

Using a DVD to Illustrate Grade 12 Physical Sciences Experiments: A Teaching Aid to Support Learners

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ABSTRACT Grade 12 Physical Sciences teachers are not always adequately trained to use laboratory equipment to conduct experiments. To address this challenge, this study was based on a combination of traditional methods and technology (a DVD illustrating Physical Sciences experiments) to teach and learn four selected Grade 12 experiments. Student-teachers (n=18) were prepared and trained beforehand to execute the lessons during their practical teaching in selected rural schools, while the Physical Sciences teachers (n=18) observed. Before the student-teachers began the lessons, a pre-test was written by all Grade 12 learner participants (n=250) and the results recorded, but no feedback was given to the learners. After the lessons (taught over a period of four weeks) the same test was repeated, assessed and recorded. The results showed that 57% more learners had scored between 50% and 59% on the repeat test. Student-teachers and teachers then reflected (qualitative data) on the advantages and challenges of using a DVD teaching aid, revealing inter alia that learners could learn at their own pace; learners were more confident when interacting during discussions; unclear concepts were clarified; and lessons provided in-depth training and development not only for Physical Sciences student-teachers, but also for the teachers who had observed the lessons. This study recommends that visual illustrations of Grade 12 experiments be used in rural schools to support under-qualified Physical Sciences teachers until they are able to execute experiments on their own and with self-confidence.