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Using formative assessment tasks diagnostically in the numeracy learning programme in foundation phase classrooms.

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Abstract

The idea of formative assessment being used in teachers' instructional practice as a means to promote learning has evoked a number of research studies. In this study, I continue to examine the idea of formative assessment, but with, what is for me, a far deeper question in mind: "How can formative assessment practices be used to diagnose the quality of learning and understanding, and inform teaching instruction so as to improve learning?" In particular, this study investigates how Foundation Phase teachers use formative assessment tasks to diagnose learner difficulties, and to improve their methods of instruction in Number in the Numeracy Learning Programme.

This study is a small scale case study that used a qualitative approach. I used semi-structured interviews and non-participant observations to interpret and assign meanings to the practices of three Grade Two teachers that participated in the study, as they worked diagnostically with formative assessment in Number. The data was collected from four different phases: an interview with the teachers, prior to the formative assessment task they administered; observation of the teachers whilst they administered the formative assessment task; a second interview with the teachers, after the formative assessment task, the focus of which was the teachers' making a diagnosis of learning; and lastly, an observation of the follow-up lesson that was done by the teachers based on the diagnosis of learners' difficulties.

The findings were analysed in four categories, viz. 'Content Knowledge,' 'Instructional Practice,' 'Practices of Evaluation' and 'Socialisation.' Black and Wiliams' (2006) description of the activity theory of formative assessment was used as a broad framework to situate the discussion of the findings. The main finding of the study indicates that using formative assessment to diagnose difficulties learners are experiencing in Number and to improve the instructional practice is part of a carefully planned, 'scaffolded' cycle of events for each of the three teachers studied.

On the basis of what has been learned about this cycle six central claims are made: Firstly, the "learning analysis" (Black and Wiliams, 2006, p.95) that takes place throughout the 'scaffolded'[1] events involves careful planning by the teachers and does not only occur at one particular point. It occurs in each phase of the 'scaffolded' process and is an integrated part of the diagnostic assessment that takes place in the four phases. Secondly, there is a strong correlation between what the teachers understand as the relationship between formative assessment and diagnostic assessment, and the ways in which the teachers interact with the learners as they work with a 'scaffolded' process of formative assessment to diagnose the learners' difficulties in the learning of number. Thirdly, the decisions that the teachers make about the methods or

[1] 'Scaffolded' in this report refers to the carefully structured and planned cycle of events that occur as the teachers use formative assessment diagnostically in their teaching.

strategies that they use during instruction is most often related to a particular purpose in the ‘scaffolded’ process. Fourthly, the methods and strategies that the teachers use are not worked with in isolation. The methods are interrelated according to the purpose for which they are intended, as the teachers work with the different types and forms of mathematical knowledge, and as they use formative assessment to support the diagnosis of learning needs and improve instruction. Fifthly, while the teachers use particular methods or strategies in their teaching practice with varying frequencies, this is not an indication of some teachers being more inclined to use one method over another. The number of times that the method or strategy is used in the teachers’ classroom practice is also determined by the purpose to which it is related in the ‘scaffolded’ cycle of diagnosing the difficulties the learners are experiencing in Number. Lastly, the views that the teachers have of learning and on the teaching of mathematics are demonstrated in the role/s that the teachers take as they proceed through the phases of the ‘scaffolded’ process of working with formative assessment diagnostically, in the methods and strategies that the teachers use and in the types and forms of mathematical knowledge with which they work.