Effectiveness of a *Let's Think!* lesson on the classification of objects among Grade R learners in one mainstream preschool in Gauteng, South Africa

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ABSTRACT

Sorting and classifying are important skills for children to develop because of their link to reasoning abilities. In South Africa, where we have a history of dismal mathematics results, there is an emphasis on traditional methods in teaching new content and concepts in mathematics. This is not always effective for children with learning challenges in regular classrooms. By changing the methods of teaching to more practical, hands-on approaches, we should be able to cater for these children in a more supportive and effective manner. The study aimed to examine whether a *Let's Think!* lesson, using a cognitive dissonance approach, improved the classification abilities of Grade R boys. The research questions are: "How do the Grade R learners classify a group of objects before the implementation of the *Let's Think!* lesson (cognitive dissonance approach)?", "How do the Grade R learners classify a group of objects after the implementation of the *Let's Think!* lesson (cognitive dissonance approach)?" and "Is the cognitive dissonance approach effective in enhancing the classification ability among Grade R learners?". Piaget's theory of cognitive development, Vygotsky's social cultural theory, and the social disability model were adopted as the theoretical frameworks that guided the study.

Within the mixed methods paradigm, the study adopted the concurrent triangulation research design. The sample, chosen using simple random sampling, included a control group of eight boys and an intervention group of ten boys in Grade R. Quantitative data was collected by means of pre- and post-tests, in which the boys needed to sort a group of dinosaur toys and then transport vehicles, respectively. Qualitative data was collected through participant observation during the intervention, which was the *Let's Think!* lesson implemented using a cognitive dissonance approach.

The study findings indicated that the learners struggled with classification tasks before they were exposed to the cognitive dissonance approach, and furthermore that the lesson had a significant impact on the intervention group's ability to classify. The study also concludes that there was an improvement in a number of different elements of the classification of objects after the implementation of the intervention. These included the boys' ability to understand and use mathematical language, working better in a group, understanding that they learnt from each other and a growth in positive attitude. The results particularly focused on the boys who needed extra support in the classroom, were promising in terms of using a cognitive dissonance approach to promote inclusion. The study recommends that curriculum specialists consider emphasising a cognitive dissonance approach to teaching mathematics in small groups in Grade R, as well as equipping early childhood teachers to teach concepts effectively using this pedagogy.
Key Words: *'Let's Think!' programme; classification of objects; Grade R learners; mainstream preschool; cognitive dissonance; cognitive acceleration; inclusive education; teaching mathematics; Early Childhood Development*