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# Enhancing the Quality and Effectiveness of Education: An Innovative Approach towards Curtailing the Skills Gap

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### Abstract

*Today in this fast changing world, changes in the economic and social fundamentals call for transformation in the skills, capabilities and attitudes. This requires a shift in the delivery and pedagogy used in the current education system. The Quality Code sets out expectations which education providers are required to meet to ensure that appropriate and effective teaching, support, assessment and learning resources are provided to students; that the learning opportunities provided are monitored; and that the provider considers how to improve them. Lack of this leads certified degree holders with a dry brain & we find a skill gap between the education imparted and capabilities expected when a student goes to corporate. And, this is due in part to a lack of understanding, by both students and faculty, of the attributes of effective teaching & training. This paper presents various tools and techniques by which one can identify and explore some of the attributes of successful pedagogical itinerary & methods of imparting them through which a contribution to quality education can be made.*

*“That is what education does today; brands students with test scores, gives them a label, and places them on a slow train to nowhere, until they decide to jump off the train”.*

### Introduction

The word innovation, according to the Oxford Dictionary, means the introduction of novelties, the alteration of what is established, a novel practice and a change in established methods. Generally, in the field of education to innovate is to create something new which markedly deviates from traditional practices which have been followed since a long time to impart education at different levels. (Chauhan 1979: v). Innovation is necessary in education because we are now in the middle of a big change of a new era. The changes involve all of the life aspects towards a new era which called globalization era. We have to prepare ourselves to face it to be able to compete with the other countries and not left behind. Preparing human resources through the mending of our educational system is one of the solutions to face the globalization.

### Key Words

*Innovation in Education,  
Learning Journey, Quality  
Assurance, Skill Gaps*

Thus, excellence has become a cornerstone of academia, but the quest for quality has acquired a new urgency in recent years. Academic institutions are operating with increasing autonomy. Many governments provide their higher education institutions with lump-sum funding, while in return demanding increased accountability. At the same time there has been a growth in the number of private higher education institutions and a consequent need to establish the quality of their education and qualifications. With the introduction of ‘real’ tuition fees in many countries, students and their families increasingly tend to view education as a consumer product. They have become more selective. They expect high quality and proof of it. Mass access and competitive

remuneration from industry have put pressure on the quality of teaching: at the same time as high-quality teachers are needed with right skill, capabilities and expertise.

Today, India, like any other knowledge economy, depends on the development of its educational sector. Higher education drives the competitiveness and employment generation in India. However, research findings have shown that the overall state of higher education is dismal in the country. There is a severe constraint on the availability of skilled labour. There exist socio-economic, cultural, time and geographical barriers for people who wish to pursue higher education in a better way.

**Quality & Innovation in Education: Globalization and 21<sup>st</sup> Century Challenges**

In the present day, only the qualitative methods of imparting education & training can potentially help develop the standard of students & can contribute towards the growth of the country.

In 21<sup>st</sup> century we face the new era called globalization. Globalization refers to the trend toward countries joining together economically, through education, society and politics, and viewing themselves not only through their national identity but also as part of the world as a whole. Globalization is said to bring people of all nations closer together, especially through a common medium like the economy or the Internet. Globalization is expected to generate intensified competition among nations, particularly in the fields of economics, science and technology. In addition, the massive and extensive globalization process affects the changes of economic, political and social conditions. The structural shift of the economy generates new trends and challenges which in turn affect the education system. Therefore, there are needs to adapt education to the industrial needs of the community, as well as improve science and technology to reach competitive excellence.

However, innovation in education appears to have multiple meanings. Sometimes, it refers to the need for education to develop innovative people. Sometimes, it refers to new products, processes and business concepts within education itself.

The issues of innovation in education involve complex and multi-faceted challenges such as education policies, curriculum reforms, new diversity-oriented learning technologies and methods. Moreover, the challenges faced may differ from institution to institution in each country, and from country to country.

Education is the crucible in which Innovations are forged. Promoting creativity and incentivizing innovations through our educational institutions is a first step towards broadening and deepening the impact of innovations in our society and economy. In large scale education systems such as ours, catering to a vast population with relatively limited resources, this is a major challenge. At the same time, with rapid advances in new technologies, changing needs of the economy, and the very presence of the challenges identified above, the sector itself presents a fertile ground for pioneering innovations. Some of the academic innovation and improvements that can be best utilized are discussed below.

