ENHANCING THE HIGHER EDUCATION SYSTEM IN DEVELOPING COUNTRIES

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Abstract

Currently, there are more than 230 countries in this competitive world. Among those, most of them are still developing and under-developing, in which 80% of the world population lives, except the countries like USA, UK, Japan, Switzerland, etc. A country which has an increasing phase in GDP per capita, Economy and ability of self production is said to be a developing country. But, there are some factors affecting them, such as, rapid growth in population, increase in poverty and lack of industries which leads to increase in foreign investment, which means that, a country should be self-developing in order to attain the developed status. So the country should have more industries to be self produced. More industries lead to more job opportunity and more employment. In the present scenario of globalisation, privatization and liberalisation one should be quite alert and competitive in human resources. The Gross Enrolment Ratio (GER) in the age group of 16 + years is very low and most of the young generation is away from the mainstream of education may be because of the education system, examination pattern, competency of teaching faculty and the level of knowledge received at previous stages. Hence, it is necessary to provide W-Class institutions to produce highly competent engineers with advanced knowledge, research aptitude and employability. A modest effort is made here to suggest a step towards W-Class Institutes.

Keywords: quality enhancement, quality of education, developing countries, higher education system

1 INTRODUCTION

Institutions of higher technical education are coming up like mushrooms. It is the fact that adequate number of experienced teaching faculty is not available. Even the educational and administrative leadership is rarely seen. Even though most of the management wish to keep pace at par with good institutions it is beyond their reach unless some revamping is practiced in the overall Higher Education System (HES).

1. First factor is the infrastructure. It is possible for any management to acquire/create desired facilities within a reasonable time period.
2. Second important component is the availability of Teaching Faculty.
3. Third component is the student. It is seen that the students entering into engineering colleges are not fully equipped with fundamental knowledge of the basic subjects like Physics, Chemistry and Mathematics. Most of the students have failed in these subjects. This has negative effect on the confidence level and the moral of the students.
4. The industry and the corporate world around is the place for these budding engineers to contribute and excel. Mostly it is seen that the HES do not provide the required employability skills and inputs to the engineers.
5. Last but not the least aspect of education is the awareness towards social commitment and proper inputs in this direction and the work culture are absent.

A good professional development program is job embedded and tied to learning goals: It provides activities in the context of practice. The best integration training for teachers does not simply show them how to add technology to their what they are doing. "It helps them learn how to select digital content based on the needs and learning styles of their students, and infuse it into the curriculum rather than making it an end in itself," notes Fatemi. "Using technology effectively also requires having a wide repertoire of teaching approaches."

2 REQUIREMENTS

2.1 NEW ROLES FOR TEACHERS

Technology encourages teachers to take on new and expanded roles, both inside and outside of the classroom. Within the classroom, technology supports student-centered instruction. The teacher assumes the role of coach or facilitator while students work collaboratively (Jones, Valdez, Nowakowski, & Rasmussen, 1995; Kupperstein, Gentile, & Zwier, 1999). Outside of the classroom, technology supports teacher collaboration. Instead of working in isolation, teachers can work together on schoolwide programs. They can

help find solutions to problems, act as peer advisors to provide information and feedback, and collect data to test hypotheses (Lieberman, 1996; Little, 1982). Their new roles may involve distance collaboration with cross-school peer groups and study groups through telecommunications (Kosakowski, 1998). Professional development for technology use provides opportunities for teachers to become comfortable and effective in these new roles.

Teachers are also required to be updated on all fronts. Hence, the platform for their performance and presentation is available during Wednesday activity. Teachers are also required to give a presentation for 25 minutes. A feedback and open discussion is expected to improve upon the performance. Benefits can be derived from interaction and guidance from senior faculty. The teacher forum thus can organize any event for their self-development and a proper work environment can be created to improve upon the personal and social life of a teacher.

