

377-2
KANDIAH

i

**ENHANCING ATTITUDES TOWARDS CONSERVATION OF
BIODIVERSITY AMONG G. C. E (A/L) BIOLOGY STUDENTS
THROUGH PROBLEM BASED LEARNING**

A PROJECT REPORT PRESENTED BY

THIRUCHSELVE KANDIAH

to the Board of study in Science Education of the
POSTGRADUATE INSTITUTE OF SCIENCE

in partial fulfillment of the requirement
for the award of the degree of
MASTER OF SCIENCE IN SCIENCE EDUCATION

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

2008



627060

ABSTRACT**Enhancing attitudes towards the conservation of Biodiversity among G.C.E(A/L) Biology students through problem based learning****Ms. Thiruchselve Kandiah**

Postgraduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

In the recent past, the loss of species and natural areas, caused almost entirely by human activity, has been occurring at unprecedented rates. These threats may increase in the near future. Earth's biodiversity should be protected because of the values it provide. It is an urgent need to increase the awareness of the seriously endangered status of the species at all levels of society. Education can also help to persuade people to change their attitudes and behaviour towards the Biodiversity and it is important that local communities are made aware of the tangible benefits of Biodiversity conservation. Therefore, effective teaching learning methods should be developed to inculcate good attitudes towards Biodiversity conservation among students.

This study aims to examine whether problem based learning (PBL) would improve the understanding of Biodiversity conservation concepts and enhance the attitudes towards the Biodiversity conservation among G.C.E(A/L) Biology students when compared to traditional teaching method (TTM). At the beginning of the research study, a questionnaire was conducted among Biology teachers to make suggestions about the teaching and learning process related to Biodiversity conservation section of the G.C.E (A/L) Biology syllabus.

A sample of grade twelve Biology students from two classes in Vavuniya Tamil Madya Maha Vidyalaya was selected for the study. One of the classes was randomly

selected as the intervention group in which PBL method was used, and the other as the control in which conventional teaching methods were used. First a test was conducted to identify the prior knowledge and attitudes of students towards the topic Biodiversity conservation. Then, PBL method was applied by me while the TTM was applied by the relevant biology teacher of the class.

A unit plan and a lesson plan for PBL were developed. TTM students were taught the concepts in the Biodiversity conservation in a more conventional way while PBL students used an active, cooperative learning environment. Assessments were accomplished after each lesson for PBL and TTM groups. At the end, post test was given to them to examine the attitudes of both groups of students who participated in PBL and TTM respectively.

Students of PBL groups got significantly higher marks than students of TTM groups for the assessments and post tests. Mean marks for assessments and post test disclose the significant difference between PBL and TTM groups. Two sample t test results also showed the significant difference in students' knowledge and attitudes towards Biodiversity conservation in PBL and TTM groups.

The introduction of PBL into classroom situation resulted significant changes to the way in which teaching and learning were viewed. PBL environment nurtured deep learning rather than surface learning in conventional programmes, by engaging students in group work. The section Biodiversity conservation can be taught successfully through PBL and it enhances students' attitudes towards the conservation of Biodiversity.