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Towards Establishing World-Class Universities: A Conceptual Approach

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Abstract: ***Education and Health form the foundation for building a strong republic. Vibrant communities and a prosperous society are built on the foundation of a strong education system. The world is fast changing. Globalization has accelerated. There has been tremendous growth, but also deepening inequalities. New technologies are revolutionizing the way we communicate and share information, as well as how we teach and learn. The world is getting younger every day, and the expectations of young people are rising for quality education and decent jobs. Swept along with these changes, education faces new challenges of equity, quality and relevance. The survival and success of any organization depends entirely on its ability to adjust to the dynamics of the business and its working environment. Academic institutions have to transform to meet the challenges of the new millennium. In this paper the authors discuss the key issues pertaining to higher education. The focus is on achieving excellence through accreditation, continuous quality improvement, world class infrastructure, cutting edge technology, human resource management, curriculum development, assessment methods, research and above all good governance of universities. The world is changing rapidly. The mission of higher education is to have better access and excellence.*** **Achieving Excellence** ***challenges the education sector to transform to meet the expectations of today and build the vibrant, prosperous province of tomorrow. Management of educational institutions is becoming more and more difficult because of very fast changes in their environment. By raising expectations for what our education system can accomplish. The objectives of academic institutions should be to give each student, opportunities to improve in knowledge, knowhow, wisdom, and character. Quality of education is the skill of building the abilities of assimilating the knowledge in the area of educational needs and the implementation of this knowledge to creating mechanisms allowing fulfilling expectations of customers and educational services. Achieving excellence can help uncover and develop the potential of all learners. It will reveal learner's hidden gifts and spark new passions for future careers. For improving the quality of an academic institution, commitment and knowledge of the leadership is the first step. Philosophy and a culture must be introduced in the organization based on some core values. The challenge is to prepare the students for a world that has yet to be created, for jobs yet to be invented, and for technologies yet undreamed. We need today a new big push in education and a new strategic vision of education's central importance for human dignity and for sustainable development in every society***

Keywords: Higher Education, Academic institutions, World class universities, TQM, CQI, ISO, Benchmarking, Assessment Methods, Learning, Teaching methods, Tertiary education, Achieving Excellence, Accreditation, Governance, ICT, Curriculum development

1. Introduction

Education is vital to the peace of social, political and economic development of any nation. Vibrant communities and a prosperous society are built on the foundation of a strong education system. The survival and success of any organization depends entirely on its ability to adjust to the dynamics of the business and its working environment. Achieving Excellence builds on the education system's three current priorities: increasing student achievement, closing gaps in student achievement and increasing public confidence in publicly funded education. It encompasses these goals and reaches deeper and broader, raising expectations both for the system and for the potential of our children and students.

The goals for education are: achieving excellence**,** ensuring equity**,** promoting well-being and enhancing public confidence. These four goals are interconnected – success in one contributes to success in the others. When educators, students, parents and guardians, and many other partners focus on a small number of clearly defined goals, those goals can be achieved. The world is changing rapidly. That is why Achieving Excellence challenges the education sector to transform to meet the expectations of today and build the vibrant, prosperous province of tomorrow. By raising expectations for what our education system can accomplish, Achieving Excellence can help uncover and develop the potential of all learners. It will reveal learner's hidden gifts and spark new passions for future careers. Students need to be given the opportunity to reach their potential. Academic institutions can support their success inside and outside of the classroom. The importance of creativity, new ideas and innovations need to understand our education system. The room should be given to the students and help them develop the skills they already have, instead forced to follow the conventional model of the study. The scope and intensity of collaborative learning and the exchange is enormous and should be used. The mission of higher education is to have better access and excellence.

Higher education is an important form of investment in home capital development. Higher academic institutions are responsible for human capital through teaching, building knowledge base through research and knowledge development, and dissemination and use of knowledge by interacting with the knowledge users. Higher education is becoming increasingly competitive in terms of students, staff and resources. The quality of higher education is influenced by the changing University customs characteristics, increasing competition, rising costs, and the impending crises. As the demand for higher education increases, it

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presents leadership of academic institutions a challenge of making investment decisions by which they can attain desired financial goals while simultaneously improving the quality of education.

Governance of educational institutions is becoming more and more difficult because of very fast changes in their environment. Changes in the environment forced the introduction of innovative activities in a very fast tempo making the subjects responsible for the costs and they are very difficult to foresee. Universities are dealing with a lot of problems: how and by what means planned activities should be done receiving the best economic effectiveness and not missing quality of offered education. Nowadays at times of demographic depression skilful attraction and maintenance of the student is very important. Quality of education is becoming one of the elements of formation of strategy of education in the universities and other higher educational institutions.

Characteristics of successful organizations include: a strong, positive, values driven culture, a commitment to learning and self-renewal, continual adaptation using internal and external feedback from environments, strategic alliances with internal and external partners, customers and suppliers, a willingness to take risks and experiment, a process orientation, a balanced, values based approach to measuring performance that includes corporate survival (financial), corporate fitness (efficiency, effectiveness), continuous learning and self-development (evolution), organizational cohesion and employee fulfillment and corporate contribution to the local community and society.

Higher education in general and tertiary education in particular can help countries become more globally competitive by developing a skilled, productive, and flexible human resource and by creating, applying, and spreading new ideas and technologies. Research universities are reckoned among the central institutions of the 21st century knowledge economies. We must meet the challenge of Establishing World-Class Universities and building successful research institutions.

2. Education and Research Trends

Higher education is the pathway to the empowerment of people and the development of nations. Knowledge generation has emerged as the source of growth. Innovation is imperative for development. Nations need to establish institutions that would focuses on the process knowledge creation through a network of scholars. The University is the ideal place for the ecosystem of scholars to be creative and innovative, search for new ideas in a spirit of free inquiry. Research universities are among the core institutions of present day economies that stand at the centre of global knowledge economy. Academic institutions need sustained support and favourable working conditions. Knowledge has to be divided into disciplines and fields in an increasingly complex world. It needs a holistic understanding of knowledge, in its various aspects. New knowledge today materializes at the boundaries of existing disciplines. It is essential to relate research to the societal needs. Participating effectively in the global knowledge network on an equal basis with the world class universities cannot be overemphasized. Higher academic institutions contribute immensely to economic development and societal development helping countries to become more competitive internationally by developing highly skilled and productive human resource by creating new technologies and generating and disseminating new ideas.

Changes in the environment forced the introduction of innovative activities in a very fast tempo making the subjects responsible for the costs and they are very difficult to foresee. Universities are dealing with a lot of problems: how and by what means planned activities should be done receiving the best economic effectiveness and not missing quality of offered education. Skilful attraction and maintenance of the student is very important. [1,2]

Quality of education is becoming one of the elements of formation of strategy of education in the academic institutions. It involves improvement and making endeavors towards accreditation which aim is to confirm that all the standards of educational effectiveness are provided.[3] Every university realizing trend of progress should form quality of education as well as quality of carried scientific researchers. Resulting from this, more and more interest and searching for new solutions and introduction of modern concepts and methods of management are needed.

The quality of the services provided by the universities should play a strategic role in the management of the university. Universities must be aware that suitable quality of the education, service and the communication ensure not only optimization of usefulness of the service for the student but also it makes possible effective competition at the market. The market of services in the field of university education must tend to continuous improvement of realized by themselves processes. Such possibilities are suggested by the elaborated standard concerning quality management systems.[4]

Universities have two core processes: teaching and research. The output of teaching is learning and the output of research is a contribution to knowledge. What are the learning outcomes that we want for our students? Higher educational institutions need to have a clear view of the learning aims of higher education. Research facilitates new insight into the subject matter. It is related to innovation. Many scientific innovations were led by research, which were followed by commercialization of products. A well designed research system not only promotes scientific and rationale thinking, but also leads to economic well being in the long run.

Quality of the Education

Increasing competition, demands for accountability, and higher volumes of available information are changing the methods of how institutions of higher education operate. The academic institutions realizing trend of progress should form quality of education as well as quality of carried scientific researchers. More and more interest and searching for new solutions and introduction of modern concepts and methods of management are needed. The quality of the realized process could be described in different aspects: financial

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effectiveness – looking for the response to the question how universities spend public money, academic standards – realizing activities aiming maintenance suitable level of education in the universities, public usefulness. Quality of education refers to the success with which an institution provides educational environments which enable students effectively to achieve worthwhile learning goals including appropriate academic standards. The problems of the quality of the educational services pertains to the effective organization of the process of the education, variety of educational offer, determining the requirement to the students, competences of the persons conducting the classes, quality of the relation with lecturers and managing personnel, access to the infrastructure supporting the education.[5]

Quality assurance refers to the determination of standards, appropriate methods and quality requirements by an expert body, accompanied by a process of inspection or evaluation that examines the extent to which practice meets these standards; and consumer-driven quality refers to a notion of quality in which those who are to receive a product or service make explicit their expectations for this product or service and quality is defined in terms of meeting or exceeding the expectations of customers. Service quality has now become an important dimension for education providers. Customer evaluations of the quality of education should be an integral part of overall quality management in any of the organizations (Haque, 2004). Improved quality increases the level of success and prosperity in an organization.[6]

Quality has many dimensions: quality as excellence, quality as fitness for purposes, quality as transformation (focuses firmly on the learners: the better the higher education institution, the more it achieves the goal of empowering students with specific skills, knowledge and attitudes that enable them to live and work in the knowledge society), quality as threshold (to set certain norms and criteria), quality as value for money, quality as enhancement or improvement (achieving quality is central to the academic ethos and that it is academics themselves who know best what quality is at any point in time).

The objectives of academic institutions should be to give each student, opportunities to improve in knowledge, know how, wisdom, and character. The first concept enables students to understand, and the second one facilitates them to do, accordingly the third one enables students to set priorities, and finally the character provides the possibility for them to cooperate, to persevere and to become respected and trusted members of society.

