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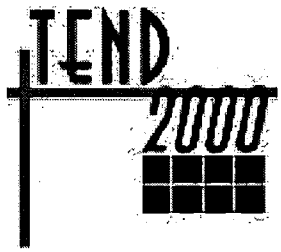
ABSTRACT

The impact of globalization on vocational-technical education (VTE) and human resource development (HRD) in Sudan was examined. Special attention was paid to the following issues: the purpose of education in the 21st century; learning for the workplace; national culture and technological advances; the globalization of education; education and quality control; and future challenges for educational institutions. The following were among the nine recommendations offered to individuals interested in improving VTE and HRD in Sudan: (1) develop closer bilateral agreements between national, regional, and international institutions to facilitate education, enhance independent learning, transfer and exchange technology, and meet the challenge of globalization; (2) strengthen collaboration between educational institutions and industry to maximize use of available resources; (3) launch investment programs in education to compete in the technological market and world trade; (4) establish councils of professional and technological education to set targets and strategic education policies, promote national training, and develop links between educational institutions at all levels and industry; (5) emphasize national language to protect culture, ethnic roots, and Islamic values; (6) increase emphasis on opening competent polytechnics and VTE institutions to meet business and industry training needs; and (7) stress advances through research to enlighten and strengthen policy, practice, and experience. (MN)



Crossroads of the New Millennium

Education Trends, Norms And Development

Prepared and Presented

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Abstract

The paper addresses the relationship between fundamental changes, development policies, and technological advances leading to the globalisation aspiration. Fundamental aims of modern education are highlighted with emphasis on future proposals towards directing education to the work place. Globalisation impact on national culture and heritage is looked through with a view to invest in this service sector without losing achieved quality and national culture. The paper lays grounds for policy making and practical implementation of technological and vocational (further) education and human resource development and training.

Education Trends, Norms and Development

PURPOSE OF EDUCATION IN THE 21st CENTURY:

Educational institutions concerned in this paper are the usual categories of primary, secondary, higher (tertiary), advanced/theoretical professional, and practical/occupational systems. Emphasis is to be devoted towards the latter three categories for their serious effect in the individual, capacity building, national impacts, technological advancement and competition.

Higher education objectives have passed through different concepts throughout history. For example the purpose of higher education in the universities of Taxila and Nalanda in ancient India was to impart spiritual and mental skills to the students. Ancient Islamic universities observed similar concepts. Serving material well being was not an objective of ancient universities. These concepts have changed by time. Polytechnics were established in Europe towards the end of the eighteenth century to meet the needs of the society by training students in practical skills. Sanyal lists functions of higher education as follows:

1. Providing education and training within a structure integrating research and instruction.
2. Providing professional training.
3. Carrying out research in a broad range of disciplines and training qualified people for all fields of employment.
4. Playing a part in regional development and developing international contacts.
5. Fostering the intellectual and social development of society.

It is rather difficult stating the precise aims of education as presented in educational institutions. This is may be attributed to the high degree of decentralisation and fragmentation that exists within educational bodies and enterprises. In the era of globalisation and information revolution the goals could be reshuffled and summarised to include the following major aims of technological education in the 21st century:

- creation and dissemination of knowledge for all,
- national development and identity assertion, commitment to the country and training leaders in technology,
- spreading culture of the nation and promotion of peace and reduction of poverty,

- setting of education policies that address modern development and economic growth and national goals,
- internal coordination and professional behaviour,
- community and continuing education and awareness to promote participation in social and economic development and to prepare the work force to use technology for living and working by improving skills,
- conduct innovative, appropriate and sustainable applied and scientific research,
- formulation of appropriate administrative and strategic planning,
- improvement of academic outputs and quality control towards development of an entrepreneurial national economic system,
- fostering economic growth and adjustment,
- personal and social development and acquiring knowledge, active wisdom for the individual and the community,
- capacity building towards development and progress and team work structures,
- equal opportunities in education and training,
- flexibility and willingness to improve,
- addressing needs and inspiration of the handicapped, the infirm and the war causalities,
- keeping education ahead of industrial demand.

A substantial contribution to development and improvement in the education system should be achieved through changes in organisation, curricula and research objectives of the universities.

The major challenges that faces the implementation of the aforementioned goals and objectives include:

- fund raising and providing adequate resources to sustain education,
- efficient decentralisation of education system,
- appropriate educational institution management,
- continuity of student exchange programme services,
- technological change and global commercial integration,
- setting workable technological education strategies,

- involvement of stakeholders (students, staff, employers, governments, international community, professional associations and educationists) in education at all levels,
- shift of organisation of education from institution-centred to student-centred learning,
- development of a practical action plan for promulgation of regulations to encourage youth to join vocational training programmes,
- establishment of industrial production of teaching/learning training programmes and aids such as: audio-visual: video, TV and radio programmes, games and toys: lego and puzzle..etc.
- achieving a certain degree of excellence by making systems of learning more accessible, responsive, diverse, flexible, adaptable, empowering and affordable.

