Major Trends in Higher Technological Education from Developing Countries

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Abstract: The technological advance is impelled by social needs and is assured by social resources. In all his existence, the man has been seeking to change or to manipulate his environment by more and more sophisticated technologies in order to meet social needs. Even if social needs have changed in the course of centuries, in fact, the up-to-date man is hardly getting out from his ancient fears of hungry, cold and death, especially in the developing countries where the percent of population remained below officially defined level of poverty is greater than in developed countries. It is the normal duty of higher technological education to meet these social needs. After scrutinizing social needs, this work selected some major trends in higher technological education existing now in developing countries in order to overcome better these needs. Thus are presented the computer-aided instruction, the ample presence of academic sciences and of English or of other modern languages in curricula.

Keywords: technological dilemma, fears compensation, backward regions, peripheral groups, economy globalization, computer-aided instruction (CAI), curricula.

1. Introduction

The general objective of the higher technological education is the promotion of a technical specialist capable of taking a responsible and active role in the technological advance. This advance is linked to social needs. To meet better these needs, the higher technological education has had always to improve his activity. This work tries to select some major trends in higher technological education from developing countries in order to meet successfully the social needs.

2. Social problems in developing countries

The whole existence of mankind is marked by the effort done to vanquish the hunger, the cold and the death. The mankind species have lived dependent for survival on their skill in gathering food by hunting and fishing and avoiding predators. From the Old Stone Age the primitive man has used stone tools and weapons with points and barbs and has begun to master the firepower. Even now, the man is seeking to change or to manipulate his environment by more and more sophisticated technologies to meet social needs. Thus, the technology has made possible the development of mankind from cave dwellers of the antiquity to the space age in the 20th century. Even if social needs have changed in the course of centuries, in fact, the up-to-date man is hardly getting out from his ancient fears of hungry, cold and death. The ancestral fears located in hypothalamus are only compensated by modern life and is enough a mere trifle to make them appearing in mind.

Whatever the level of development, there are always backward regions and peripheral groups causing a persistent strain and conflict in modern societies. In plus, the developing countries has began to bear the influence of economy globalization process. This globalization process will affect the social needs in the way that the relief of social problems will not be uniform because the modern technologies will make work productivity so great that only two tenths of active population will be sufficient to keep on running world economy. These two tenths of population will actively participate on life, on incomes and on consumption. It is sure that the rest of 80 % will have considerable problems. In the same time, giant corporation owning the best technologies may decide which part of the country or even which part of the world will prosper and which will decline by choosing where to locate their plants and other installations. Therefore, the life level disparities in the developing countries will become more prominent with dramatic consequences.

It must be added that despite the huge technological progress achieved up to now in the world, the man is not yet able to avoid the apocalyptic dangers for the life such as collisions between Earth and great meteorites or electromagnetic storms due to polar instability of Earth' magnetic field. Moreover, the technological soaring of present days drove to a so-called technological dilemma of the threat of technology, which may destroy the quality of life and even endanger society itself. This threat is related to the nuclear technology, the population explosion and the environment pollution.

But social involvement in technological advance comprises not only social needs but also social resources. In many cases, for a technological innovation people feels a strongly need but is still not prepared to devote resources on it. If in a traditional adage, a poor craftsman blamed his tools, it seems too simplistic to paraphrase him making the technology the scapegoat for man's shortcomings.

3.Some major trends in higher technological education in the developing countries

In then early millennia of human existence, a craft was acquired in a length and laborious manner by serving with a master who gradually trained the initiate in the arcane mysteries of the skill. Such instruction was a combination between oral tradition and practical experience and was closely related to religious rituals than to application of rational scientific principles. In the present days, at any technological university or institute in the developing countries is carrying a great effort to improve the education activity. Related this one can be registered the following trends:

a) Firstly, the higher technological education is deriving advantage from using of computers which have become increasingly important not only as a field of study but also as reference and teaching aids, offering interactive instruction one-on-one basis and modifying theirself automatically to suit the user's level of ability.

b) Secondly, in order to accelerate the convergence between science and technology, a deep academic instruction is provided in curricula of all higher technological education.

c) In view to strengthen the links between practice experience and teoretical knowledge, a third trend is represented by the sandwich-type organization of higher technological education period. For example, the first, the second and the forth year is running in university or college while the third one is accomplished production enterprise.

d) Another interesting trend used to obtain an as high as possible efficiency on developing research programs paid from state or private funds, consists in the near by higher technological education institutions of little enterprises managed in most cases by disciples of university professors. Each such an enterprise has usually as many laboratories as production units.

4. Conclusions

The mankind is not yet liberated from his ancient fears like hungry, cold and illness. To overcome these social needs, even now the man is seeking to change or to manipulate his environment by more and more sophisticated technologies. Thus, the technology has made possible the development of mankind from cave dwellers of the antiquity to the space age in the 20th century. Despite the huge technological advance, the mankind is not yet able to avoid the apocalyptic dangers for the Earth such as collisions between Earth and great meteorites or electromagnetic storms due to polarity instability of Earth' magnetic field and is urged to give a satisfactory solution to the threat so called ' technological dilemma' of technological self-destruction related to the nuclear technology, the demography explosion and the environment pollution. If in the 19th Century, it was too optimistic to believe that the technology will bring paradise on Earth, in the 20th century making technology the scapegoat for man's shortcomings it seems to be too simplistic. In many cases, even if a technological innovation seemed to meet strongly a social need, the society was not prepared to devote resources on it. It is the normal duty of higher technological education to overcome these social needs. To receive better this challenge, the higher technological education institutions have done a great effort to improve their activity. Thus, there are many trends in the higher technological education from developing countries, but the major trends are the computer-aided instruction (CAI), the ample presence of academic sciences and of English or of other modern languages in curricula.

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