

Historical Perspective of Traditional Technical Subjects in Botswana

Abstract

The Botswana education system is based on a three-tier: primary, post primary and higher academic education. Because of this linear type of education system, Botswana lags behind in the technical field. She has to rely on expatriates for technical manpower. Ultimately, the government realised that it was necessary to introduce technical subjects into the secondary school curriculum to provide a foundation for the much needed technical manpower. These technical subjects include woodwork, metalwork, technical drawing and most recently design and technology, which embraces most of the subjects in the school curriculum.

Because design and technology embraces all of the subjects mentioned above, they are slowly being phased out. Design and technology is slowly gaining recognition because of its importance to the national economy and to the quality of life in Botswana.

This paper will now look at the factors which led to the introduction of design and technology to replace traditional technical subjects in Botswana secondary schools.

Traditional technical subjects in perspective

In schools, practical subjects were generally aimed at those students who were intellectually not performing well as it is acknowledged by the Education for Kagisano which maintains that,

“...practical subjects options were relegated to a position of least choice”. (1977: 3-12)

Before 1990, it was a common misconception that if a student is academically weak he/she may perform well in practical subjects. At O' Level, some schools tended to offer practical subjects to less able students and this is a reflection of the attitude towards such subjects. These subjects tended to be studied by boys only and the teaching style was dominated by the teacher. There was little or no room for critical thinking, ingenuity and creativity to be nurtured.

However, the purpose of this submission is to trace the origins of design and technology in Botswana. When looking at the National Commission of Education 1997, the Commissioners recommended the introduction of a subject called 'Practical Skills' to supplement the traditional subjects.

Practical Skills – this would be a completely new type of practical course embracing aspects of technical drawing, woodwork,

metalwork and other allied crafts. At this present time, there is no equivalent practical course within the secondary school framework. (1977: 5-85)

This practical course was to be responsive to the following factors as a curriculum innovation:

1. the introduction of new concepts of knowledge and technology in the society
2. changing methods of teaching from traditional to individualised learning
3. the need for technical manpower for economic prosperity.

His Excellency, the President Sir Ketumile Masire also acknowledged that:

“Education must be responsive to the needs created by developments and hence our policies must be continually under review...” (Crowder, 1983: v)

Therefore, the early roots of design and technology could be traced from the discussed sentiments. The aim of the Practical Skills course was to prepare students to be able to cope in a practical way with the basic technology problems that arise in daily life. The new course was to cover the following:

“a foundation course of basic engineering drawing, practical materials and their uses and the use of certain tools and safety”. (op. cit)

Nevertheless, students were to enjoy the great satisfaction of designing in one class and realising in the other. The Commissioners further claimed that:

“the curriculum would create a more balanced set of values”. (Ibid: 5-86)

Dr Pickard, as quoted by the 1977 Education Commission said:

“...and thus underline even more heavily the need for a technical problem solving element in school education for the increased demand of trained manpower for modern industries”. (Ibid: 3-12)

In emphasising the above point, the Commissioners lament the following:

“the practical problem solving approach to school education is educationally more valuable than much of the traditional work in African schools”. (op. cit)

Despite the educational value of the subject, the curriculum would be expensive to introduce due to large expenditure needed on practical workshops in many schools. There would also need to be a large increase in the

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number of qualified practical teachers available to secondary schools to establish the subject. Unfortunately, the recommendations have never been implemented. Therefore, all developments in design and technology are doomed to failure unless the country takes real and positive steps to the problem of the lack of qualified teachers for practical subjects.

Botswana was to 'home grow' its own teachers for practical subjects in secondary schools. A teacher training course for Botswana was devised and introduced at the then Botswana Polytechnic (now Faculty of Engineering and Technology). Later on in 1985, a Diploma (Design and Technology) at Molepolole College of Education was established to cater for junior secondary schools while the former trains degree teachers for senior secondary schools.

The element of problem solving in design and technology is not a new concept as it has been long focused by the 1977 Education Commission. This element of problem solving fulfils one of the educational objectives of the National Development Plan 6 that states:

"Botswana should be prepared for useful and productive lives, with emphasis on training to meet manpower needs of the economy." (1985-91: 123)

How can Botswana be prepared for useful and productive lives? It is recommended that the overall objective of the National Education will be:

- to emphasise science and technology in the education system (1994:3)
- to emphasise the pre-vocational orientation in preparation through emphasising foundation skills applicable to work situation such as problem solving, self presentation, team work and computing. (Ibid:9)

All these objectives could be achieved if tailored through the design and technology curriculum. One of the 1977 Education Commission recommendation was that, a technical wing should be built somewhere to cater for those who decide to take up engineering courses as their future careers.

Those who were performing extremely well in practical subjects at Junior level were to be sent to this wing for O' Level. In 1984, a Technical Wing was built at Lobatse senior secondary school.

Now, the discussion would focus on the planning for the introduction of design and technology, not the discussed Practical Skills course. To bring Botswana in line with

international thinking in the field of technical education, in 1988 the Ministry of Education engaged the services of a specialist to review the traditional technical subject curriculum. This led to a report by Robert Fox who recommended that:

"A new name should be chosen or other of these distinctive educational categories. It is suggested that in Botswana schools for 6-18 the new subject be called Design and Technology Education." (1988: 4.42)

Following this recommendation, in 1990, design and technology was introduced in three selected schools. These pioneering senior schools were Lobatse, Swaneng and Shashe River School. They were later followed by Moeding and Mater-Spei College in 1991. All of these schools started teaching design and technology at form 3 level. Thereafter, all schools followed suit.

Furthermore, in bringing Botswana in line with international thinking, she needs a well trained and conscientious workforce and; the government is adopting a dynamic philosophy of education that promotes economic development, political stability, cultural advancement, national unity and overall quality of life. In pursuit of these goals, education must offer individuals a long life opportunity to develop themselves and to make their country competitive internationally. Ultimately, the aim of education must be adequate preparation for the world of work. (Revised National Policy on Education, 1994: 3)

It is strongly believed that these echoed sentiments could be achieved through the emphasis of technology in the education system of Botswana of which design and technology is a major contributor.

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