Customer of Higher Education

Various customers of higher education include students, employers, society, faculty, and families. According to Venkatraman (2007), customer in higher education must be regarded as stakeholders, which in this case we take into consideration both internal stakeholders like employees and external stakeholders such as students and society.[7] To improve the quality of an academic institution, commitment and knowledge of the leadership is the first step. Philosophy and a culture must be introduced in the organization based on some core values including customer focus, decisions based on facts, process focus, continuous improvement and commitment of everybody. These core values are interrelated, and effective and appropriate methodologies and tools must support them. There must be sufficient knowledge about both student needs and society needs. The need for a systematic data collection about the needs, requirements, reactions, and opinions of the customer and society is essential. For quality improvement it is important to collect, structure, and analyze relevant numerical data and verbal information, hereby it does seem very important to use different quality control tools such as Pareto Diagram, Control Chart, and Histogram and Management Tools such as Affinity Diagram, Interrelationship Diagraph, and Process Decision

Quality Function Deployment

Achieving and implementing Quality Function Deployment (QFD) in higher education institutions aims at satisfying all stakeholders' needs. Since external stakeholders of a higher education institution are first students, presenting high quality of training attracts more students and at last causes prosperity for that institution. This methodology in higher education emphasizes on satisfaction of internal customers such as professors, workers in different departments of for instance a university, and client customer which is society.[8] *Policy deployment* includes systematic planning, utilizing, and observing management systems for improving organization presentation. Policy Deployment works on strategic objectives and daily control of the business to manage continuous improvement and reach business results. QFD gains information on external customer needs and the processes and capability of the organization by customer research, investigation, and planning. It provides the systematic feedback processes essential to continue learning until it becomes time to duplicate the Quality Function Process, depending on the forceful of the industry. In higher education institutions, implementation of Policy Deployment and QFD complete and speed up reaching the goals. Hence, implementation of both Quality Function Deployment and Policy Deployment in higher education institutions is complementary. For efficient improvement, three aspects of processes must be continuously developed: quality, efficiency, and adaptability. Quality of process clearly refers to the process qualifications in fulfilling customers. Process efficiency points out to the efficient utilization of resources in organizations, and adaptability considers adaptation of process with changes.

Benchmarking

Among the improvement strategies and techniques such as Total Quality Management (TQM), Continuous Quality Improvement (CQI), and Business Process Reengineering (BPR), benchmarking has emerged as a useful, easily understood, and effective tool for staying competitive. For higher education to enact substantial and sustainable changes in efficiency and productivity, benchmarking (that builds efficiency and a desire for continual learning) must be integrated into institutional structures. Benchmarking is a process for self-evaluation and self-improvement through the organized and mutual comparison of practice and

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performance with competitors in order to identify own strength and weaknesses, and learn how to improve and adapt with changes. For instance, benchmarking was applied in higher education in North America and England in the early 1990s. The method was applied to the management of services like library, facilitates, estates, energy and treasury, but the useful technique applied by the other education institution rapidly. Benchmarking helps overcome resistance to change, provides a structure for external evaluation, and creates new networks of communication between schools where valuable information and experiences can be shared. The concept and practice of benchmarking has emerged as a popular strategy to enhance the quality and effectiveness of institutional management. The growth of sophistication in the data collection needed for benchmarking has been possible with recent development in information. Benchmarking has to be an on-going, systematic process for measuring and comparing the work processes of one organization with those of another by bringing an external focus on internal activities.

3. TQM Model for Higher Education

TQM consists of three interdependent components: values, methodologies, and tools and the aim is to increase internal and external customers' satisfaction with a reduce amount of resources. TQM is a constant endeavor to fulfill and preferably exceed customer needs and expectations by making the costs lower, continues improvement, focusing on the processes, involving and committing everyone in an organization.

ISO 9000:2000 is described as a quality management system to direct and control an organization with regard to quality. Documentation of the system is a foundation for quality audit. The quality management system in ISO 9000 series is based on eight quality management principles: customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement, factual approach to decision-making and mutually beneficial supplier relationships. An organization should establish, document, maintain and continuously develop a quality management system according to the requirements in the standard. Process identification, the sequence of these processes, process control, checking the availability of resources and information, and analyzing, measuring, and monitoring of the processes are special requirements for implementing a system according to standards.

Overall quality comes from people's quality, so it is an important problem investing in the human resources, in knowledge and people skills. Knowledge becomes the determinant of the success of organization functioning in the conditions of the intensifying changeability of closer and faraway surroundings. It is why the problems of education and learning become extremely important in the economy conditions based on knowledge. More and more requirements put for the higher education, especially from the point of view of the demand on the job market, caused the necessity of implementing the quality management systems (QMS) compatible with the ISO 9001:2008 standard to universities.[9,10]

Quality of education is the skill of building the abilities of assimilating the knowledge in the area of educational needs and the implementation of this knowledge to creating mechanisms allowing fulfilling expectations of customers and educational services. One should distinguish pupils, students, teachers and employers among the people who are interested in the quality of education.[10,12] The quality of educational service is the degree, in which it fulfills the growing requirements of surroundings and helps in the students' development, at simultaneous care about the solid development of didactic and scientific personnel. The quality of the university is perceived through the prism of many components, which together decide on the success in the realization of the proposed educational aims. It should take into account: the quality of the material potential, the quality of the immaterial potential, the processes quality and the quality of the results. Moreover, two groups of components – technical and functional will influence on each value. First group decides on this, what the main recipient of the service receives, the second one – how (in what way, in what conditions, relations) the given service is offered.[10] All activities having the influence on the quality should be planned, systematic, documented and supervised, and the organization should deliver proves that all works according to requirements described in ISO 9001:2008 standard and with customers requirements. The quality management system contains the organization structure, competence division and responsibility, procedures, processes and resources. It defines the conditions and methods of education, establish the proof of the value of the offered educational service, makes possible the comparability of educational institutions, can decide in advance about the choice of the university, makes the chance on the growth of workers motivation to better work and leads to lowering the costs.[10,13]

The Quality Management System

The process of implementation of the Quality Management includes establishing the Quality Representative at the University, establishing the working teams to the implementation of the Quality Management System, preliminary audit, working out the detailed plan of implementation works, training of the university management and workers creating the structure of the system and defining processes realized at university and their ratios. It is important to shape students' skill of self - learning and additional studying in the educational process. Helpful in this is undertaking activities serving to the reconstruction the students own motivation to gaining the knowledge and skills. Teachers should have the consciousness of the role, which they have to fulfill in the realization of this aim.[10,14] The certification is understood as the estimation of the compatibility of the Quality Management System at the university with definite requirements, accomplished by the independent organization. The main reasons of subjecting to the certification, carried out by the independent third party are: enlargement of the credibility to the enterprise, the obtainment of competitive superiority on the market, adjusting to requirements imposed by laws, standards, customer and also the co-operating firm, already possessing the certified quality management system. After receiving the

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certificate the certification organization begins the programme of supervisory visits, which are usually established in six month periods. The aim of supervisory visits is verifying if the confirmed Management System is still maintained, applied and that the continuous improvement is assured. [10,14,15,16,17]

The certification of the quality management system forces the development of the quality in education, and also it can be helpful during the accreditation of the studies direction. The quality of education becomes the basis to working out and implementing the strategy of the development of educational units. The universities which implemented the quality management system stay in eyes of their customers as credible, reliable and well organized. This raising of the prestige and assumption of better position in the ranking of universities results directly from the advantages, which the implementation of the quality management system brings. Those are: the assuring the system management for the resources and knowledge, starting the constant process of improving the university, guaranteeing the efficient flow of information about each task and their realization, improvement of functioning the university and its management, quick and effective solving problems, avoiding the mistakes (instead of repairing them), the change of approach to the quality of education, the improvement of planning and budget discipline, increasing the productivity and effectiveness of the university, the growth of responsibility, motivation and commitment of the workers. [10,14,15,16,17]

Building Blocks of TQM

Quality is the inspiration for transcendence from the mundane to the higher realms of life. TQM is a constant endeavor to fulfill and preferably exceed customer needs and expectations by making the costs lower, continues improvement, focusing on the processes, involving and committing everyone in an organization. TQM builds a customer-driven, learning organization dedicated to total customer satisfaction through continuous improvement in the effectiveness and efficiency of the organization and its processes. The TQM framework should be built upon a set of core values and concepts. These values and concepts provide foundation for integrating the key performance requirements within the quality framework. A set of fundamental core values forming the building blocks of the TQM framework is: leadership and quality culture; continuous improvement and innovation in educational processes; employee participation and development; fast response and management of information; customer-driven quality and partnership development, both internally and externally. Leadership effectiveness could be achieved through a participative management style that includes inputs from a comprehensive 360-degree feedback system from these internal and external stakeholders. The strategic planning of this element would examine how the institution sets strategic directions and how it determines key plan requirements with a primary focus on customer satisfaction and the key aspects of process management, including learner-focused education design, education delivery, services and business operations.

