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**RELEVANCE OF THE ADVANCED LEVEL MICROBIOLOGY
CURRICULUM FOR EMPLOYMENT AND HIGHER
EDUCATION IN THE CENTRAL PROVINCE**

A PROJECT REPORT PRESENTED BY

THUSHARI LAKMALI ISHAK

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*

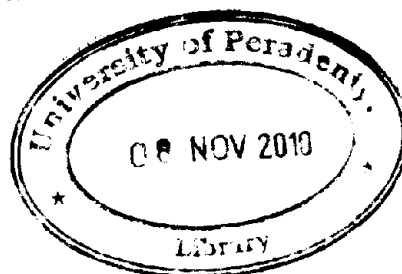
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ABSTRACT**RELEVANCE OF THE ADVANCED LEVEL MICROBIOLOGY
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Board of study in Science Education

Postgraduate Institute of Science

University of Peradeniya

Peradeniya

Sri Lanka

Of the students who pass the General Certificate of Advanced Level (A/L) Examination, some gain entry to the University to continue with a tertiary education, while others try to obtain employment. In order to achieve either of the above successfully, the A/L qualified students should gain a basic theoretical knowledge as well as skills during their period of study in the A/L classroom.

The main objective of the current study was to find out how appropriate the A/L microbiology lessons and practicals are, for microbiology based jobs and the microbiology curriculum at the undergraduate level.

The microbiology unit (unit 7) and the list of practicals provided by the National Institute of Education, Sri Lanka, under the curriculum reform in 1998 were critically inspected. Subsequently 10 institutions/industries were visited where microbiological knowledge is required for employment. A questionnaire was filled by authorized persons in these institutions regarding job requirements and opportunities available in Sri Lanka for the A/L qualified personnel in their institutions/industries. The questionnaire enquired in to the issue of satisfaction in terms of theoretical and practical skills related to microbiology on the selection of A/L qualified persons recruited by them. Similar questions were asked from the University Lecturers (n=13) in Faculties of Science in the Sri Lankan Universities who conduct microbiology

lectures for the first year students. The prospective employers and University Lecturers were satisfied with the basic theoretical knowledge of the students. However, they were not satisfied with their practical skills.

A questionnaire was distributed to teachers in 86, 1 AB schools in the Kandy (n=46), Matale (n=15) and Nuwara-Eliya (n=25) Districts of the Central Province of Sri Lanka. Responses were received from 54 teachers. The questionnaire addressed the experience of teachers of teaching microbiology, attendance of students for lessons, availability of equipment, materials in biology laboratories, teaching methodology and other related issues to teaching microbiology in schools. The teachers stated that they were unable to conduct most of the practical lessons due to the following reasons. More than 20% of schools in Kandy (n=33) and Matale (n=8) Districts and over 60% of schools in Nuwara- Eliya (n=13) District did not have a separate biology laboratory; more than 50% of schools in all three Districts did not have required facilities in laboratories. Lack of training and experience of teachers was another reason highlighted by the teachers. In addition, the omission of practical related questions in the A/L paper, dissuaded most students from taking an active interest in microbiology related practicals, though they agreed that they are of interest and value later on. Furthermore, abolition of a practical exam from the A/L examination adds to the limitation of time and effort made for practicals by students and teachers. It was also revealed that the microbiology unit was usually taught towards the latter part of the two year period, by which time the students did not attend school, as they preferred to attend tuition classes. Also the time allocation was not sufficient and as a result the syllabus was not adequately covered during this period.

It could be concluded that even though the microbiology related theoretical foundation was provided to A/L students, to continue their studies at a tertiary level or for employment, the practicals done in their schools were not adequate. Therefore it is an urgent requirement that relevant authorities should take necessary action to rectify this situation. If this problem is not addressed we would have a future generation with a theoretical knowledge, lacking practical skills.