

APPLICATION OF CONCEPT MAPPING IN TEACHING CELL BIOLOGY TO GRADE 10 STUDENTS

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This research was motivated by previous research work which found that Concept Maps could be used to enhance the science teaching and learning. Prior studies have shown that the Concept Map is an important tool for science teachers to teach science in enhancing students' understanding of learning scientific concepts and promoting meaningful learning. The primary objective of this study was to explore how Concept Maps can be used to enhance teaching and learning process of the unit "Structure and functions of the plant and animal cell" in Grade 10 National Science Curriculum. The methodological approach used in this research was mixed methods. Nevertheless in order to see the effectiveness of the experimental post-test treatment design was also done. 1AB type two schools situated in Denuwara education zone were selected for the study. The sample was being one hundred and twenty students in grade ten in the age of 14-15 years in both sexes was chosen for the study. Two schools were selected for the study. 29 boys and 40 girls were participated from school one While 24 four boys and 27girls were participated from the other. Initially a pilot study was conducted among a small set of students. The pilot study was used to identify strengths and weaknesses of data collecting instruments and lesson plans.

The experimental group was taught the unit 'Structure and functions of the plant and animal cell' using Concept Mapping while the control group was taught using the traditional lecture method. Qualitatively, data were collected using structured interviews field notes, photographs and videos. Post test was conducted to collect quantitative data. Quantitative data were analyzed using MS-Excel software and the qualitative data were analyzed using thematic analysis technique. The result of the post tests revealed that the experimental group performed better than the control group. Results concluded that the technique of Concept Maps can be integrated conveniently to enhance the process of teaching the unit on 'Structure and functions of the plant and animal cell'. Similarly, it can be concluded that the use of the technique of Concept Maps supports students learning too.