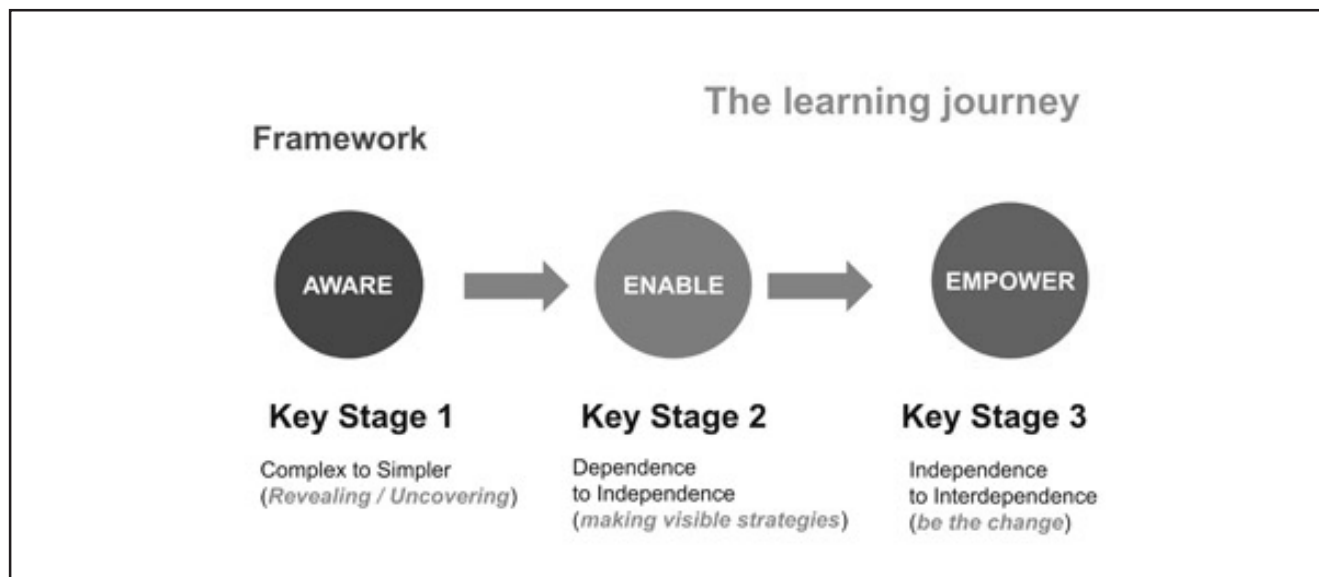
**Paying Close Attention to Each Student’s Needs**

Educators are not looking at their class as a collective whole; rather they should see them as different individuals with different needs. The facilitators need to give personalized attention. Apart from this proper need assessment has to be done and curriculum is to be designed accordingly. The feedback of the students is to be given value in academia as it would help academicians in designing effective pedagogical itinerary.

**The Learning Journey**

To make our education system qualitative, one has to understand the leaning journey that can help connect the learning and teaching process well.

**Key Stage 1 – Aware (Making the Complex World Simpler)**



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### **Key Stage -1 caters to our youngest learners.**

They enter the learning journey at a time when their brain is at its most competent and absorbent state. They are wired to learn.

### **Key Stage 2 – Enable (Making Learning Visible – Strategies for Success)**

In Key Stage 2, the learning journey becomes very elastic. The students are armed with sufficient competencies and self management and begin to interact with the world with greater complexity. It is elastic in the sense that they are able to move between experiences, to make connections and draw conclusions.

### **Key Stage 3 – Empower (Being the Change)**

The Key Stage 3 team is a mature learner with fairly advanced competencies and communicative abilities. The learner has sensitivity and sensibility. Most importantly, the learner is meta cognitive (aware of the learning process) and thus, empowered to “solve problems and fashion products” that are aligned with his competencies that are used to effect change for self and the environment

### **Innovation in Curriculum**

The curriculum is defined as a set of plans and arrangements of content, learning materials and methods used as guidelines for the teaching-learning activities. It is designed to achieve the goal of education taking into account the stages of students’ development as well as the local environments, in accordance with the type and level of each educational institution. The curriculum should aim the students not as passive recipients of static content but as critical and creative thinkers and producers of knowledge.

The curriculum should be:

**Humanistic curriculum** which provides a way of life centered upon human interests and value. The aim of humanistic education is to change a person into a free individual and a good citizen.

