## WHITHER THE INDUSTRIAL ARTS?

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Industrial or manual arts education can be traced back to the early trade guilds. The objective was to teach trade skills such as blacksmithing, leatherwork, and carpentry to the next generation. Understandably, the emphasis was on developing manual skills associated with a particular trade, and because the teaching concentrated on the "how" of doing things rather than the "why", it did not require very sophisticated academic concepts. Consequently, the academically weaker students were encouraged to enrol in the industrial arts. The lack of any substantial theoretical knowledge associated with a skill limited creativity and innovativeness in students. This restriction may have been appropriate at the time but do we want similar restrictions for our children?

Unfortunately, the legacy of this partial view of the industrial arts is not entirely a thing of the past. In Pacific Island countries, in particular, Industrial Arts has always been a programme to help learners acquire blue collar, job-related skills and is perceived as a soft option for academically weaker students. This has prevented aligning industrial arts programmes to the socio-industrial and academic needs of our ever-changing society. In this respect, the curricula of Pacific schools is still in the "Dark Ages". Our students are still making "dove-tail" joints and using cascamite glue, while a world of technological innovations has gone past them. This incompatibility of the curriculum to the needs of industry is not exclusive to the Pacific; Dr Gardner of Monash University made a similar observation in the Australian context, but the problem is perhaps more sharply defined locally.1

The trade skills required in contemporary industry have changed significantly, particularly in the last decade. The teaching of "why" things, done in a particular manner, has become essential to understand the kind of skills currently needed. Furthermore, the sudden increase in technical information warrants the need for an integrated approach to curriculum, with aims and objectives going beyond and across conventional subjects like Woodwork, Metalwork and Technical Drawing. However, the thinking among the industrial arts educators and curriculum developers did not change accordingly. The collective wisdom could be expressed, "What was right for me must be right for the present day students, notwithstanding that society today is not like the society in which we grew".2 This has blocked the opportunity to transform Industrial Arts into the most dynamic subject in the secondary school system.

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The industrial success of Japan and most Asian countries is to a large degree the product of an education system which is supportive of an up-to-date technical education. Australia and New Zealand recently realised that concepts like productivity and quality in industry emanate from a "technology culture" which has its roots in the education system. If conventional literacy can contribute significantly to the overall language development of a nation, then, surely, technical literacy could make a similar impact on the industrial development of the nation. In spite of the example of other nations, there seems to be a general apathy towards Industrial Arts education in the Pacific. Those responsible for technical education must respond urgently; otherwise it might be too late.

The trend in Technology education currently experienced in countries like Australia and New Zealand

shows a shift to a "Design" approach. The idea is to pursue broader objectives, and develop problemsolving and design skills, but also to study the social, environmental and moral implications of the technology. Subjects like Design and Technology, Engineering, Graphics and Design and Industrial Technology have replaced the traditional Woodwork, Metalwork and Technical Drawing. The new approach attempts to integrate the traditionally compartmentalised subjects into a holistic and meaningful synthesis, reflecting the innovative technological basis of industry. The use of scientific concepts to understand industrial processes such as control technology, material processing, etc. need to be addressed in education. The much needed thrust, now, is for the encouragement of cognitive learning through problem-solving, as opposed to the mastery of the manual skills that dominated the traditional programmes. This does not imply eliminating manual skills completely, but suggests the need to find a balance between the two which is reflective of the activities of modern industries.

As educators in the Pacific, we cannot pretend to be living in isolation, and be content with teaching traditional Woodwork, Metalwork and Technical Drawing while industry is rapidly accommodating technological innovations. In short, students who opt to pursue Technology Education should be given a fair exposure to what really happens in industry.

## REFERENCES

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- 2. Nicholls, A. & Nicholls, S.H. (1976). *Developing a Curriculum; A Practical Guide*. Allen & Unwin Ltd, London.