Dimensions of Quality

Quality has the following dimensions: consistency, value for money and transformative. In his model of distributed leadership for managing change in higher educational institutions, Gregory (1996) suggests four dimensions of institutional leadership symbolic, political, managerial and academic. A true leader embodies the whole institution by winning commitment of others to organizational goals, obtaining resources and presenting corporate image to the external world. Secondly leadership will be politic for the institution, gaining support and using and resolving conflicts to achieve its means. The academic role of top management includes being a leading professional, leading others in a collegiate style, recognizing and encouraging quality, fostering and developing talent, intervening, coaching, being a role model of exemplary behavior, taking risk and acting agent of change (Marsh, 1992). Sustained educational improvement and committed shared vision depends on the nature and quality of leadership and interaction between leaders and members of the institution. As the term quality is a complex reality, different dimensions of the concept as applied to education include: Academic disciplines - the quality is related to excellence in knowledge; The prestige: reputation is a matter of opinion, which is built on the basis of varied elements and can be lost when there is a relaxation in internal demand levels of the organizations or persons, perfection or consistency, perfection in performance is most valuable when done in the first time with zero defects, because this represents significantly lower costs and demonstrates a high level of proficiency of the necessary processes, economy or results: the existence of resources, the use thereof and the results achieved, the economic performance or the component of "value added", which in areas such as education or healthcare is often of great importance; satisfaction; organization - the organization's ability to meet the increasing and more complex demands, which raise both its staff and recipients, especially when responding to these demands the organization enters into competition with others that provide the same products or services.[18,19,20,21]

Education System as a Transformation Process

Education system is a transformation process comprising of inputs of students, teachers, administrative staff, physical facilities and process. The processes include teaching, learning, and administration. Output includes examination results, employment, earnings and satisfaction. In their model for TQM implementation in higher educational institutions, Osseo-Asare and Longbottom (2002) proposes enabler criteria, which affect performance and help organizations achieve organizational excellence. These enabler criteria are leadership, policy and strategy, people management, resources and partnerships and processes. They also suggest result criteria including customer satisfaction, people satisfaction, and impact on society and key performance results for measuring the effectiveness of TQM implementation. Proper education and training of those involved in the implementation process will help to mitigate this problem.[18,22, 23,24]

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Educational process is a series of actions or operations leading to an educational end learning, training, and or scholarly activity. Transformation process for an educational institution consists of activities performed to disseminate knowledge, to conduct research and to provide community service. Process in the education system includes teaching, learning, research, administrative activities and knowledge transformation Outputs are tangible outcomes, Value addition (through examination results, employment, earnings and satisfaction), Intangible outcomes (educated people, research findings and service to community). There is also feedback i.e. the outputs of information about the system which, when fed back into the system as inputs, are able to modify the system while the process is in progress, making the system more responsive to the needs of the components in the environment. The output so released should satisfy the components in the environment in the form of customers/stakeholders.

4. Approaches to Teaching and Learning

Teaching forms the backbone of any educational system. Apart from classroom lectures, more innovative teaching methods can be imparted through other modes including discussions, case study analysis, presentations, field projects, role play, simulation methods, problem based learning, etc. Teaching methods in synchronization with the learning objectives will facilitate better teaching-learning process. Modern or constructivist approach to teaching involves a more interacting, student-centred teaching where the students learn through group participation.

The Problem Based Learning (PBL) approach to learning can be considered as the most significant educational innovation in the past four decades. PBL is a powerful class room process, which uses real-world problems to motivate students to identify and apply research concepts and information, work collaboratively and communicate effectively. It is a strategy that promotes life-long habits of learning. Active learning is the most effective technique for students to learn, apply, integrate, and retain information. PBL is active and applied rather than passive and absorbed. PBL is by now a well established method of learning and instruction. It is a teaching technique used in many academic institutions to facilitate learning basic science concepts in the context of clinical cases. Students are assigned to groups of 8–10, and each group is assigned a faculty member who plays the role of a tutor or facilitator as the students work through a case or a problem. This model is very student-centred. In the PBL approach, complex, real-world problems are used to motivate students to identify and research the concepts and principles they need to know to work through those problems. Students work in small learning teams, bringing together collective skills at acquiring, communicating, and integrated information. In PBL curriculum the problem scenarios serve as central component, a set of problem situations that equip students to become independent inquirers, who see learning and epistemology as flexible entities and perceive that there are also other valid ways of seeing things besides their own perspective. PBL instruction addresses several desirable outcomes of an undergraduate education, particularly critical thinking, research skills, communication skills, and other lifelong learning skills. PBL strategy is remarkably adept and adaptable vehicle to develop in students, core knowledge in a content area, cognitive skills (analysis, synthesis, application, evaluation, and critique) and action skills (organizing time, resources, coordination, negotiating, tolerating). PBL curricula are often integrated across the sciences basic to medicine, as well as among departments and activities such as clinical skills and doctor-patient-society courses that have traditionally been restricted to particular years of the curriculum.[25]

Distance learning is time saving, cost saving, time independent and it suits the needs of an adult learner who wants to manage work and studies at the same time. This form of learning is learner dependant. It only depends on the efforts and enthusiasm of the learner. While the transformation of distance, open, and technology based learning continues in these new contexts, it is important to understand that challenges exist and how academic institutions that have adopted the principle of equity of access will meet them. These new learning models can meet the challenges posed by the new environment, but academic institutions may have to use them resolutely, vigorously, and collaboratively. Such an approach will likely require new partnerships among post-secondary institutions, regional national groupings, the corporate sector, and non-governmental organizations. No one can address global or technological issues alone. Globalization (the flow of technology, economy, people, values, and idea across borders) is having a profound impact on most aspects of society and is a significant factor impacting the nature and function of higher education. It applies to education in terms of the economic, technological, political, and societal forces opening access to twenty-first century higher education, which has for much of the past century been owned by the upper and, to a lesser degree, the middle classes of the developed world. It also means increasing the exposure of traditional learners to international experiences.[26,27,28,29]

Different academic institutions have also adopted this new technology and have started to offer online learning as an extension to their distance educational activities. The corporate sector has shown keen interest in this technology as it is cost saving, coupled with the flexibility in terms of anytime anywhere learning. E-Learning takes the help of telecommunication technology to deliver information for education and teaching purposes to its users. With the growth of information and communication technology (ICT), e-Learning is emerging as the paradigm of modern learning. The greatest benefit of e-Learning includes liberating exchange of knowledge and information between learners and teachers, or peer to peer, from limitations of time and space. ICT: enhanced higher education (open and distance learning, virtual universities, e-learning, open educational resources) is likely to become the most significant driver of cross-border provision. As this happens, challenges will arise as both institutions and governments attempt to control accreditation and, often with the best intentions, globalize their accreditation systems.

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5. Growth of Private Sector in Education

A new phenomenon is the privatization of higher education and the for-profit institutions that focus on teaching for specific fields of study, filling a niche that many public universities could not. The rise of private sector particularly for research universities presents some challenges, mostly pertaining to regulations and quality management. Private tertiary higher education is required to serve the public interest is a significant challenge in the new millennium. A research university is elite and meritocratic that needs academic freedom to be a world-class university. The ideal of academic freedom has expanded to include expression on any topic or theme, even beyond the confines of specific scientific or scholarly expertise. The key element of academic freedom is the concept of open inquiry as a core value of the university.

In addition to cross-border international initiatives by higher educational institutions, attempts to internationalize the curriculum have gained momentum. Some assert that the curriculum is the most important element in the provision of an international education, and argue persuasively that internationalized curricula are integral to any process of internationalization.

Internationalization of the curricula is multifaceted and purports to recognize values and nurture respect for differences among the cultures and communities of the world. Given the diversity of people, it becomes clear there is no single way to go about internationalizing courses. Economic considerations related to international competitiveness have become a significant driving force behind the internationalization of learning. Education is increasingly seen not only as an export commodity but also as a key national opportunity for branding a nation's knowledge prowess. Knowledge institutions, whether private or public, are regarded as key stakeholders in a country's competitiveness.

As learning becomes increasingly borderless, higher education policy is likely to rank increasingly high on national agendas. Developing countries view increasing higher education participation as key to their transition to developed country status. The argument that higher education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy is now widely accepted, although there are those who question whether it should receive the same priority as other development strategies. Many accept that higher-level employment skills are critical to sustaining a globally competitive research base and to improving knowledge dissemination to the benefit of all societies. Some have argued that branded education (Cambridge, Oxford, LSE, Harvard, Stanford, Princeton, MIT, Caltech, Melbourne, etc.), given people's varying abilities to access it, represents a marketing initiative by already dominant institutions and nations, directed to ensuring a market share of the world's best brains.

Providing open, distance and technology enabled learning through national for-profit and not-for-profit providers is increasingly seen as the key to allowing mass access to higher educational opportunities. The challenges inherent in this prospect are real. Higher education has expanded remarkably in recent decades. Growth is, by all measures, faster than anticipated.

Although worldwide participation rates in higher education are increasing, participation rates in some regions of the world remain extremely low (viz Africa). Much of the recent worldwide growth in higher education has been at private universities while public institutions have been struggling with smaller budgets and inadequate staffing. This dominance of the private sector results partly from the fact that governments do not have the resources to provide Higher Education opportunities at the level needed to respond to the demand. While capacity building will become a critical initiative in the coming decades for developing countries, increasing enrolment in the underfunded public and private institutions of the developed world will be equally critical.

The projected growth of the worldwide population of people qualified to proceed from high school to higher education will yield a significant increase in demand that cannot be met by existing capacity or infrastructure. Given their combined population, for Asia, South America, and Africa to reach a level of post-secondary penetration equal to that of developed countries, they would have to build tens of thousands of traditional universities, each accommodating several thousand students. While the inevitable growth of universities in the developing world will transform the map of higher education worldwide, new approaches are clearly needed. Open and distance education is a good way of reaching out to large numbers of students. India accounts for a quarter of the developing world's population and has the third largest higher education system in the world. Capitalizing on supply and demand, for profit institutions in the developed world will likely continue to expand their cross-border provision of educational services, especially through distance and e-learning. Providing private higher education is already a fastest growing service worldwide. Private institutions will account for most of the higher education provision in some developing countries in a decade or two.

6. Focus on Accountability and Performance

Universities are increasingly large bureaucracies with complex management needs. The link between economic competiveness and higher education, and the increase in the number of cross-border providers in an increasingly globalized world has focused more attention on the quality issue. The UNESCO Portal on Recognized Higher Education Institutions provides access to on-line information on higher education institutions recognized or otherwise sanctioned by competent authorities in participating countries.[30,31,32,33] It provides students, employers and other interested parties with access to authoritative and up-to-date information on the status of higher education institutions and quality assurance in these countries. In the context of the growing globalization in distance education, there is an urgent need for international initiatives to review quality assurance mechanisms of distance education for higher education at the national and institutional level, to discuss

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new challenges facing a changing distance education environment, and to build quality assurance capacity to enhance quality standards in a globalized higher education market. It is essential in a rapidly changing environment that learning materials have the ability to be universally reused, recycled, and reorganized. Digital content has the added advantage of scalability and adaptability.