**Social reconstruction curriculum** involves active participation through doing. However this is not mindless drill, skill development, or even the completion of personally chosen project, because the progressive clearly intended a social purpose to all activity.

**Technology curriculum** involves knowing and doing. Learning and teaching approaches should address both of these areas. Technology is derived from a variety of knowledge bases, values, processes, and skills. These are used both to create and to evaluate designs, products, systems, and

environments critically. There should be flexible, open, collaborative approaches to classroom teaching which accommodate all students’ perspectives, interests, aspirations, and learning styles. Instead of students going to class, learning is coming to the student in the workplace or at home. Today, **Just-in-time, just-in-place** learning resources are increasingly available to learners in their normal living settings.

### **Entrepreneurship Education**

It seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings. Variations of entrepreneurship education are to be offered at all levels of schooling from primary or secondary schools through graduate university programs. Entrepreneurship can provide new economic divisions and make good students for the world.

### **Education Needs to React to Market Forces**

Education has placed too much focus on preparing students for employment. Europe has moved towards a knowledge society where added value is a key element. This implies that educators should be trained to adopt new pedagogies which allow for the fostering of creative skills, increased interactivity and a learner centered pedagogy.

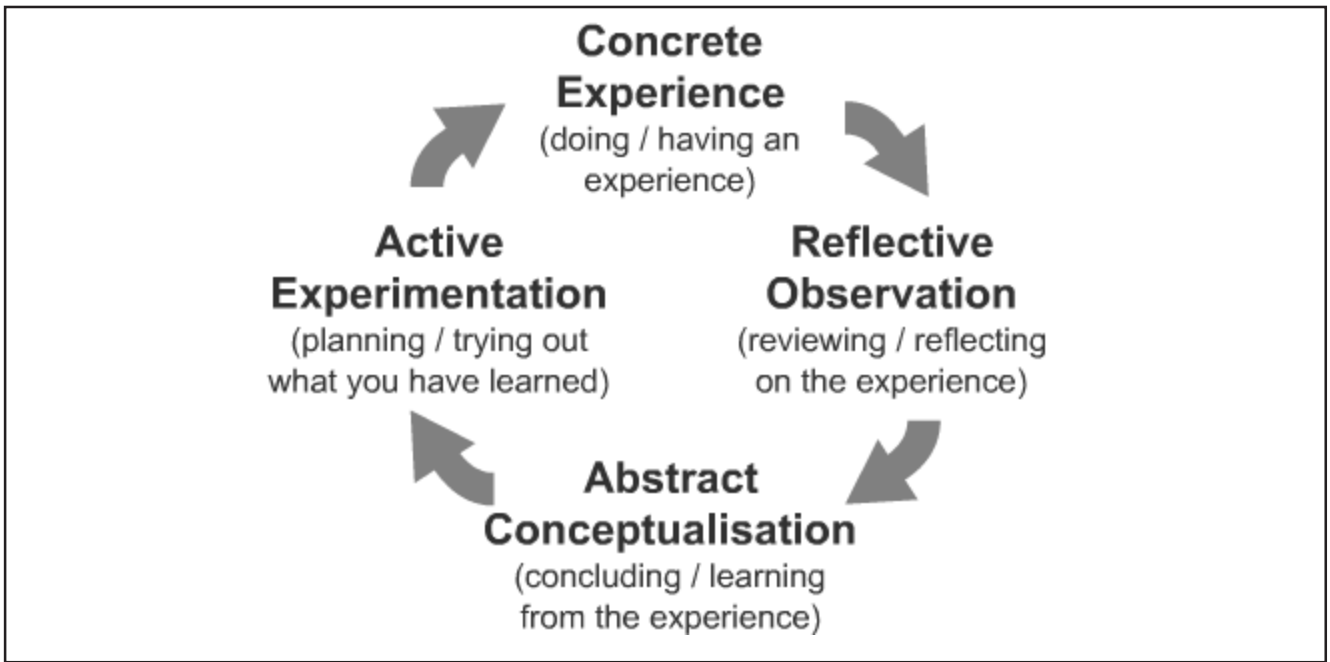
### **Developing Employability Skills**

Although we have been talking about skills as a part of the collection of qualities that combine to make you an individual, this does not mean that these skills are as fixed as your height, or as difficult to change as the shape of your nose. **Personal skills can be acquired, developed and improved.**

Thus, education today must aim at imparting the critical skill sets required to gain employability. The different people skills needed to obtain professional and personal excellence should be at the core of academic activities.