FUTURE STATE OF EDUCATION

Due to scarcity of national resources, the trend nowadays in educational institutions is to shift from input control mechanisms to output quality control, and the shift from traditional education to training and on job education, with a tendency towards privatisation. More stress is to be laid over the establishment of applied research institutions to help development along the globalisation arena. This would call for strategic planning by educational institutions. This is to assess changes in the institution environment and plan for these changes in different short and long term perspectives, addressing economics, sociology, politics, culture, technological advancements, finance, available resources, management and administrative issues. This format ensures the introduction of:

- self regulation and accountability,
- introduction of courses that develop technological skills among people with sets of values,
- introduction of a good link between industry and operation of educational institution,
- improvement in educational quality outputs,
- research team work system and methodology,
- systematic analysis and problem solving,
- intensive utilisation of information,
- improvement of services and better utilisation of scanty resources,
- human development and capacity building,
- continuity of planning and evaluation patterns and norms,

- appraisal and accountability measures in research, academic matters, services, administrative and management issues,
- focus on human resources through training management and professional workshops and conferences,
- transparency in budget expenditure,
- education/business partnerships and ties in training service ventures for minimisation of use of scarce resources and expertise.

LEARNING FOR THE WORKPLACE

Within the framework of needed revolution in education and embankment in the globalisation system of allowing trade in education with the proposals of the World Trade Organisation (WTO), addressing the following points deserves consideration:

- introduction of modular technological and vocational formal and non-formal education for disadvantaged social groups such as: school dropouts, unemployed personnel, and adults in employment or unemployment..etc.,
- introduction of needed courses and their continuous revision in technological and vocational education to meet the needs of industry and enterprises, and opening routes for life-long learning vocational education for graduates to pursue further university studies,
- flexibility in admission, training and graduation requirements and certification,
- work place training towards application of knowledge and performing practical tasks to fulfill work place roles (competence),
- career-oriented courses,
- introduction of credit/modular programmes,
- open and distance education,
- technology transfer and knowledge diffusion,
- creation of a better education/employment link to promote human capital development and competencies,
- establishing planning activities, teamwork, better analysis of information and use of technology.

NATIONAL CULTURE AND TECHNOLOGICAL ADVANCES

Care should be taken when globalisation of the world economy and the swift development of technologies are addressed towards the following:

- use of technology in the service of education,
- staff morale, relevance, effectiveness, efficiency to make them a vital pillar in national productivity schemes and plans,
- brain drain,
- teaching staff not interested in management activities,
- staff having second jobs besides teaching and research,
- need to strengthen national research and development capabilities.

In most countries, education is provided free of charge or at prices not reflecting the costs of producing it. This is because education is considered a public, cultural, consumptive commodity up to a certain level and a social service rather than a productive activity. In most countries private education is highly subsidised. Cost sharing is another alternative to addressing university financing. Thus, there is a need to stress education for economic growth and launch investments in certain forms of educational technology. The private sector needs to participate in education by providing funds for endowment, research, and essential educational activities.

Creation and development of a national science and technology culture is vital to involve all community members young and old. This should be in full harmony with traditional culture prevalent in the society. The ultimate goal is to secure respect and promote best attitudes and values.

GLOBALISATION OF EDUCATION

Investment in education within the frame of global format is an aim towards higher productivity and socio-economic development. Investment in this service sector can be made in the following possible avenues:

- computerisation,
- information systems and informatics technology,
- conglomerates of industries and educational institutions, and
- consultancy and applied research.

This would call for creation of more-business-like structures in educational institutions in accordance with sound and approved strategic plans. Measures that merit consideration in the globalisation of the format of education include:

- creating commercial activities and other sources of income generating activities as: information technology services, paid courses, consultancies, etc.,
- amalgamation to form larger local or regional units and centres of excellence,
- graduation in accord with job and market needs and national development,
- attraction of more support to education and research from industries and private sector,
- offering more autonomy for the individual educational unit in its domain of responsibility,
- expanding in introduction of private education,
- organising institutional networks to share facilities and materials,
- formulation and ensure the functioning of accrediting agencies,
- training faculty in new technologies for education,
- setting regional forums for assistance, expertise and experience share,
- building a better bond and linkage within the institution environment,
- upgrading the software of education programmes, interactive multimedia and education packages.

The points that warrant serious thinking when considering market oriented education services include:

- negative impact on culture of youth, children and women (foreign damaging culture),
- increase in the cost of education and market monopoly due to advances in techniques, programming and teaching aids and materials,
- lack of competition for local faculty, staff, technicians and advisers,
- launching of education programmes and degrees not in harmony with national interest and culture and in favour of regionalism or globalisation,
- attraction of research innovators and able youth to colleges that do not directly contribute to national culture and development plans,
- brain drain to developed countries and technically advanced domains,
- impact of non-national staff on nations culture, religion, beliefs and taboos,

The expected merits due to possibilities of trading in education services in the globalisation schemes contain the following:

- competition and novelty among institutional sectors,
- technology and knowledge transfer together with speed and ease of acquiring information, and its impact on society and learning systems,
- establishment of a prominent documentation, data and information national reference centre,
- flourishing of teaching and culture industry,
- introduction of national publications of education to the international media,
- introduction of vocational training systems that is relevant, flexible, efficient, effective and accessible,
- extending national values and culture,
- promoting industry - education link to enrich courses, improve educational skills, and excel workplace and output,
- improving education objectives and aims that address employer and market needs,
- maximising use of available resources,
- education bias towards science, engineering, vocational training, and technology to cope with modern development planning,
- offering educational institutions more autonomy to compete for funds, resources and candidates,
- continuous training and comprehensive and continuous teacher training.
- quality and excellence of academic and cultural output,
- helping students choose among education disciplines with full information about long term investment and trends and student orientation programmes.