The UNESCO/OECD guidelines address six stakeholders in higher education (governments, higher education institutions/providers including academic staff, student bodies, quality assurance and accreditation bodies, academic recognition bodies, and professional bodies). They provide a set of orientations to practitioners and seek to promote mutual trust and international co-operation among providers and receivers of cross-border higher education. Considerable international work needs to be undertaken by all key stakeholders to ensure that the quality assurance mantra is not used by government, the private sector and the post-secondary sector to control the marketplace. [30,31,32,33,34,35]

The use of technology has changed the cost structure and funding requirements of higher education (whether it be public, private-for-profit, or private-not-for-profit), making it necessary to carefully distinguish and prioritize committed costs, flexible costs, and business-sustaining costs. Traditional approaches to higher education are highly labour intensive; distance education is capital-intensive but possibly permitting low flexible costs; and e-learning offers complex patterns. The planning and implementation of programs for lifelong learning and distance education must focus on short- and long-range variables such as principal objectives or mission, technological and media alternatives, financial sustainability, and who will have to pay which part of the costs?

Universities to remain on the top will have to focus on important issues including funding, autonomy, to attract top talent (the best and the brightest) in an increasingly competitive global academic market place, globalization and meeting the pressures towards privatization of public universities. Universities must involve the academic community (teachers and researchers) in the governance of the organization particularly in key decision making process. Students also need to be involved as key stakeholders in the academic community.

7. Future Trends in Curriculum Development

Educators are learning to work together, with their students, and with other experts in creating content, and are able to tailor it to exactly what they need. Students are learning how to effectively find content and to discern reliable sources. With Internet access becoming more ubiquitous, the children of the poorest people are able to get access to the same quality education as the wealthiest. Textbook publishers are finding ways to make themselves relevant to their digital audience. Curriculum incorporates skill-building. Trends[36] that will shape the future of curriculum include:

Digital delivery: No longer shackled to books as their only source of content, educators and students are going online to find reliable, valuable, and up-to-the-minute information.

Interest-driven: Though students typically have to wait until their third year of college to choose what they learn, the idea of K-12 education being tailored to students' own interests is becoming more commonplace. The idea is to grab students where their interests lie and build the curriculum around it. Students' interests are directly correlated to their achievement. But a growing movement is being propelled by the explosive growth in individualized learning technology that could feed it and we're starting to see the outlines of how it could seep into the world of formal education. The better way is to motivate each student to learn through his or her passion. Passion drives people to learn and perform far beyond their and our expectations. And whatever is learned through the motivation of passion is rarely if ever forgotten.

Skills 2.0: The buzz words "21st century skills" are being thrown around in describing what needs to be taught: real-world readiness. Things like collaboration, innovation, critical thinking, and communication are thought to be important because they're practical skills that can be used in the world outside the confines of school. The way individuals learn has already been forever changed. Instead of learning from others who have the credentials to 'teach' in this new networked world, we learn with others whom we seek on our own and with whom we often share nothing more than a passion for knowing.

8. How Technology will Shape Learning

Technological innovation, long a hallmark of academic research, may now be changing the very way that universities teach and students learn. For academic institutions, charged with equipping graduates to compete in today's knowledge economy, the possibilities are great. Distance education, sophisticated learning-management systems and the opportunity to collaborate with research partners from around the world are just some of the transformational benefits that universities are embracing. Technology has had and will continue to have a significant impact on higher education. Online learning is gaining a firm foothold in universities around the world. More than two-thirds of respondents from academia say that their institutions offer online courses.

Corporate-academic partnerships will form an increasing part of the university experience, at a time when locating funding and controlling costs are key concerns. To attract corporate partnerships, institutions will need to demonstrate a commitment to advanced technologies.

Higher education is responding to globalization. Distance education is also becoming increasingly global, with universities leveraging advanced technologies to put education within reach of many more individuals around the world. No generation is more at ease with online, collaborative technologies than today's young people, digital natives, who have grown up in an immersive computing environment. Today's students come to class armed with smart phones, laptops and iPods.

This era of pervasive technology has significant implications for higher education. Technology allows students to become much more engaged in constructing their own knowledge

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and cognitive studies show that ability is key to learning success. Online degree programmes and distance learning have gained a firm foothold in universities around the world. What was once considered a niche channel for the delivery of educational content has rapidly become mainstream, creating wider access to education, new markets for content and expanded revenue opportunities for academic institutions. New technologies are also affecting other areas of campus administration. Social-networking tools are helping to build connections with alumni and support career service activities. E-marketing campaigns expand the reach and success of recruiting and fundraising efforts, and drive down the cost of direct-mail campaigns. And automated, self-service programmes reduce administrative requirements, streamline course registration and enhance academic life. Technology is enabling multi-modal teaching, changing curricula and spawning rich forms of online research and collaboration. The greatest potential benefit of technology is the expanded access to educational and reference resources that it provides. Online-collaboration tools, software that supports individually paced learning and learning-management systems are among the communications technologies most expected to improve academics over the next decade. Web 2.0 technologies such as wikis, instant messaging and social networking - which have been influential in improving connectivity in many settings and are in use now at a large number of institutions - are expected to decline in use over that period.[37]

Collectively, technological advances may lead to profound changes in the way courses are taught. Teaching will become more outcome-based and student-centered. To be truly transformative, instructional paradigms will have to shift. Instead of focusing on memorization of material by their students, instructors will focus on the application of knowledge to particular problems. Students need to feel that they can plot their own academic path. The economic downturn and society-wide changes catalyzed by information technology (disintermediation, consumerism, etc) are causing many colleges and universities to question what the future of higher education in the digital age will be. Many historic challenges persist, such as cost, access, retention, and graduation rates. The digital age offers new opportunities (eg online learning) as well as threats (for example, competition from other providers). IT is a tool that can help address these challenges, but it may also change how we frame the future. This presentation will explore common themes emerging worldwide, including cloud computing, identity management, analytics, and open educational resources.[37]

In an era when the answer to the majority of a student's content questions is 0.27 seconds away via a search engine, the heritage of the traditional university as a "brain dump" by renowned professors is becoming increasingly irrelevant. What organizations and nations in the knowledge economy require instead are people capable of engaging in rigorous, cross-disciplinary problem formulation and collaborative work to solve those problems. That's what a corporate multiversity can deliver, if organizations and their executives are willing to step up to the opportunity.[37]

9. Conceptualizing Approaches to Teaching and Learning

Effective pedagogy demands consistent policy frameworks, with support for learning for diverse students as their main focus. Policies at government, system, institutional and organizational level need to recognize the fundamental importance of learning for individual, team, organizational, institutional, national and system success. Policies should be designed to create effective and equitable learning environments for all students to benefit socially and economically. Effectiveness of the system depends on the research and learning of all those educators who teach and research to support the learning of others. There is a strong need for lecturers, teachers and trainers to learn through doing research to improve their knowledge, expertise and skills for teaching.

Conceptually-focused research evidence about students' experiences of their courses can help staff to refine teaching and learning environments. The quality of learning and teaching can be systematically enhanced through using richer sources of evidence to guide course development. The concept of ways of thinking and practicing in a subject offers a powerful means of planning and evaluating the fundamental goals of a degree. Simulated discussions between pairs of students, and students and tutors, can be useful for students. The observational learning is an efficient way for them to learn, allowed them to learn more professional ways of talking about clinical concepts, and gave them more time to reflect than traditional teaching. Coping with pressure and accommodating students' wider lives undermines and restructures teachers' professionalism, professional identities and classroom practices. A range of collective, individual and contextual influences interact to affect people's propensity to learn across the life course. Effective collaboration is related to the autonomy available to key partners and the role of external bodies. Commitment to collaborative working is enhanced and deepened when it is seen to lead to tangible outcomes. Effective pedagogy promotes the active engagement of the student as learner. The main aim of higher learning should be learners' independence and autonomy. Engaging students actively in their own learning, and ensuring that they acquire a repertoire of learning strategies and practices, develop positive learning dispositions, and build the confidence to become agents in their own learning, is important. Universities need to understand and take account of a range of student orientations and types of engagement.

The objectives of higher academic institutions include: disseminating knowledge; developing student capability to use ideas and information; developing critical faculties - acquiring the ability to test ideas and evidence is the primary benefit of university learning, the ability to test ideas and evidence is a significant transferable skill; developing the student's ability to generate ideas and evidence; facilitating the personal development of students and develop the capacity of students to plan and manage own learning. There is a wide range of teaching methods available for achieving each of these aims. The educational system may use a combination of formal, informal, and non-formal learning methods. Students are the most qualified sources to report on

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the extent to which the learning experience was productive, informative, satisfying, or worthwhile. Today, student ratings of instruction are widely used for the purpose of making personnel decisions and faculty development recommendations. They are legitimate indicators of student satisfaction, and there is substantial research linking student satisfaction to effective teaching. To evaluate teaching effectiveness different methods can be used including: peer review, self-evaluation, teaching portfolios, student achievement and students' ratings of teaching methods used by their teachers.

10. Costs and Affordability

Extension activities are primarily aimed on the application of the developed knowledge to address the common problems of the society. There are many interfaces including sociological, cultural, economic, technological, political, etc. The demand for higher education is influenced by the ability of the customers in terms of his/her willingness to pay. In developing and underdeveloped nations, price is an important criterion in determining as to have access to higher education. Most of the universities and public funded institutions are playing a positive role in controlling the cost escalation and providing higher education to the economically unprivileged ones at a reasonable cost. Physical evidence in terms of infrastructure and other facilities often serve as a major attraction to the end user. Many institutions tune in terms with infrastructural facilities while positioning themselves. A well-equipped classroom promotes better teaching -learning process whereas a modern laboratory facility paves the way for better skill acquisition. Institutions cater to the varying needs of the students, teachers and administrators by providing better accommodation, offices, cafeteria, clinics, gymnasiums and good ambience in general.

