

ASSESSMENT OF THE EFFECTIVENESS OF USING CONCEPT MAPS TO TEACH THE LESSON ON DIVERSITY OF PLANTS

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Students who study biology have to learn many concepts through their learning process. As concept mapping is known as an effective learning tool, this study was planned to investigate the relative effectiveness of using concept maps compared to the conventional teaching methods to learn biology by grade nine students using lesson 5 'Diversity of plants'.

The participants of the study were 64 students in Grade 9th in KG/MW/Nagaragiri M.V. Experimental group was taught using concept mapping methods while control group was taught using conventional methods. Two assessment tests were done after each two units of the lesson. Third test was done as the post test. Two sample t- tests were done using Minitab 16 for the mean values of test scores. Students' concepts maps were assessed according to Novak's and Gowin's criteria.

At the first assessment test, the means of experimental and control group were 18.688 and 17.906 respectively and the p value ($p=0.272$) reflected no significant difference between the two groups. The means marks of second assessment test was 16.219 (experimental) and 13.531(control) and had a significant difference ($p=0.000$). Means of post tests in experimental and control group were 17.219 and 15.095 ($p=0.002$). Results of post test reflect that the learner construct concept mapping with least teacher support had made significant difference between the levels of achievement of the two groups. Control group did not perform better at assessment test two and post test, but increasing mean values of the test marks reveals that they have improved to a certain extent even by conventional methods. Assessment of improvement in comprehension level of the two groups revealed that students' in both groups were not significantly different at assessment test one ($p=0.138$) but in assessment test two and post test the difference was significant ($p=0.003$). Paired t-test conducted for the test scores of concept mapping at three occasions revealed that the students showed a relative significant progress ($p=0.000$) from one test to the other. It was observed that students show interest in learning science with concept mapping and also learning science cooperatively was promoted with concept mapping activities.

Present study highlights the importance of the use of concept maps as an effect tool to learn science by school students. It further demonstrates the effectiveness of individual and collaborative concept mapping to understand the concepts in science.