CURRICULA CHALLENGES OF TECHNICAL AND MANAGEMENT EDUCATION INSTITUTIONS

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ABSTRACT

Countries that invest more in research and development (R&D) generate more new knowledge. USA, UK and Japan have US$25,000 GDP and spend 2% of their GDP on research; Thailand, Malaysia and Indonesia with US$ 5000 GDP, spend only 0.5% in R&D, India and China are spending 1% in R & D. Most developing countries spend less than 1%. Major universities and centers of excellence play a vital role in knowledge generation. The powerful universities have always dominated the production and distribution of knowledge, while weaker institutions and systems with fewer resources and lower academic standards have tended to follow them.

This paper attempts to highlight the relevance of curriculum on the quality of teaching and teaching learning process in the technical and management education institutions in India.

Key words: collaborative learning, Information and communication technologies, knowledge generation, digitalized knowledge.

INTRODUCTION

Teaching is one of the most challenging and crucial professions in the world. Teachers are critical in facilitating learning and in making it more efficient and effective; they hold the key to the success of any educational reform; and they are accountable for successful human development of the nation and for preparing the foundation for social and economic development. Yet, they are usually ill-prepared and left on their own to understand and address the needs of students, parents, administrators, society, the economy, and the past, present, and future. [Altbach 2003].
Most universities adapt quickly to global trends in order to stay competitive and relevant. The rapidly changing world demands that universities be current and up to date. This dynamic redefines the importance of various disciplines. N.R. Narayana Murthy, the Chairman of Infosys recommended that in order to have world-class educational institutions in India, educational institutions should be allowed to function as an industry in a free market environment. Universities should be allowed to form alliances with firms for research and funding. Businesses must be consulted in curriculum design and in the conducting of courses. Educational institutions, for their part, should stress innovation, research and development and the creation of new knowledge. [Murthy 2005].

MAJOR LEADERSHIP CHALLENGES

[1] Market forces
Market forces will continue to drive change in organizations at a macroeconomic level, and these forces will demand more from our organizations and our leaders. Larger organizations in most industries gain economies of scale as they distribute overhead expenses across more units of production. This leads to greater profits and stock valuation. Being global, or more precisely, offering products or services in a variety of countries and cultures, increases the size of the market to be served. Technology advances have greatly reduced the costs of reaching these different geographically dispersed markets.

[2] People issues
Tomorrow’s staff will have very different expectations of, and demands on, their organizations, the employee-employer relationship in the best organizations of tomorrow will look very different, the ability to balance employee needs at global level and customer wants at both global and local levels - a balance that will become harder to strike, and to strike profitably and efficiently, in the coming years. As the work force continues to grow more diverse, those able to accept individual differences in the workplace and to look at them as a source of creative energy and productivity will have access to a larger and more talented work force. In a quickly changing world, talented human capital will be a prime ingredient of business success.

[3] Leadership competencies
Strategic focus and vision, coupled with a practical sense of when to be flexible and adaptable, will be most critical for survival. Key leadership competencies will include: the ability to develop and articulate a value proposition - maintaining it in a dynamic market and energizing others to buy into it; investing in a business model that guides employee decision-making at all levels; committing to a culture that values mentorship and learning while aligning individual and corporate goals, and recognizing what it means to develop and manage truly transformational knowledge systems. [Lucas F. Johnston]

FACTORS AFFECTING PERFORMANCE OF EDUCATIONAL SYSTEMS

** Globalization, with digitalized knowledge and permeable educational boundaries
** Connectivity through the Internet, which results in a globalization of information and increased access
** Increasing digital divide, due to differing access capacity
** Commoditization of knowledge, and a more consumer-oriented attitude in the university
Government funding decreases, leading to a more competitive stance
Need for lifelong learning, which demands new approaches

In this context, technical and management education institutions are faced with some serious challenges:

** Improving quality, increasing access and reducing costs
** Modularizing education so that it can be used and re-used
** Changing the role of faculty
** Developing e-learning competencies
** Changing institutional leadership styles to become more adaptable and flexible

Training in the workplace has become a continuous need as firms find it necessary to provide their staff with opportunities to upgrade their skills and acquire new ones to adjust to new market demands. However, traditional face-to-face training is costly—particularly in terms of trainees’ time and travel. Firms have introduced different levels of e-training—providing synchronous and asynchronous opportunities through the Internet, videoconferencing, videos, CDs, television, etc. [Dimitrios Koufopoulos, Maria Argyropoulou & George Kalchev ]

OFFERING MULTI-PERSPECTIVE CURRICULUM

- Continuously expose students and staff to multiple views of the world (create different socio-cultural/educational societies, promote interdisciplinary activities, harness experiences of all the students in teaching and learning, value alternative world views, use comparative approaches to teaching);
- Encourage reflexive learning and teaching (reflexive dialogue, keeping reflexive diaries, reflexive teaching/learning logs) so that students can constantly and critically reshape their approaches and views about learning and teaching;
- Seek to create a culture that makes students and staff feel that the university is a democratic meeting place where the encounter of diversity (in terms of gender, maturity, culture, nationality) creates opportunities to develop new competencies, knowledge and understandings.
- Increase opportunities for collaborative learning (communities of practice, group work, workshops, and seminars) which exploit the diversity within the student body.

INTEGRATING TECHNOLOGY INTO THE CURRICULUM

Chickering and Gamson's seven principles of good practice need to be implemented for integrating technology into the curriculum. These are:-
** Encourage contact between students and faculty.
** Develop reciprocity and cooperation among students.
** Encourage active learning.
** Give prompt feedback.
** Emphasize time on task.
** Communicate high expectations.
** Respect diverse talents and ways of learning.
Birla Institute of Technology and Science (BITS), Pilani and its global alumni association BITSAA have launched BITSConnect 2.0, a model of multi-campus education in India, comprising Immersive Telepresence, High-definition Video Conferencing and Live Streaming technologies. By bridging the geographical distance across campuses and global knowledge centers, this platform will facilitate collaboration among its faculty, students, industry partners and alumni, for education, research and mentorship. This joint University-Alumni initiative will provide seamless integration of all campuses, create new avenues of research collaboration and knowledge sharing among faculty, students and researchers worldwide. To collaborate, Faculty and Staff no longer need to travel. Academicians from across the world will be able to collaborate with and mentor research projects in BITS via Immersive Telepresence.

CONCLUSIONS

The 21st Century universities, technical and management education institutions face numerous challenges at local, regional and global levels. Problems and issues in the current socio-economic and geo-political aspects demand broader, multi-perspective understanding about the world, life and work. As the most visible and significant site of knowledge creation, the educational institutions has a social responsibility to equip the members of the society with necessary competencies, knowledge, understandings, and new skills so that they can constantly negotiate the changing nature of work, the labor force, information technologies and cultural identities of people.

Curriculum content and the pedagogical approaches used by teachers are key vehicles for improving teaching and learning for all students. Internationalizing the curriculum involves providing students with global perspectives of their discipline and giving them a broader knowledge base for their future careers.

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