In judging the quality, the notion of stakeholders, including students, parents and employers, plays a vital role in appraising educational system as a whole on each of these parameters. It is imperative that all individuals and group associated with the higher educational system are well aware about their duties and responsibilities. Training of students is the main objective of educational system so as to facilitate to be better citizens of tomorrow. Parents have to be informed on continual basis about the development of their wards so as to elicit their feedback for the improvement of the system. Employers' role is vital in terms of providing intrinsic and extrinsic motivating factors to the employees. They have to imbibe the changes in the external environment for the betterment of the institutions. The external environment or the macro factors will have their impact on the quality of the parameters. The political and legal environment has impacted in terms of globalization, liberalization and privatization. There is a need for a better regulatory framework – both at national and international level to maintain the standardization in private academic institutions.

Economic development has brought much change in the socio cultural factors in the society. Education is not only considered as an avenue to job market, but also to the overall development of individual and society at large. A civilized society is one which is educated and enlightened. It is associated with status of individuals. The rising educational needs have given opportunity to educational industry across the world to go on expansion. Technological changes have revolutionized the world. Satellite based education; E-learning and advent of sophisticated educational aid equipments have made tremendous impact in terms of better quality teaching – learning process. The participation of all the constituencies of higher educational system will result in continuous improvement in the process. This will facilitate more customer friendly practices, which will result in excellencies of performance in terms of quality outputs. This cycle if repeated continuously will improve quality at each stage. Need for higher education is primarily based from what the customers want in terms of output and satisfaction.
The development of higher education requires increase in funds and even more for its maintenance. The development of higher education is correlated with the economic development. The essential task for any nation is to expand its higher education system further in a planned way so as to cover as large a portion of the eligible age group as possible. For universities selling point for a quality programme is the leaner budgets and higher efficiency and productivity inherent in certain quality programmes.

11. Knowledge Management

Knowledge management is used for developing strategic alliances in an academic institution which helps in effective use of resources and infrastructure so that the organization can reap more benefits from the investments pertaining to human resource and technology to maintain the overall quality. Use of appropriate instruments for converting data into knowledge and further exercising control over knowledge is important. For developing an actionable scenario knowledge mapping is a technique, which is applied to facilitate the changes in dynamic environment of various systems. The knowledge mapping has been used to designate a wide variety of approaches to organize and structure knowledge sources, to map best practices, to develop insightful concepts and to create expert networks. This is done by mapping best practices and by identifying the gaps in processes. With the help of ICT a large amount of data is available to be converted into knowledge that can be shared between different stakeholders.

12. Cost of Quality

The academic institutions have gained an understanding of the high cost of poor quality. Quality affects all aspects of the organization and has dramatic cost implications. The most obvious consequence occurs when poor quality creates dissatisfied customers and eventually leads to loss of business. Quality has many other costs, which can be divided into two categories: costs necessary for achieving high quality, which are called quality control costs (prevention costs and appraisal costs. The second category consists of the cost consequences of poor quality, which are called quality failure costs. These include external failure costs and internal failure costs. The first two costs are incurred in the hope of preventing the second two), and prevention costs are all costs incurred in the process of preventing poor quality from occurring (quality planning costs, such as the costs of developing and implementing a

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quality plan and the costs of product and process design, from collecting customer information to designing processes that achieve conformance to specifications). Another way institutions implement continuous improvement is by studying business practices of companies considered "best in class" (known as benchmarking). The ability to learn and study how others do things is an important part of continuous improvement.

Employee Empowerment

Workers should be empowered to make decisions relative to quality in the production process. They are considered a vital element of the effort to achieve high quality. Their contributions are highly valued, and their suggestions are implemented. In order to perform this function, employees are given continual and extensive training in quality measurement tools. Employee training in quality measurement is included as part of this cost, as well as the costs of maintaining records of information and data related to quality. Quality is an organizational effort. To facilitate the solving of quality problems, it places great emphasis on teamwork. Using techniques such as brainstorming, discussion, and quality control tools, teams work regularly to correct problems. The contributions of teams are considered vital to the success of the company. For this reason, companies set aside time in the workday for team meetings. Poor quality causes waste through rework and that distinction in the market place must be attained to boost one's profile or arrest any possible decline.

Commitment to Excellence

Total Quality can be achieved at low costs and high income, leads to customer satisfaction, and has the goal of continuous improvement through total quality management. The "Delors Report" (UNESCO, 1996), stressed that education is based on four pillars of learning: learning to know, learning to do, learning to live together, and learning to be, recognizing that the quality of education is not a result of the achievements of excellence at only one area. The quality of education is the guidance of any change. When initiating any educational reform process, it should be clarified what is meant and understood by quality of education and must specify where it will lead to the actors in the system. Quality educational programs are those that include valuable and useful contents. These contents must meet the requirements needed to educate the whole student and to prepare excellent professionals considering social needs and should provide valuable tools for the job and the integration of the individual to society. The quality of education represents a commitment to excellence of service provided to society and the student. This commitment is linked closely with the mission of the institution, with teaching, research, university extension, with professional performance, with the governance, with the layout of the various components and resources to achieve the desired results.[30,31,32,33]

Factors that influence the Quality

Education enables the individuals and society to make an all round participation in development process by acquiring knowledge, ability, skills and attitudes. There are three factors that influence the conformation of the educational quality of an institution: the socio-cultural, institutional and teaching-pedagogical. The socio-cultural factor: defines limits and directs the intention with which an institution works. The institutional factor: the intentional interaction between people and authorities of the educational community from their roles and functions, are what determine the quality of the institution. The teaching-pedagogical factor: the quality of teaching process is mainly related to the quality assurance of student learning. It is necessary to focus on what students are learning (content, skills, strategies, values, metacognitive skills, etc.), how they are learning and how these aspects of learning could be improved. The quality of the learning process is associated with the quality of the construction of meanings. One way of measuring the quality of education is related to levels of learning that students achieve from the instruction. It is necessary for universities to ensure that their educational systems are sufficiently open and flexible to changes that may occur with respect to disciplines, years of study, required and elective courses and to be continually focused on improvement. The faculty member is the great architect and guide of a teaching of quality.

13. The Need for Accreditation

Accreditation is an assurance that the professionals that serve us have a solid educational foundation and are capable of leading the way in innovation, emerging technologies, and in anticipating the welfare and safety needs of the public. Through Accreditation educational programs or institutions are reviewed to determine if they meet certain standards of quality. There is the need to set up an organization and to develop a plan in order to implement a system that would allow the higher education institution to reach the standards and sustain it over time.

The ISO 9000 standards are a set of international management standards and guidelines. Organizations from both the public and private sectors, including non-governmental organizations can benefit from the ISO 9001 quality management system model, regardless of whether they are small, medium or large organizations. The immediate benefit that can be realized from the implementation of ISO 9001 is the collective alignment of the activities of internal processes that are focused towards the enhancement of customer satisfaction which will re the organization's ability, or responsibility, to provide a product that meets customer's and requirements and those applicable statutory and regulatory requirements. ISO 9000, Six Sigma and Baldrige are three models, as well as ABET and SACS (Southern Association of Colleges) are two sets of criteria, all of them with the objective to support quality assurance and quality improvement of the educational institution.

There are Accreditation agencies established globally to facilitate the academic institutions to measure performance and determining the conformity with the laid down norms and standards. In each country, there is local body/bodies that coordinate and cooperate with international bodies concerned with higher education quality. These act as an industry watchdog for the organizations that accredit them

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and ensuring those same accrediting organizations are kept abreast of the latest industry standards.

International

Higher education has become more global than ever before. Professional accreditation has become more important as more higher education institutions, delivering programs in different modes, enter the market. All these have thrust the quality assurance agencies into ever expanding roles. IEAC (International Education Accreditation Commission) monitors, evaluates and regulates the actions of educational accreditation agencies devoted to online education across the globe, by working towards the establishment, preservation and promotion of the highest standards possible in these growing spheres of continuing education. Higher education institutions will always require independent accreditation to verify the quality and efficiency of their programs. This need is particularly critical in those institutions involved in online learning, because online learning has unusual technology issues and a wide geographic span. Accreditation agencies include**,** the International Accreditation Organization, the International Network for Quality Assurance Agencies in Higher Education (INQAAHE), ENQA (European Association for Quality Assurance in Higher Education), the ENIC Network (European Network of National Information Centres on academic recognition and mobility), **t**he NARIC Network (National Academic Recognition Information Centres), etc.

United States of America

The national accreditors get their name from their common (but not universal) practice of accrediting schools nationwide or even worldwide. There are six regional accreditors involved in higher education accreditation in the United States. Middle States Association of Colleges and Schools, New England Association of Schools and Colleges (NEASC-CIHE) Commission on Institutions of Higher Education, (NEASC-CTCI) Commission on Technical and Career Institutions, Northwest Commission on Colleges and Universities (NWCCU), North Central Association of Colleges and Schools (NCA) (HLC Higher Learning Commission), Southern Association of Colleges and Schools (SACS) Commission on Colleges, Western Association of Schools and Colleges (WASC-ACCJC) Accrediting Commission for Community and Junior Colleges, and (WASC-ACSCU) Accrediting Commission for Senior Colleges and Universities.[38]

United Kingdom

Organisations involved in the accreditation of further and higher education institutions and/or qualifications in the UK are: The Department for Education, Lifelong Learning and Skills (DELLS) in Wales, The Accreditation Service for International Colleges and Universities (ASIC) for independent colleges in UK and colleges and universities worldwide, The British Accreditation Council - BAC for independent higher education and further education institutions across the UK, The European Accreditation Board of Higher Education, The Council for the Curriculum, Examinations and Assessment (CCEA) for Northern Ireland. The Engineering Council UK for degrees in engineering and technology in order to be registered as professional engineer (Chartered Engineer-CEng- or Incorporated Engineer-IEng), The Institution of Engineering and Technology, The Office for Standards in Education (Ofsted) for publicly funded institutions, The Office of Qualifications and Examinations Regulation (OFQUAL) is the regulator of qualifications, examinations and assessments in England and vocational qualifications in Northern Ireland, The Qualifications and Curriculum Authority (QCA) in England, The Quality Assurance Agency for Higher Education (QAA) across the UK, The Open and Distance Learning Quality Council (ODLQC) and General Medical Council for regulating Medical degrees.