Academic planning is to be properly designed and maintained by the institute right from the beginning of the term. Teaching plan also must be prepared by the teacher. It is suggested here that in the very first lecture of the subject teacher is expected to highlight the importance of the subject and correlate the subject with other subjects of the same or other allied discipline. After discussing the syllabus contents the teacher is expected to distribute a four-page handout based on the first unit. This should include definitions, formulae, equations, short notes, various rules etc. for ready reference. This would also help students to come prepared for the next lecture for better understanding and creating confidence. At the end of the first unit again a four-page handout based on the first unit is to be given. On line examinations should be conducted frequently to assess the understanding of the basics of the subjects. Present students have sufficient energy and potential. The administration should be in a position to manage all such activities efficiently. Generally we lack in good managers and loose on the front of developing good technocrat leaders.

2.2 COLLEGIAL LEARNING

A professional development curriculum that helps teachers use technology for discovery learning, developing students’ higher-order thinking skills, and communicating ideas is new and demanding and thus cannot be implemented in isolation (Guhlin, 1996). In addition to working in pairs or teams, teachers need access to follow-up discussion and collegial activities, as required of professionals in other fields (Lockwood, 1999). Teachers also need time to discuss technology use with other teachers, whether face to face, through e-mail, or by videoconferencing (David, 1996). A networked computer on every teacher’s desk can allow for greater interaction between educators. The National Commission on Teaching and America’s Future (1996) suggests that school districts find creative ways to build teacher networks so that teachers have additional opportunities to discuss the new instructional methods that technology promotes.

2.3 ACTIVE PARTICIPATION OF TEACHERS

If technology is to be used equitably for all students, a majority of teachers should be included in the professional development program. One strategy to motivate teachers to spend the time and energy necessary to develop technology competency is to mandate participation in technology professional development. Another strategy for encouraging teachers to participate in professional development for technology use is creating incentives for technology use. Possible incentives include the following: a judicious use of contingency pay, in which a certain segment of the teacher’s base pay (such as 5 percent) is reserved contingent upon participation in a wide range of professional development activities; bonuses (Lockwood, 1999; Speck, 1996); or a compensation system that rewards knowledge and skill along a career continuum (National Commission on Teaching and America’s Future, 1996). A less traditional incentive program could give teachers credits for hours spent in professional development; teachers could use these credits to earn technology for their classrooms, loans of hardware and software to be used at home, or reduced prices on personal equipment (Guhlin, 1996). Mini-grants might reward teachers who have innovative ideas for using technology in instruction (Office of Educational Research and Improvement, 1994).

Incentives must be used carefully, however. Although group rewards may motivate some teachers, individual rewards may increase competition among staff or lead to less equitable distribution of technology (Lockwood, 1999). The only way to ensure that all students have the same opportunities is to require all teachers to become proficient in the use of technology in content areas to support student learning.

2.4 ONGOING PROCESS

A high-quality professional development program is conducted as an ongoing process, not a one-shot approach. Teachers need continued practice to become comfortable with and to implement change, especially in technology use. In evaluating the best practice in professional development, Speck (1996)
concludes: "Professional development takes time and must be conducted over several years for significant change in educational practices to take place. Substantial change in school practice typically takes four to seven years, and in some cases longer" (reference paper No. 35). Administrators must take into account this long time frame, and teachers must be prepared to be involved in professional development throughout their careers.

2.5 SUFFICIENT TIME

An effective professional development program provides "sufficient time and follow-up support for teachers to master new content and strategies and to integrate them into their practice," notes Corcoran (1995). For any professional development activity, teachers need time to plan, practice skills, try out new ideas, collaborate, and reflect on ideas. Acquiring technology skills and becoming proficient at new ways of teaching in which technology is appropriately integrated requires additional time (Brand, 1997; David, 1996). "Teachers need large blocks of time to gain initial familiarity with new hardware or software, learning and practicing for sustained periods," states Renyi (1996). Time built into teachers’ schedules can provide teachers with opportunities to "discover what the technologies can do, learn how to operate them, and experiment with ways to apply them," notes the Office of Technology Assessment (1995, Reference paper No. 6).

