

The impact of technology to education in the developing countries

Mercy N. Fodje^{*}

Abstract

The combination of education and technology has been considered the main key to human progress. Education feeds technology, which in turn forms the basis for education. It is therefore not surprising that to be “developed” is to have had education based on western knowledge, science and technology. This is today considered progress. The rapid emergence of new technologies brings certain worries to mind. If these new technologies at a time of dramatic population increase continue to produce more and more with less and less labor input then we are heading for a world with hundreds of millions of marginalized humans. What the world needs today is not talent in producing new technologies but talent in understanding the impact of technology on the society and individuals. This calls again on education. We have to produce graduates of all disciplines with some depth of understanding of the environment, of the consequences of large-scale inequity, and the difference between technological development and human development. Educational programs in the third world heretofore have been designed around the western ideals. These need to be reworked to reflect the indigenous cultures and promote human values while at the same time producing the talent for ‘controlled’ technological advancement. Only then would we be able to talk of development.

This paper attempts to provide highlights on areas of the educational system of Cameroon, which can be improved for development to be a reality, and also proposes how information technology could be of use to education in the third world for the 21st century.

Introduction

For the majority of underdeveloped countries especially those of sub-saharan Africa, the quality of life is deteriorating despite several decades of development efforts. Economic growth has stagnated, with GNP per capita insignificant compared to the higher income countries. As if to make matters worse, population growth is higher in these countries and are accompanied by increasing poor health, rising incidence of AIDS, a disproportionately high level of poverty and hunger, low educational levels, increasing civil strife, and a deteriorating infrastructure base. The gap between the ‘Developed’ and ‘Underdeveloped’ countries is therefore widening by the minute.

Fortunately, the emergence of several powerful institutional forces such as the information revolution and the democratization of ideas are changing the global economy by affecting the relationship of markets, products, competition and trade. For the first time, developing economies have a chance to leapfrog over certain

^{*} Affiliation: The Cameroon General Certificate of Education Board

cumbersome development steps and constraints to speed up the development process, if only their educational systems, which feed technological development with the necessary skills, is overhauled.

Education and Work force in Sub-Saharan Africa

The ability of Sub-Saharan Africa to actively participate in the new global economy and to solve the many social and political problems that it faces depends largely on the intellectual capacity and skills of its labor force, particularly in Science Technology and business. There is therefore a great need in Sub-Saharan Africa of professionals in a broad range of disciplines skilled in using and adapting existing and new knowledge and information to changing local and international conditions; and even more basic, a need for continual access to various forms of knowledge and information in a flexible and timely manner. Unfortunately, the distribution of skilled professionals and access to knowledge is highly skewed in favor of developed countries. It is very imperative to future economic and social development of these countries that swift steps be taken to bridge this knowledge gap without which the economic and social disparity will widen even more rapidly.

The need for a better educational system

It is the place of Sub-Saharan Educational systems to bridge this gap. Unfortunately, they have failed to develop the critical mass of professionals necessary to fuel development under the industrial-growth model. It is already almost failing to develop the core professionals necessary to benefit from the emerging knowledge-based model. This is because these unevolved educational systems were primarily meant to produce elite civil servants to replace colonial administrators. It continues to prepare a disproportionate number of students to join a public sector which had long stopped expanding and is now shrinking in many cases.

What Africa needs is a substantial overhaul of education and training that can match the technology revolution and keep pace with continued technology development. A good educational system will focus on laying the best foundation of knowledge and skill that are laid during the first years of education. Teachers and trainers must be targeted and their training must include multimedia education content, the use of computers and other associated tools, the same tools they would be using in the passing on the knowledge to the young. At a young age, individuals should be taught how to look for information and how to effectively make use of gathered information rather than just passing on classical material to cram and recite. This "Learning in the Information Society" will produce dynamic individuals who can easily adapt to the work force or quickly retrain to suit the emerging dynamic growth-growth model.

Education and Training must be reoriented so that learning institutions are much more responsive to the skill needs in business and industry. The basic principles of education

and training have to be based more on the notion of learning Capacities rather than formal education and training. Degree programs at the level of higher education should therefore be developed to be dynamic, with particular regard to learner needs. New forms of partnership between business, other organizations and educators are needed to ensure that new and changing skills required are made available. Governments should therefore encourage enterprises to invest more in the training of their core labor force.

The place of Technology in a revised educational system.

The mention of the use of multimedia and information technology in education in the poorer Sub-Saharan countries may be followed by questions of finance. As a matter of fact, achieving quality education in these countries by use of information technology is a far cheaper alternative. Most educational institutions in these countries lack quality facilities, journals, conferences, etc. The quality of educational materials is often poor. Library collections have become out of date. Laboratory equipment is most often old, in disrepair and out-of-date, while current budgets for consumables are lacking.

It would seem almost impossible for these countries to setup efficient educational systems but for the availability of multimedia and information technology. Efficient growth bases with vast multimedia content can be setup at a minute fraction of the cost of setting up modern facilities comparable to that of developed countries. With the advent of the internet and world wide web, and already existing knowledge bases, many educational institutions will be able to make use of the same resource thus further minimizing the cost requirement. The internet opens up a way of exponentially expanding the physical limits of the school, giving students and teachers access to each other, experts and resource around the world. Information technologies help create more equitable and accessible education systems. Students can use technologies to access courses not available at their school; rural students can complete their studies without leaving their communities, and adults can take advantage of a more flexible study schedule. Cultural development will also benefit as knowledge-bases of art, culture and history can be easily created, made widely accessible and easily updated.

Governments should therefore set as a task to make the internet as widely available to their people as possible. Part of the costs of financing this trend should be born by the private sector as they are beneficiaries of the more vibrant and dynamic workforce it produces.

Concluding Remarks

Finally, I wish to invite all interested parties to reflect on the possibilities of formulating a set of recipes to assist developing countries especially those south of the Sahara to make use of the information revolution for faster development in the 21st century.