India

Recognition or accreditation of courses of study is under the authority of a set of professional councils established by statute and other autonomous coordinative or regulatory bodies established or recognized by the University Grants Commission: All India Council for Technical Education (AICTE) to be superseded by the National Board of Accreditation (NBA) for technical and management colleges, Quality Council of India (QCI), Distance Education Council (DEC), National Council for Teacher Education (NCTE), Indian Council of Agricultural Research (ICAR), Bar Council of India (BCI), Scientific Institute and Research Organizations (SIROs), National Council for Teacher Education (NCTE), Rehabilitation Council of India (RCI), Medical Council of India (MCI), Pharmacy Council Of India (PCI), Indian Nursing Council (INC), National Council for Indian Education (NCIE), Dental Council of India (DCI), Central Council of Homoeopathy (CCH), Central Council of Indian Medicine (CCIM), National Assessment and Accreditation Council (NAAC), Ministry of Human Resource Development (MHRD), and Association of Indian Universities (AIU).

Gulf Accreditation Council

GACC is leading accreditation agency working to enhance the standards of education for working adults in the Middle Eastern region. It is authorized by the Education Ministry of the local government to give accreditation status to educational intuitions and professional training centers. Accreditation is a process in which certification of competency, authority, or credibility is presented. Accreditation also ensures that the institutions of higher education meet acceptable levels of educational quality. With GACC as an accrediting body, it is ensured that the institutions being awarded accreditation have met stringent set of evaluation criteria as measured through patented evaluation procedure.[39]

14. The Knowledge Economy

Universities are complex organizations which operate in a diverse and constantly changing environment, with shifting values, varying states of economic prosperity, and obscure permutations of political power. The role of the university is crucial in the knowledge economy. This role is strongly linked with the development of a country's economy and society. Higher Education helps countries build globally competitive economies by developing a skilled, productive and flexible labor force and by creating, applying and spreading new ideas and technologies.[40,41]

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Quality is crucial to remain competitive and for the sustainability of a higher education system. The quality of higher education institutions is measured, considering different criteria to assess several facets of universities and its ability to produce graduates, research output and technology transfer. These can be attributed to three complementary sets of factors that can be found in top universities: a) a high concentration of talent, b) abundant resources, and c) favorable governance.[41] In the search for quality in universities, World-class universities have been identified. However it is as important to have national or regional class academic institutions, as it is to follow the most elitist universities. The irony of world-class universities is that "everybody wants one, no one knows what it is, and no one knows how to get one" (Altbach, 2004).[4-] The lack of a methodology to improve quality in a structured and holistic way raises the issue of the need to have a TQM approach to sustainable quality improvement.

15. TQM in Private Universities' Context

Faced with soaring operating costs and persistent public demands for accountability, a growing number of academic institutions are turning to TQM and its principles of customer satisfaction, teamwork, and employee empowerment as a tool to improve how institutions are managed.

There are three generic approaches to quality in higher education[42], customer focus where the idea of service to students is fostered through staff training and development, which promotes student's choice and autonomy, staff focus is concerned to value and enhance the contribution of all members of staff to the effectiveness of an institution's operation, to the setting of policies and priorities (this entails a flatter management structure and the acceptance of responsibility for action by defined working groups) and focus on service agreements stance (seeks to ensure conformity to specification at certain key measurable points of the educational processes). Policy makers have an obligation to set policy, establish standards and monitor performance. They must articulate important educational goals. Students are becoming more customers as well as consumers and expected to pay a growing share of the costs of education.

Osseo-Asare and Long bottom (2002) proposes enabler criteria, which affect performance and help organizations achieve organizational excellence. These criteria are leadership, policy and strategy, people management, resources and partnerships and processes. The university has different priorities and services for each group of students who make up the main customer group and attempts to satisfy their different needs.[24]

Processes include all facets of teaching, student counselling, and scientific research. The first process is to assess the educational needs of students in terms of their existing knowledge, future career opportunities, and the needs of the community and its future development. Other processes to be followed are planning curriculum for courses, including allocating resources, arranging facilities, administration and support, and finally teaching and learning. The quality of all these processes must be effectively and visibly assured.
Education has many outputs and inputs but the results from the process stage are often difficult to quantify in the short term. The inputs to the educational system are students, faculty, support staff, buildings and equipment and other facilities. Outputs include people with new knowledge and abilities and research findings.

TQM has to be integrated internally within the institution of higher education and externally with international organizations of education. The implementation of TQM would save time, money and efforts through doing things right first time. TQM will also help to demonstrate values for all stakeholders, provide better quality provision and communication and continue seeking innovation and improvement. TQM requires creativity, responsibility and participation from managers and staffing in an environment of collaboration and open communication. It requires commitment at the top level. It needs strong visionary leadership that will facilitate the cultural change toward continuous development.

Education and training are one of the key elements of total quality. The successful implementation will depend directly on how well they are been done. Staff development can be seen as an essential tool for building the awareness and knowledge of quality. It can be the key strategic change agent for developing the quality culture. Everybody should be trained in the basics of TQM. An organization's total quality management initiative must be supported with a recognition and reward system that encourages and motivates employees to achieve the desired performance. Organizations that are serious about achieving quality and customer satisfaction must integrate these aspects of TQM into their recognition and reward system. In an organization rewards could be used to provide motivation for staff.

Continuous Improvement

Continuous quality improvement (CQI) aims to focus on solving problems during processes and not waiting till the end of the process. It is the task of management to ensure that there is a continual process of improvement throughout the organization. Continuous improvement is central to any TQM organization, educational organizations are no exception. Constant innovation, improvement and change are stressed, and those institutions which practice it lock into a cycle of continuous improvement.

Managing Change

In order to inspire action on quality, the first step is to change the people's attitudes. If people's behavior is changed first, their attitudes subsequently change. By personally participating in quality improvement activities, employees acquire new knowledge, see the benefits of the quality disciplines, and obtain a sense of accomplishment by solving quality problems. The participation leads to lasting changes in behavior. Participation is decisive in inspiring action on quality improvement. Participation may enable the employees to improve their personal capabilities, increase the employees' self-respect, and help them change certain

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personality traits. Participation may increase the management's and supervisors' respect for the employees, and increase the employees' understanding of the difficulties faced by management and supervisors.

Medical Education

Medical Universities and Colleges should strive to advance the public's health through learning, discovery, and communication. To produce knowledge through research, reproduces knowledge through higher education, and translates knowledge into evidence that can be communicated to the public, policy makers, and practitioners to advance the health of populations. The objectives should include providing the highest level of education to health scientists, practitioners, and leaders, to foster new discoveries leading to improved health for the people of this country and all nations, to strengthen health capacities and services for communities and to inform policy debate, disseminate health information, and increase awareness of health as a public good and fundamental right. Health and Medical Education institutions must also pursue the social sciences to better understand societal influences of health-related behaviors and to inform public policy—both of which are critical elements to educating and empowering people to lead healthier lives. From advancing scientific discovery to educating national and international leaders, the institution should be at the forefront of efforts to benefit the health of populations worldwide. Shaping new ideas in our field and communicating them effectively will be priorities in the years ahead as we serve society's changing health needs.

Medical education, the art and science behind medical learning and teaching, has progressed remarkably. Teaching and learning have become more scientific and rigorous, curricula are based on sound pedagogical principles, and Problem Based and other forms of active and self directed learning have become the mainstream. Teachers have progressed from the role of problem-identifier to that of the solution-provider. During the last three decades medical schools have been faced with a variety of challenges from society, patients, doctors and students. They have responded in several ways including the development of new curricula, the introduction of new learning situations, the introduction of the new methods of assessment and a realization of the importance of staff development. Many effective and interesting innovations have been forthcoming. The effective and efficient delivery of healthcare requires not only knowledge and technical skills but also analytical and communication skills, interdisciplinary care, counseling, evidence- and system-based care. This warrants our assessment systems to be comprehensive, sound and robust enough to assess the requisite attributes along with testing for essential knowledge and skills.[43]

16. Assessment Methods

Assessment is entering every phase of professional development. Assessment and evaluation are crucial steps in educational process. Before making a choice of assessment method, some important questions must be asked: what should be assessed?, why assess? For an assessment instrument one must also ask: is it valid? is it reliable? is it feasible? What is assessed and which methods are used will play a significant part in what is learnt. A wide range of assessment methods currently available include essay questions, patient management problems, modified essay questions (MEQs) checklists, OSCE, student projects, Constructed Response Questions (CRQs), MCQs, Critical reading papers, rating scales, extended matching items, tutor reports, portfolios, short case assessment and long case assessment, log book, trainer's report, audit, simulated patient surgeries, video assessment, simulators, self assessment, peer assessment and standardized patients.[43]

Assessment has a powerful positive steering effect on learning and the curriculum. It conveys what we value as important and acts as the most cogent motivator of student learning. Assessment is purpose driven. In planning and designing assessments, it is essential to recognize the stakes involved in it. The higher the stake, the greater the implications of the outcome of the assessment. The more sophisticated the assessment strategies, the more appropriate they become for feedback and learning. The assessment is an integral component of overall educational activities. Assessment should be designed prospectively along with learning outcomes. It should be purpose driven. Assessment methods must provide valid and usable data. Methods must yield reliable and generalisable data.[43]