2.6 ADMINISTRATIVE SUPPORT

Fully implementing an effective professional development program as part of a well-designed technology plan requires support from school administrators and leaders. Administrators must have a clear vision of technology to support student learning and an understanding of the roles that all school staff must play in achieving that vision. They must be the cheerleaders and visionaries who see beyond the daily routine to a vision of what is possible through the use of technology (Byrom, 1998; Guskey, cited in Lockwood, 1999). Administrators also can participate in professional development activities so they are aware firsthand of how technology is used and what problems are experienced by the staff. It also is important for each administrator to have a networked computer on his or her desk for use in daily tasks. In fact, professional development in technology use for teachers will not be successful unless the principal is invested in the process. "This conception of leadership sees the principal almost as a master teacher, rather than an administrator limited to coping with the minutiae of school life and divorced from the demand for instructional leadership," notes Lockwood (1999, p. 17).

2.7 ADEQUATE RESOURCES

The overall technology plan and its professional development component cannot occur without a significant commitment of resources by the school district. The district, first of all, must purchase the type of technical equipment necessary to meet the learning goals identified and provide for ongoing maintenance and upgrading. Skimping on this step can be more expensive in the long run because teachers and students eventually will want and need access to multiple technologies (such as CD-ROM, satellite, and full-motion video) that will enhance the curriculum and expand learning opportunities. "The education technology that is implemented today must allow for increased capabilities in the future, rather than the threat of total replacement of the system," note Bell and Ramirez. The technology used for professional development should be the same as the technology used in the classroom. Funds should be available to provide teachers with technology that they can use at home or in private to become comfortable with the capabilities it offers. Funding also should be considered for a networked computer on every teacher’s desk to allow telecommunications support for teachers and provide easy access to programs and files.

A significant portion of the technology budget should be allocated for professional development. School districts typically devote no more than 15 percent of their technology budget for teacher training, but a better amount would be 30 percent(Office of Technology Assessment, 1995).

2.8 CONTINUOUS FUNDING

Finding the funding for ongoing technology needs and professional development can be difficult. School funding formulas that depend on residential property taxes and centralized purchasing and distribution policies may not be flexible enough to meet these new needs. Funding strategies that combine short- and long-term measures—including local tax revenues, bonds, grants, and federal programs—can help meet a school district’s needs. Projects such as Taking Total Cost of Ownership to the Classroom can help planners determine all the costs involved in operating networks and computers. These costs include professional development, technical support, connectivity, software, replacement costs, and retrofitting. The costs of using technology to improve teaching and learning should become a line item in school budgets. These costs are not considered a one-time investment but an ongoing expense. This approach may require rethinking a school district’s funding priorities.
Employees' commitment is determined by a number of factors which can be individual factors like age, personality etc or organizational factors like communication, benefits, career development, working conditions etc and non-organizational factors like availability of alternatives job etc. Employee commitment; top management behaviour; compensation & benefits; career development opportunities; and working conditions have been the focus of interest of many studies and there are many opportunities; and working conditions have been the focus of interest of many studies and there are many studies on employees commitment, a great deal of research remains to be done, especially from a multidisciplinary perspective. As Winter and Jackson argue: “it is desirable that researchers adopt a variety of theoretical perspectives to examine work environment conditions that underlie the state of the psychological contract”. Organizational commitment is a multidimensional concept the dimension used in that study is affective commitment, which refers to top management behaviour, compensation and benefits, career development opportunities and working conditions. Employee commitment has been viewed as one of the most contested and criticized fields of study. A critical issue for the employee and organization is to understand how to maintain the employee’s commitment.

3 MEASURING AND MANAGING QUALITY IN HE:

Managing quality in HE has proved to be a challenging task. The literature suggests that there are two main reasons for this. First, ‘quality’ has different meanings for different stakeholders. Within HE there are both internal and external stakeholders who are likely to have disparate or even contradictory definitions of quality. Cheng and Tam (1997:23) suggest therefore that ‘education quality is a rather vague and controversial concept’. Similarly, Pounder (1999:156) argues that quality is a ‘notoriously ambiguous term’ given that it has different meanings to different stakeholders. As a result of the difficulty in defining quality, its measurement and management has unsurprisingly proved to be contentious.

