promising as it opened up discussion and exploration, which helped the teacher to gain insight into the levels and needs of this new group of children.

The lesson reported on in this "How I teach" short paper was planned for near the beginning of the year with a Grade 2 class in a public school in an affluent suburb in Cape Town, which caters for a diverse student population. The class consisted of 25 children, 12 boys and 13 girls. No streaming of children into ability classes was in place.

The lesson was intended to help to establish how well the children know: number sequence, concepts of odd, even, double, half, before, after, more than, less than, place value in the number range up to 32. This is a whole class or group activity. It was hoped that after playing the game "I am thinking of a number" the children would:

- be able to use the above vocabulary to make up their own clues.
- gain confidence and greater understanding of our number system.
- value being listened to when they give an clue and will listen with greater attention when others give clues.

It was expected that the teacher would have a better idea of how grounded the number concepts detailed in the lesson intentions were.

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The resources required for this lesson included: numbers on cards with a blob of Prestik on the back of each card (1 to 32); 120 number chart for reference; and a list of planned verbal clues e.g "I am thinking of a number that is 2 more than 5" or "I am thinking of a number that is double 10".

The plan was to start with relatively simple verbal clues and choose a spread of numbers that require children to be aware of leaving gaps for the missing numbers. The teacher intended to discuss where to place the cards using the above vocabulary. The children will be encouraged to guide each other about placement. Following this, the children will be encouraged to think of their own clues. Children would be asked to state their own clues for other children to solve.

This short paper describes what actually happened in this lesson, and includes some teacher reflection on its efficacy. Learning artefacts – including pictures from the chalk board, work undertaken by the children on their white boards when solving the clues, and the typed clues developed as a result of this lesson - are presented.

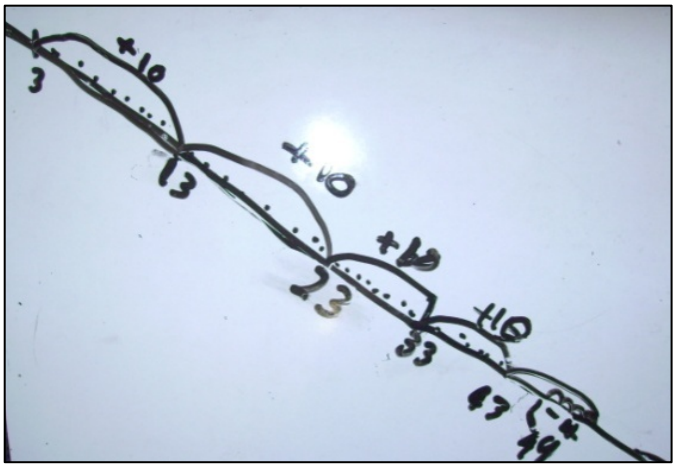

Figure 1: Child's work on a number line for "My number is 3 plus 2 tens plus thirty take away 4"

This paper presents an authentic lesson experience from a South African public school. By sharing it in a short paper, the lesson plan, actual implementation and resulting learning work can be reflected on by colleagues. It is hoped that teachers and teacher educators will benefit from reflecting on this lesson and may find resonance with what they experience in their classrooms currently; or might like to attempt in future. Of particular interest is the open-ended nature of the lesson, as well as the children and teacher's use of the empty number line to support calculation strategies with this very young age group.

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