Multiple assessment methods are necessary to capture all or most aspects of clinical competency and any single method is not sufficient to do the job. For knowledge, concepts, application of knowledge ('Knows' and 'Knows How' of Miller's conceptual pyramid for clinical competence) context-based MCQ, extended matching item and short answer questions are appropriate. For 'Shows How" multi-station OSCE is feasible. For performance-based assessment ('does') mini-CEX, DOPS is appropriate. Alternatively clinical work sampling and portfolio or log book may be used.[43]

Standard setting involves judgment, reaching consensus, and expressing that consensus as a single score on a test. *Norm Referenced Scores* are suitable for admission exercise that requires selection of a predetermined number of candidates. *Criterion Referenced Standard* (based on predefined test goals and standards in performance during an examination where a certain level of knowledge or skill has been determined as required for passing) is feasible for competency-based examination. Various approaches available include test-centred approach (Agnoff's method and its variations), examinee-centred approach (borderline group method), and several other innovations. *Blueprinting r*efers to a process emphasizing that test content should be carefully planned against learning objectives.[43]

The purpose of assessment should direct the choice of instruments. Needs assessment is the starting point of good assessment that identifies the current status of the students before the commencement of the actual educational activities. Needs assessment is used to determine the existing knowledge base, future needs, and priority areas that should be addressed. Student assessment is a comprehensive decision making process with many

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important implications beyond the measure of students' success. Good quality assessment not only satisfies the needs of accreditation but also contributes to student's learning. Assessment methods should match the competencies being learnt and the teaching formats being used.

17. Curriculum Development

Internationalizing the curriculum in higher education requires new philosophical and ideological orientations that view traditional ways of thinking and being as outmoded. The curricula, policies, programs and practices of universities reflect the dominant society and are established to achieve the goals of that particular society. Even if those goals are not clearly articulated, they are reflected in the 'hidden curriculum.' A more progressive school of thought would entail breaking away from the traditional curriculum approach and promoting a more deliberate integration of international issues and perspectives into the teaching and learning process. An internationalized curriculum would mean exploring broad national and international perspectives of subject matter with opportunities to examine multiple realities to help students develop intercultural competence about people and situations outside of their own identities. The curriculum would view education as transformative, with the prospect of students having an understanding and appreciation of the interdependence of how countries of the world exist. One of the major roles of institutions of higher learning is to prepare students for global citizenry so that they can gain an understanding and appreciation of the interdependence of peoples across social, political and cultural boundaries.

Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long-term future. This represents a new vision of education, a vision that helps people of all ages better understand the world in which they live, addressing the complexity and interconnectedness of problems. The vision of education emphasizes a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behaviour, and lifestyles.[30,31,32,33]

Curriculum has to be a dynamic process. To keep pace with the needs of society and students and with knowledge explosion and advances in technology higher education programs need to be frequently reviewed and developed. The Curriculum deals with all scheduled activities undertaken in the academic institution. Where any of these aspects is deficient, the curriculum becomes inadequate and as such needs constant revision and continuous improvement. Changes in society tend to immediately require corresponding changes in the curriculum of higher education institutions presumably because it is the end of formal education and the last opportunity for entry into the world of work. Besides, higher education has the capacity to constantly investigate itself in order to make adjustment to improve both its internal and external efficiency. Moreover, new developments in various fields and new thinking and visions may necessitate changes in the curriculum in higher education.

Domains of Learning

A commonly used model or design of curriculum development is based on the taxonomy of educational objectives by Benjamin Boom and a group of colleagues from the University of Chicago. Bloom's taxonomy presents a system for classifying educational objectives into three broad categories called domains (cognitive, affective and psychomotor). These domains are in turn further classified into sub-categories. The cognitive domain is concerned with behaviours related to thinking or manipulating while the affective domain is concerned with attitudes and values and the psychomotor domain with learned muscular responses. The cognitive domain is most developed and it is divided into six sub-categories.

Core Concepts and Values

The Excellence in Higher Education framework and process should focus on elements essential to establishing and maintaining an outstanding institution, department, or program. The framework is built around the following core concepts and values:

- A clear sense of purpose (mission) and future aspirations (vision) broadly shared, understood, and valued
- Effective leadership and governance processes at all levels, including mechanisms for feedback and review
- Strategic planning, plans, priorities, and goals to translate purposes and aspirations into specific programs, services, and activities and to ensure that operations and resources are effectively and efficiently used in support of such directions
- High-quality programs and services, consistent with the established mission and aspirations, carefully designed, regularly evaluated, and continuously improved
- Strong and mutually valued relationships with constituencies, particularly with those individuals and groups who benefit most directly from the programs and services offered by the institution or department
- Information about the needs, expectations, and experiences of key constituencies, gathered and used as inputs to program and service development, review, and improvement and to guide day-to-day decision making and resource allocation
- Qualified and dedicated faculty and staff and a satisfying work environment, with ongoing review and improvement as priorities
- Systematic review processes and the assessment of outcomes to determine how successfully the institution, department, or program is fulfilling its mission, aspirations, and goals; to document current strengths; and to identify improvement priorities
- Comparisons with peers and leaders to encourage innovation and improvement and to provide a context for clarifying strengths and areas in need of improvement

Whatever the nature of the system, institution, division, department, or program, the foregoing concepts are equally appropriate as criteria for assessment, planning, and improvement, and equally useful as guides for leaders of academic institutions.

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18. Establishing the Context

a) ***Leadership*** is concerned with governance systems used to guide the institution, department, or program. It looks at how leaders and leadership practices encourage excellence, effectiveness, engagement, innovation, and attention to the needs of individuals, groups, and/or organizations that benefit from programs and services and how leadership practices are reviewed and improved upon.
b) ***Purposes and Plans*** focuses on organizational directions, aspirations, and plans. It begins by looking at how the institution, department, or program reviews, refines, and/or reaffirms its mission, vision, and broad organizational goals; it then considers how such organizational directions are translated into priorities and action steps and then implemented. The category also looks at how faculty and staff are engaged in these activities.
c) ***Beneficiaries and Constituencies*** focuses on the groups that benefit from—or otherwise influence or are influenced by—the programs and services offered by the institution, department, or program being reviewed. The category asks how the organization learns about the needs, perceptions, and priorities of those groups, and how that information
d) ***Programs and Services*** focuses on the mission-critical programs and services the institution, department, or program offers, and on how quality and effectiveness are ensured. Consideration is also given to important operational and support services.
e) ***Faculty and Workplace*** considers how the institution, department, or program being reviewed recruits and retains faculty and staff, encourages excellence and engagement, creates and maintains a positive workplace culture and climate, and promotes and facilitates personal and professional development.
f) ***Assessment and Information Use*** focuses on the approach used by the institution, department, or program to review and monitor progress relative to its purposes and plans, leadership effectiveness, relations with beneficiaries and constituencies, programs and services quality, faculty/staff relations and workplace climate, and assessment processes. This category also considers how the organization maintains its internal assessment and peer review system and how it uses both for continuous improvement.
g) ***Outcomes and Achievements*** asks for information and evidence to document or demonstrate the quality and effectiveness of the institution, department, or program, trends over time, and the unit's standing in comparison with peers and leaders in the field.

Institutional Context
The institution's mission should clearly define its purpose within the context of higher education and explains whom the academic institution serves and what it intends to accomplish. The institution's stated goals and objectives, consistent with the aspirations and expectations of higher education clearly specify how the institution will fulfill its mission. The mission, goals, and objectives are developed and recognized by the institution with its members and its governing body and are utilized to develop and shape its programs and practices and to evaluate its effectiveness. An academic institution should conduct ongoing planning and resource allocation based on its mission and uses the results of its assessment activities for institutional renewal. Implementation and subsequent evaluation of the success of the strategic plan and resource allocation support the development and change necessary to improve and to maintain institutional quality.

Institutional Resources
The human, financial, technical, physical facilities and other resources necessary to achieve an institution's mission and goals should be available and accessible. In the context of the institution's mission, the effective and efficient uses of the institution's resources are analyzed as part of ongoing outcomes assessment.

Leadership and Governance
The institution's system of governance should clearly define the roles of institutional constituencies in policy development and decision-making. The governance structure includes an active governing body with sufficient autonomy to assure institutional integrity and to fulfill its responsibilities of policy and resource development, consistent with the mission of the institution. The institution's administrative structure and services should facilitate learning and research/ scholarship, foster quality improvement, and support the institution's organization and governance. In the conduct of its programs and activities involving the public and the constituencies it serves, the institution should demonstrate adherence to ethical standards and its own stated policies, providing support to academic and intellectual freedom.

Educational Effectiveness
The institutions should seek to admit students whose interests, goals, and abilities are congruent with its mission. The institution should provide student support services reasonably necessary to enable each student to achieve the institution's goals for students. The institution's instructional, research, and service programs should be devised, developed, monitored, and supported by qualified professionals.

Educational Offerings
The institution's educational offerings should display academic content, rigor, and coherence that are appropriate to its higher education mission. The institutions will identify student learning goals and objectives, including knowledge and skills, for its educational offerings. The institution's curricula have to be designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, technological competency, and information literacy. Institutional programs or activities that are characterized by particular content, focus, location, mode of delivery, or sponsorship should meet appropriate standards.

