THE DEVELOPMENT AND EVALUATION OF TWO SELF LEARNING MODULES

IN AGRICULTURAL ENGINEERING FOR DIPLOMA LEVEL STUDENTS

By

MARASINGHE ARACHCHILAGE ARIYASINGHE

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ABSTRACT

The two year diploma curriculum of the Sri Lanka
School of Agriculture (SOA) should be periodically revised
in order to continuously develop the training. Without
adding new lessons based on new agricultural technologies,
the curriculum cannot be improved. However, the existing
lessons cannot be deleted because they are basic
requirements. Thus, it is not possible to teach additional
material if only the lecture method is used to teach due to
the limitation of lecture hours.

The purpose of this study was to develop a suitable
instructional method to substitute for lectures. The two
main objectives of the study were the development of two
Self Learning Modules (SLM) on biogas technology and water
pumps, and evaluation of their effectiveness.

The experiment was conducted at the SOA at Kundasale
and Pelwehera during the third term of the 1991 academic
year. Thirty nine students (n_1=39) from Pelwehera and 93
students (n_2=93) from Kundasale participated. The control
group, which followed lectures, and the experimental group,
which learned through SLMs, were located separately in
these schools.

A pre test-post test control group design was used to
compare the effectiveness of the SLMs with lectures. Two
post-tests were conducted. One immediately after the

learning and the other six weeks later to enable the evaluation of recall.

The effectiveness of each SLM with that of lectures was compared by using computed gain scores (i.e, post-test – pre-test / 100 – pre-test) between the experimental group and control group. For this comparison, the Mann-Whitney test was used. The results showed that, there was no significant difference in computed gain scores between the two groups. Therefore, it was concluded that, the effectiveness of the SLM and lecture method was not significantly different. In analyzing the data pertaining to recall it was seen that the second post-test scores were lower than that of the first post-test scores. However, these differences were not significant. Therefore, the method of learning did not have a significant affect on the amount of recall.

According to these findings, SLMs can be used for short lessons as well as for long sessions. Through this method, students could be taught facts and some higher level material such as calculations. On the other hand, to teach lessons having more complicated sections, SLMs can be combined with class discussions. Thus, Self Learning Modules can be used as a substitutional instructional method in the School of Agriculture.