Traditionally, external stakeholders have been concerned with quality assurance procedures. Quality assurance refers to the ‘planned and systematic actions [deemed] necessary to provide adequate confidence that a product or service will satisfy given requirements for quality’ (Borahan and Ziarati, 2002:914). At an international level, HE has expanded substantially over recent decades and has moved up government agendas as a result of a number of factors. These include drivers to increase the knowledge and skills-based economies, participation in HE and social cohesion (OECD, 2006). The focus on quality for external stakeholders is driven by these agendas and focuses predominantly on the measurement of procedures and the extent to which they result in appropriate levels of quality (Jackson, 1996). This requires HEIs to demonstrate responsible actions in their professional practices and accountability in the results they achieve with the resources used (Jackson, 1998:46).

Elton (1992) refers to these as the quality ‘As’ – accountability, audit and assessment – and suggests that they are concerned with the control of quality and the people who control quality. Particular mechanisms for assurance, such as accreditation and quality audits, are usually imposed by government and other external bodies (McKay and Kember, 1999). Harvey (2005:264) suggests that accountability underpins these processes but under the banner of ‘efficiency and effectiveness’.

Many countries have national organisations with responsibility for the management of quality within HEIs. For example, within the UK, the role of the Quality Assurance Agency (QAA) is to inspect, audit and report on the quality procedures within institutions (www.qaa.ac.uk ). Similarly, the Australian Universities Quality Agency (AUQA) has been established to monitor, audit and report on quality assurance in HE (www.auqa.edu.au). These are external stakeholders whose role is predominantly concerned with the measurement and evaluation of institutional quality assurance procedures. Such bodies are concerned broadly with the effectiveness and reliability of the quality assurance systems and processes adopted by institutions in managing quality and academic standards, rather than with identifying changes in practice that might lead to enhancement.

In the UK the QAA reports that, while enhancement has always been present in national audit methods, it has not been a prominent aspect of its audit procedure. Furthermore, it notes that there is considerable diversity in what ‘enhancement’ means within an HE context. A HEFCE consultation (HEFCE 2005/35) identified the need to consider enhancement processes in addition to those of assurance within external quality audit processes. The QAA subsequently defined enhancement as ‘the process of taking deliberate steps at institutional level to improve the quality of learning opportunities’ (QAA, 2006:16). Nonetheless, it states that the focus of audit ‘must remain on the effectiveness of the institution’s own processes for exploring such matters, putting them into operation and evaluating them’, (18) rather than the enhancement of achieved outcomes. Harvey (2005:272) advises that current audit processes focus on compliance and thus fail ‘to serve an improvement function at the student-lecturer interface’.

In addition, Avdjieva and Wilson (2002) suggest that HEIs are now also required to become learning organisations, where internal stakeholders also interpret and assess the quality of HE provision. The emphasis for internal stakeholders is not only on quality assurance, but
also on quality enhancement which aims for an overall increase in the actual quality of teaching and learning, often through more innovative practices (McKay and Kember, 1999). Elton (1992) suggests that quality enhancement focuses on quality ‘Es’: empowerment, enthusiasm, expertise and excellence. Quality enhancement initiatives tend to be less clearly defined and are often more diverse than quality assurance initiatives (McKay and Kember, 1999). In HE, mechanisms adopted by internal stakeholders are likely to include self-evaluation practices and student feedback. As students are viewed as an integral part of the learning process (Wiklund et al., 2003), this type of evaluation tends to be more formative in nature and therefore more likely to lead to continual quality improvement efforts. Furthermore, the involvement of internal stakeholders often results in a culture of quality management being embedded within programmes.