Academic Autonomy and Academic Responsibility
Academic freedom is the freedom to conduct research, teach, speak, and publish, subject to the norms and standards of scholarly inquiry, without interference or penalty,

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wherever the search for truth and understanding may lead. Societies need to respect the autonomy of universities, of the scholars who research and teach in them, and of the students who come to them to prepare for lives as knowledgeable citizens and capable leaders. The autonomy of universities is the guarantor of academic freedom in the performance of scholars' professional duties. Only in an atmosphere where the pursuit of truth is untainted by external influence--political pressure, partisan politics, moral values, corporate interests, and so on--can the truth be discovered. If scholarly independence is compromised by, say, corporate funding of a particular experiment predicated on producing a particular finding, then the integrity of the scholarly findings will be called into question in the short term and, in the long term, will likely be discredited. Finding truth depends on the independence of scholars and universities. Truth or discovery tainted by external interests produces neither genuine truth nor genuine discovery. Public funding in support of the university should be viewpoint neutral and disinterested in the scholarly findings that emerge from the research and teaching. Just as institutional autonomy has practical value, so too does academic freedom. By facilitating critical thinking and open discourse, academic freedom provides the foundation for the continued intellectual and social value of the university as a place of unfettered debate and the free exchange of ideas. It thereby enables universities to produce citizens equipped to thrive in and sustain free and open societies. Academic freedom is a precondition for democracy, besides serving as a necessary condition for expounding new ideas, new theories, and new discoveries, many of which produce additional means for people to fully realize their own humanity. Academic freedom requires the institutional autonomy of universities. This autonomy includes the right of the university to determine for itself, on academic grounds, who may teach, what may be taught, how it shall be taught, and who may be admitted to study. Academic freedom principles give faculty the right to research and publish the results, to discuss their subjects in the classroom, and to speak out as citizens. Educators must claim that civilization in the future depends on giving the intellectuals of today unfettered access to information, the right to think critically and to experiment, the right to convey our ideas to future generations of intellectual doers.[44]

Achieving Excellence in Academic Institutions

The endeavor of those heading academic institutions would be to make the institution as an intellectual destination and a transformative education hub through ideas that challenge and change the world. Another priority should be focus on Groundbreaking Research: an interdisciplinary approach to research - generating new knowledge for the benefit of present and future generations - to achieve the highest levels of distinction in the discovery and transmission of knowledge and understanding - exploring the Universe: the researchers and their discoveries should invigorate the economy, advance industry, and influence the international scientific agenda to expand the reach of science. Academic administrators should be committed to enrich society: to create knowledge based society- the pursuit of education, learning, and research at the highest international levels of excellence.

Academic institutions have to be committed towards generating, disseminating, and preserving knowledge, and to working with others to bring this knowledge to bear on the world's great challenges. Academic institutions have to be dedicated to providing its students with an education that combines rigorous academic study and the excitement of discovery with the support and intellectual stimulation of a diverse campus community. Institutions need to develop in each member of the academic community the ability and passion to work wisely, creatively, and effectively for the betterment of humankind.

Higher academic institutions should work towards CQI to be rated among the top institutions in the world for the quality and breadth of research enterprise, for the scholarly distinction of its faculty, for the excellence of its educational programs, and for the amount of funding received in support of its research programs. Higher educational institutions should establish a world-class research and teaching facilities, where extraordinary faculty and students seek answers to complex questions, discover new knowledge, lead innovation, and transform our future.

What will distinguish top from other education and research institutions in the world—is that they will seek answers to “impossible” questions, discover new knowledge, and lead the way into the future. They will do this by recruiting top-caliber scientists and scholars—intellectual pioneers who are also risk takers, problem solvers, and some of the world’s greatest humanitarians. The mission should be to expand human knowledge and benefit society through research integrated with education. Research has to be directed to investigate the most challenging, fundamental problems in science and technology in a singularly collegial, interdisciplinary atmosphere, while educating outstanding students to become creative members of society.

The responsibility of top management/leadership in academic institutions should focus on (but not limited to) following principal purposes:

- To provide education which offers high quality transformative experiences to everyone suitably qualified, whatever their stage of life and irrespective of their origins.
- To engage in research and creative practice which are of high quality and aim to make an early and important difference to the world around us.
- Develop the academic institution as Centre of Excellence for Research, Value Innovation and Entrepreneurship as one of the Organization's/University's core drivers
- To contribute, through education and research, to the building of just, prosperous and sustainable communities which are respectful of their Indigenous past and committed to redressing disadvantage. We will set the standard for superior student service by empowering our team members to ensure student satisfaction. The students would experience the highest quality training in a comfortable environment, while receiving exceptional value for money. Institution will maintain an uncompromising position of integrity in our course curriculum, students and employee affairs.
- Strive to create knowledge, to open the minds of students to that knowledge, and to enable students to take best

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advantage of their educational opportunities. To these ends, to encourages students to respect ideas and their free expression, and to rejoice in discovery and in critical thought; to pursue excellence in a spirit of productive cooperation; and to assume responsibility for the consequences of personal actions. To help students explore their capabilities and interests and to develop their full intellectual and human potential. Education at Colleges/University should liberate students to explore, to create, to challenge, and to lead.

- To establish the organization's reputation as knowledge creator through internal capabilities, smart partnerships, enterprise value innovation and knowledge dissemination through the implementation of the triple helix model (government, industry and academic institution).

19. Technology and Education: Recent Advances and Future Trends

The real value is in providing targets against which others may compare their thoughts and to stimulate efforts to either facilitate or inhibit possible futures implied by the predictions. As technology plays a larger role in education, any predictions concerning the future of education must include an analysis of technological trends. The world is changing -- it is getting both smaller and bigger at the same time. Our world shrinks as technologies now allow us to communicate both synchronously and asynchronously with peers around the world. Conversely, the explosion of information now available to us expands our view of the world. As a result of the ability to communicate globally and the information explosion, education must change. The challenge is to prepare the students for a world that has yet to be created, for jobs yet to be invented, and for technologies yet undreamed. The changing role of teacher s facilitator will provide contextual learning environments that engage students in collaborative activities that will require communications and access to information that only technology can provide. The trends in technology are creating a future that is arriving faster than education is preparing for it. Spending on ICT is a critically important element of the worldwide economy.

Education is increasingly becoming a lifelong activity. To prepare students to be lifelong learners requires a new approach to teaching, one in which students are taught how to learn on their own. The overall dependence on the traditional instructional model dominates the majority of today's educational system. More collaborative models of distance education could be employed. Students need to master the ability to gather the appropriate facts and then creatively leverage those facts towards the learning objective. Teachers should create situations where the students are required to locate the facts and information specifically related to the context of the question at hand, and then to utilize that information effectively.

Many educational systems are slow to adopting innovations. Academic are slow to recognize the need to develop a curriculum that will prepare the workforce for the demands they will face in the new millennium. Students need to be skilled in accessing the vast array of information available through advanced technology and be able to process the information. Students must know how to use computers and be familiar with various types of technology. Universities must incorporate "marketplace" technologies and ensure that new and emerging technologies are incorporated into the program.

Educational institutions will become round-the-clock facilities in near future. The academic day will stretch to seven hours for students; adults will work a 32-hour week and prepare for their next job in the remaining hours. New technologies will greatly enhance these educational opportunities with job simulation stations, telecommunications course-work (distance education), 3-D graphics, and artificial intelligence making the largest contributions. The driving force behind educational reform will come from the new information economy's call for technologically fluent workers. Governments will place more emphasis on the outcomes of public education. Improved pedagogy will revolutionize learning; learning environments will become less important as individuals will learn more on their own. Computer-supported approaches to learning will allow for more content specific material to be learned.[45]

Societal pressures will force the educational establishment to better prepare graduates for the workplace. Increased access to electronically delivered instruction will provide new channels of instruction developed independently of traditional educational systems. Artificial intelligence will have an increased role in education; as technology becomes easier to use, more educators will become adopters. Technology-capable students will demand the adoption of technology; independent learning skills (lifelong learning) will need to be supported. People conforming to technology will shift to technology fitting the diversity of the people using it.

We have moved into the information age. As much as 97% of the world's knowledge will be accumulated over one person's lifetime.[46] Against statistics like this, teaching students a host of facts "just in case" they need them later on in life is a fruitless effort. The ability to find and use facts as they are needed becomes the skill that will enable students to become lifelong learners. We can look for interactive video technologies to allow parents to play a more active role in their children's education (e.g. watching a class presentation via online video). Educational institutions that actively pursue such avenues will be in great demand. Educational institution's days will grow to seven hours in length to provide more instruction and to meet the needs of dual income families. A greater dependency upon private education will result. Academic institutions will compete to hire teachers, raising teacher salaries. Technology fusion and a changing world economy will place new demands upon education. The teacher's role will shift from that of the transmitter of facts, to a facilitator, coaching students in how to find and use facts specific to a particular context. It is important that educators have a sense of where the world is headed. Only then will they be able to adequately prepare current and future students to thrive in this ever-changing world.

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20. Looking Ahead

Higher academic institutions should work towards CQI to be rated among the top institutions in the world for the quality and breadth of research enterprise, for the scholarly distinction of its faculty, for the excellence of its educational programs, and for the amount of funding received in support of its research programs. Institutions should establish a world-class research and teaching facilities, where extraordinary faculty and students seek answers to complex questions, discover new knowledge, lead innovation, and transform our future. Higher academic institutions must become more innovative leading to quality institutions of knowledge production and dissemination. The system of academic institutions is found efficacious in making available to the society a dedicated, committed, devoted and professionally sound team of human resources to decide the future of any nation. The principles of quality management have to be inculcated in the system of higher education. Academic institutions can develop compassionate and actively engaged citizens equipped for the technology-driven, globalized world. They will be well-rounded individuals who have not only strong basic skills but also the critical thinking skills, imagination and resilience to excel in and create the new jobs of tomorrow. At the core of Achieving Excellence should be a commitment to collaborative, continuous learning among educators, leaders and government. Combined with broad partnerships with families, communities and businesses, all working together, universities can create a system that is even more accessible, integrated and responsive – one that will give students the knowledge and skills they need to succeed and the confidence to embrace the challenges of the future. Exceptional Governance of higher academic institutions is absolutely essential. Let Universities prepare students for life and work changing at warp speed.

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