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# Exploring the nature of grade 7 science learners' untutored ability in argumentation

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# ABSTRACT

Argumentation is viewed as an important pedagogical tool that is central to the teaching and learning of science. Research has shown argumentation as one of the pedagogical practices that promote meaningful learner talk and engagement. In South Africa, most such research has been carried out in high schools and universities on tutored ability in argumentation. There is no research on untutored learner ability in argumentation in primary school science. This study sought to address this gap by determining untutored learner argumentation in science in a Gauteng primary school. I wanted to establish whether and how untutored learners argue and the nature of their arguments. I also wanted to examine the evidence that they give to support assertions.

I observed learner interactions in my two Grade 7 science classes through small group discussions and whole class discussions. All the participants were from a public primary school in Gauteng. These learners were untutored (had not been taught) in argumentation, but as their teacher, I had been exposed to argumentation through participation in a masters course. I used qualitative research methodology and drew from Toulmin's Argument Pattern (TAP) to determine the construction of arguments during the science lessons. I used an analytic frame work by Erduran, Simon and Osborne (2004) which helps to categorize the various components of an argument into different levels.

My findings indicated that learners who are untutored in argumentation are able to formulate arguments. Literature has reported that untutored learners in high schools in South Africa present only level 2 arguments. In this study, Grade 7 learners who are untutored in argumentation were able to formulate level 3 arguments in some instances. The study further revealed that some of the learners were able to support their arguments using scientific evidence although most tended to be simple constructs consisting of only data and claims. The fact that they were taught by a teacher, who is tutored in argumentation, may have literature bearing on the learners' argument ability. Current work in South Africa has shown how untutored teachers do not argue: how untutored learners do not argue: how tutored teachers learn to argue and how tutored learners can learn to argue. What we do not know is how untutored learners argue if they have a tutored teacher. Further research might inform

teacher education and classroom argumentation in constrained environments where learners are generally untutored as is the case in many South African classrooms.