EDUCATION AND QUALITY CONTROL

Within the framework of quality control in education, the call would be directed towards excellence in academic and cultural inputs and the production of literate, numerate and flexible workforce. This is largely directed towards improving the quality of teaching and scientific research carried by the institution or a set task force. Quality measure and performance indicators, or peer review, may be used to show the institution's mission and objectives, or provide basis for granting funds, or serve as a tool in negotiation with respective authorities,

and help in the monitoring and evaluation of approved policies and plans over time. These indicators may be grouped to entail the following:

1. subjective and qualitative performance indicators of inputs to the institution such as: student, staff or faculty, learning spaces, learning satisfaction, library, etc.
2. quantitative indicators of outputs such as: number and quality of graduates, research, publications, learning courses and fields etc.
3. efficiency indicators that relate to outputs and inputs like: student-years per graduate, student-staff ratio, costs per graduate students, research publication per number of staff, space utilisation. etc.,
4. quality indicators of the institution e.g.: examination success rates, employability of graduates, importance of publication and research findings, relevance and currency of curricula, professionalism of teachers. etc.,
5. process indicators which may include: satisfaction of learners, time for task completion, coordination between departments, departmental need satisfaction, fairness of student assessment, and progression and completion rate accreditation.
6. value for money indicators, which judge whether the service met the stated purpose and proved accountable to the funder, students, parents and employers.

The importance of having a performance indicator that is relevant, accurate, reliable, valid, available, timely and appropriate need not be stressed. This calls for the establishment of a regulatory standard accreditation body to shoulder the periodic evaluation of education courses, programmes, student admissions and records, and rankings of institutional performance.

The main objective of quality control regarding the rooting of better values among graduates is to initiate critical thinking, honesty, precision, self-reliance, job pride, professional ethics, and guarantee adequate training and economic competitiveness.

The careful selection and interpretation of the most suitable performance indicator needs to be stressed to achieve required balance and desired control

FUTURE CHALLENGES FOR EDUCATIONAL INSTITUTIONS

Future challenges for educational institutions may encompass external and internal constraints:

External constraints may include:

- increasing demands in relation to diminishing public resources,
- share and distribution of authority and institutional management style,
- socio-economic interventions,
- accountability,
- education policy and planning processes,
- culture and tradition of institution,
- external links with institutions, enterprises and associations.

Internal constraints may incorporate:

- institution expansion (college or student increase),
- student performance, examination, progress under a transparent process,
- bilingual education policy to enable easy absorption of new technologies,
- curricula design, development, updating and upgrading its standards to meet needs, aspirations, and match the rapid technological changes,
- cultural values,
- unemployment of graduates,
- staff employment duration (a shift ought to be directed towards life-time employment),
- academic decisions and tasks and work load,
- remuneration packages,
- interaction, coordination between institutions, public sector, governmental and private authorities

RECOMMENDATIONS

Based on the aforementioned discussions the following conclusions and recommendations are worth implementing:

1. Development of closer bilateral agreements or links, or twining between national, regional and international institutions to facilitate education, enhance independent

learning, exchange scientists, transfer and exchange technology and experience and face globalisation challenge. Links may be established with the Arab Industrial Development and Mining Organisation (AID), African Network of Scientific and Technological Institutions (ANSTI), UNDP, UNIDO, the World Bank, USAID, GTZ, UNESCO, ALECSO, AOTS, DANIDA, SIDA, Arab League (ALIC), Islamic Conference (IC), Gulf Co-operation Council (GCC). etc.

2. Strengthening collaboration and interactive work between educational institutions and industry through partnership to maximise use of the limited available resources.
3. Launching investment programmes in education to compete in the technological market and world trade.
4. Establishment of councils of professional and technological education to set targets and strategic education policies, promote national training, and develop link between educational institutions (primary, secondary, junior colleges and tertiary) trade and industry.
5. Stressing on national language to protect culture, ethnic roots and Islamic values.
6. Giving more attention to opening competent polytechnics and vocational training to supply required cadre to business, industry and the development of inventive and creative skills in talented candidates to master production process and compete in the world economy and market.
7. Stress on human resource development and training to bridge the gap between education system and science and technology under a financially appropriate long-term policy and strategy.
8. National government, private sector and NGO's should establish a National Technical Education Fund to speed up implementation and financing of action plans and policies.
9. Stress on advances through research to enlighten and strengthen policy, practice and experience. More involvement of private industries is required to invest in research and development (R&D) inline with governmental support

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