

WHY PROJECT WORK

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"Project work" in science, as seen by the present author, denotes work done outside the confines of the textbook and seeking to show something "new" (which, in the present context, denotes something, however slight, is not in the textbook). Its purpose is to serve as a complement to textbook learning. The nature of the work would usually be scientific, but there is room also for other kinds of work such as aesthetic compositions on a topic related to the science syllabus. The work must also be written up and sent up for possible publication. There is a need to produce journals for the publication of project work reports.

1. The textbook is necessary

Learning what is in the text book is essential in order to learn the principles pertaining to the subject. The proper use of the textbook includes supplementary activities such as prescribed practical exercises and field visits to verify what has been learnt from the textbook.

2. The textbook is, however, not sufficient

a. Wholeness

We all dream of wholeness in our lives. We tell ourselves that we should be not only 'head' (intellectual), as in learning by reading the textbook, but also 'heart' (feelings) and 'hand' (doing things). We should eat not merely to supply ourselves with the textbook's list of aliments and nutrients, but also to enjoy eating. We should like our health to be not merely the absence of the illnesses listed in the medical textbook but also the enjoyment of physical, mental and spiritual well-being. We should like our relationship to Nature to be not merely that of using natural resources but also living in accordance with the noble rule "May all beings be happy!". We should like to cultivate our sense-perceptions so that it is not merely a matter of listing the various

physiological sensations but also using them to enjoy the fine arts. We should like to find our work not merely a matter of the physics of energy but also something which brings us deep satisfaction.

b. Complements to textbook learning

School often provides us with many opportunities to serve as complements to textbook learning. There may be school clubs for aesthetic activities, for the cultivation of hobbies such as photography, and for nature conservation. These are all complements to textbook learning, to prevent a student from becoming a mere bookworm. **"Project work" is an important form of complement to textbook learning.**

c. Project work

I see "project work" in the present context of science learning as work done by the student in science which is not a mere repetition of material which is already in the prescribed textbook, practical manual and field work guide which he uses. It is an activity over and above the classroom activity that is common to all students. In this sense it is "new" work, although it may not be new to world science. It

is an activity in which the student, working singly or in a group, produces an output through processes which enlarge his experience by doing something with thinking and feeling. Furthermore, the work must be written up, so that the work is open to scrutiny by others. The work would usually take the form of a scientific study, but it could also take the form of aesthetic compositions such as poems or playlets based on topics in the science syllabus.

d. Written up

A scientific report of the work should be written up in a format which conforms to the ethos of science. A typical format for such a report is that of a "scientific paper". The typical scientific paper has a title, name of author, abstract, introduction, method used, results and conclusions, discussion, acknowledgements, and references to books and papers consulted. If the project work has taken the form of an aesthetic piece such as a poem or drama, it should be written up in that form.

3. Who should do project work?

The answer is: Every student. Every student in primary school, secondary school and in tertiary educational institutions such as technical colleges and universities. In the

universities it has always been a rule that every honours student must do a project and submit a dissertation thereon. Many (but not yet all) university departments require project work from their students. Among them are the Computer Science Departments, and the Department of Physiology in the Faculty of Medicine, Peradeniya. The current educational changes have introduced project work in primary schools and secondary schools, and it is hoped that the same would apply to all tertiary educational institutions including universities.

4. Journals

Journals to publish student project work reports would be an important stimulus for such work. At present there is no such journal. The Natural Resources, Energy & Science Authority of Sri Lanka (NARESA), which was the predecessor of the National Science Foundation (NSF), once published a journal called "Science investigations" for such project work, and six issues of the journal appeared before it ceased. The Sri Lanka Association for Science & Mathematics Education (SLASME) has published a series of school project work journals for primary and secondary schools, but their effort too is not an adequately continuing one.