The second reason why quality is difficult to manage in HE is due to the complicated nature of the educational product. Education has been viewed as a system or ‘a network of interdependent components that work together to try to accomplish the aim of the system’ (Deming, 1993:98). The system consists of inputs, transformation processes and outputs. Sahney et al. (2004) advise that in education there are human, physical and financial resource inputs that undergo processes including teaching, learning, research, administration and knowledge transformation. The quality of teaching and learning therefore becomes central in a systems perspective. Ramsden (1992) advises that high quality teaching is fundamentally about high quality learning, which is context-related, uncertain and continuously improvable. Martens and Prosser (1998) add that high quality learning must focus on the development of meaning as characterised by deep learning approaches, rather than on reproduction. However, Yorke (1999) cautions that high quality teaching does not always result in high quality learning or vice versa.

The outputs of the education system can be tangible, intangible or value addition through, for example, examination results, employment, earnings and satisfaction. Harvey (1995) argues, however, that there is no discernible end product of HE as the transformative process continues to make an impact after the completion of HE. Hewitt and Clayton (1999:852) suggest that if the desired output of HE is viewed as ‘increased capabilities and knowledge as embodied within the transformed student, including an enhanced capability for further learning’ then the system model is appropriate provided there is recognition of the role of the student within all three system components.

Despite their support for viewing education as a system, Sahney et al. (2004) suggest that this creates further difficulty in conceptualising quality because the different component parts of the system have different requirements. The literature suggests that there have been a number of different attempts to articulate the dimensions of quality in HE as Garvin (1987) did for services. One of the most clearly defined sets of dimensions of quality for HE has been identified by Harvey and Knight (1996), who argue that quality can be broken down into five different but related dimensions:

- quality as exceptional (for example, high standards)
- quality as consistency (for example, zero defects)
- quality as fitness for purpose (fitting customer specifications)
- quality as value for money (as efficiency and effectiveness)
- quality as transformative (an ongoing process that includes empowerment to take action and enhancement of customer satisfaction).

Harvey and Knight (1996) advise that quality as transformative can incorporate the other dimensions to some extent, and the first four dimensions are not necessarily end products themselves. Owlia and Aspinwall (1996) argue that different stakeholders are likely to value the importance of these different dimensions of quality according to their particular motivations and interest and interpret them differently. For example, quality as value for money is likely to be judged differently even by various internal stakeholders. Students may judge value for money according to tuition fees paid versus contact time supplied, whereas a department manager is likely to be more concerned with the effective use of resources in relation to student numbers.

The preceding discussion illustrates that quality in HE is a multi-dimensional construct which is interpreted in different ways by diverse stakeholders. This, in turn, creates complexity in its measurement and management. Accordingly, Cullen et al. (2003) argue that the challenge is to produce a quality management framework that permits the equal expression of legitimate voices, even though they may conflict or compete in some ways. As a result of this complexity, there has been a wide range of approaches adopted to managing quality in HEIs. To date, however, efforts to undertake a consolidated review of current practice have been relatively limited. This paper therefore seeks to address this gap in the literature.

The paper draws on a review conducted by the authors to investigate current environmental forces and their impact on HE and quality management practices in different national contexts (Brookes and Becket, 2007). The review comprised 95 articles published in 19 journals over a ten-year period between 1996 and 2006. The majority of the articles were published in educational journals, with Quality Assurance in Education and the
International Journal of Educational Management being the main sources. In order to be as thorough as possible, searches were also conducted on industry journals that focused on service quality such as Total Quality Management and the International Journal of Quality & Reliability Management. Drawing from 45 articles included in the review, this paper identifies current approaches to quality management in HE. It should be noted that the authors were limited to articles published in English. As a result, this review is far from comprehensive, but appears to be the most extensive review of HE quality management practice undertaken to date.

3.1 RANKING HES BY NATION:

Research authors at the Melbourne Institute of Applied Economic and Social Research, University of Melbourne, looked at the most recent data from 48 countries and territories across 20 different measures. The range of measures is grouped under four headings: resources (investment by government and private sector), output (research and its impact, as well as the production of an educated workforce which meets labour market needs), connectivity (international networks and collaboration which protects a system against insularity) and environment (government policy and regulation, diversity and participation opportunities). Population size is accounted for in the calculations.

From Table 1, The United States’ strong performance was driven largely by its total output of research journal articles, the measure that comprised 40 percent of the ranking. Examining the categories of resources and connectivity reveals room to grow. Government funding of higher education per GDP is highest in Finland, Norway and Denmark. American universities are forced to rely on private funding more than other nations do, the researchers found. And when it comes to international research collaboration, the United States is at the bottom of the pack, along with China, India and Japan.

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<th>RANK</th>
<th>COUNTRY</th>
<th>SCORE</th>
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<td>1</td>
<td>USA</td>
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Table 1: Top 10 Countries in IJOART
4 AN ANALYSIS OF CURRENT INTERNATIONAL QUALITY MANAGEMENT PRACTICE:

TQM has the potential to encompass the quality perspectives of both external and internal stakeholders in an integrated manner. It thereby enables a comprehensive approach to quality management that will assure quality as well as facilitate change and innovation. Other models tested emulate TQM and concentrate on developing systematic business processes that are required to achieve measurable quality outputs. For example, the balanced scorecard requires the identification of appropriate performance indicators, and the European framework for quality management (EFQM), performance enablers and results. The one exception is SERVQUAL, a model that focuses on the assessment of quality solely from the consumer perspective. Table 2 identifies and defines the different models that have been applied internationally in HEIs.

The application of these models has yielded a number of benefits for HEIs. However, the authors also identify a number of core requirements for their successful implementation and a number of limitations of the models themselves.

<table>
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<tr>
<th>Model</th>
<th>Definition</th>
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<tr>
<td>TQM</td>
<td>A comprehensive management approach which requires contribution from all participants in the organisation to work towards long-term benefits for those involved and society as a whole.</td>
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<tr>
<td>EFQM excellence model</td>
<td>Non-prescriptive framework that establishes nine criteria (divided between enablers and results), suitable for any organisation to use to assess progress towards excellence.</td>
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<tr>
<td>Balanced scorecard</td>
<td>Performance/strategic management system which utilises four measurement perspectives: financial; customer; internal process; and learning and growth.</td>
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Malcolm Baldridge award

Based on a framework of performance excellence which can be used by organisations to improve performance. Seven categories of criteria: leadership; strategic planning; customer and market focus; measurement, analysis, and knowledge management; human resource focus; process management; and results.

ISO 9000 series

International standard for generic quality assurance systems. Concerned with continuous improvement through preventative action. Elements are customer quality and regulatory requirements, and efforts made to enhance customer satisfaction and achieve continuous improvement.

Business process re-engineering

System to enable redesign of business processes, systems and structures to achieve improved performance. It is concerned with change in five components: strategy; processes; technology; organisation; and culture.

SERVQUAL

Instrument designed to measure consumer perceptions and expectations regarding quality of service in five dimensions: reliability; tangibles; responsiveness; assurance and empathy; and to identify where gaps exist.

Table 2: Quality management models

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</tr>
</tbody>
</table>

The benefits identified are both tangible and intangible. In the first instance, the models are deemed to be relevant within the current competitive HE environment as they incorporate the perspective of students as customers. They also take into account the perspectives of both internal and external stakeholders (Navarro et al., 2005). As such, they reflect both quality ‘As’ and quality ‘Es’ (Elton, 1992) and thus quality assurance and enhancement are addressed. Improvements have been reported in areas such as customer service, administrative processes, staff and faculty morale, and strategic and budget planning.

5 CONCLUSION:

To be World-Class Technical Institute

1. Focus on Communication Skills,
2. Focus on Faculty Development/Training,
3. More Exposure to Live engineering situations for development of analytical mind of students
4. More occasions for personal grooming,

For all these activities budgeting and accounting for Time is a must. Good managers with focused views are required for the journey.

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