### **Kolb’s Experiential Learning: Developing Reflective Practice**

Reflective practice is important to the development of teachers as professionals as it enables to learn from experiences of teaching and facilitating student learning. Developing reflective practice means developing ways of reviewing our own teaching so that it becomes a routine and a process by which we might continuously develop. Kolb developed a theory of experiential learning that can give us a useful model by which to develop our practice. The cycle comprises four different stages of learning from experience and can be entered at any point but all stages must be followed in sequence for successful learning to take place.



**A New Model of Life Long Learning**

Life-long learning will enable human resources to adapt to new contexts on a personal, social and professional level. This is especially acute in the area of new digital technology where change is constant. E-learning is an essential element in the context of life-long learning. Emphasis should be increasingly placed on the transfer of skills and knowledge gained and on the ability to adapt to new contexts and situations even after once academic career is completed.

**Learner- And User-Centered Philosophies**

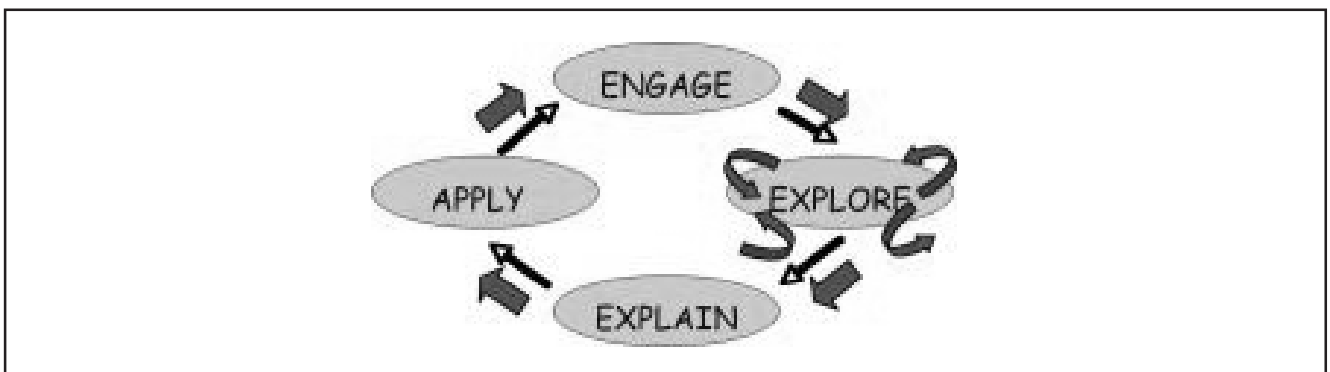
Today institutions are moving towards efficiency and control, the mood among many educators is definitely learner-centered. The constructivist movement in education stresses individual and collaborative construction of meaning. While many teachers wish they could teach in more learner-centered ways, the system can make it difficult. Teachers and trainers thus face a certain tension between efficiency and control on the one hand, and learner-centered flexibility on the other. Both instructors and students are thus seen as end users of learning resources. Thus, our educational system is to focus at learner centric philosophy.

**Internationalization of the Education Process**

In recent years, economies worldwide have moved toward greater linkages and interdependencies. As one of the strategies for building up of reputation, Internationalization will get more importance. It may consist of international collaborations for the faculty members and also the students, joint research tasks or offshore campuses. Since many European universities are anticipated to show their interest in India, so the collaborations will not only be restricted to American institutes and Universities only. It would pave path for getting global education.

**Participative Learning Process**

Learning and teaching cycle has to be a continuous process today which can give concrete results. The map below (CHE, April 9, 2004 "What Makes Great Teachers Great?") called as the "Natural Critical Learning Environment" talks about the participative learning process where students are to be actively involved and engaged in the learning cycle. "Natural" because what matters most is for students to tackle questions and tasks that they naturally find of interest, make decisions, defend their choices, etc. "Critical" because by thinking critically, students learn to reason from evidence and to examine the quality of their reasoning, to make improvements while thinking, and to ask probing and insightful questions.



**Natural Critical Learning Environment**

## Edutainment

Educational entertainment is any entertainment content that is designed to educate as well as to amuse. Content with a high degree of both educational and entertainment

value is known as edutainment. There also exists content that is primarily educational but has incidental entertainment value. Finally, there is content that is mostly entertaining but can be seen to have some educational value.

## Action Learning



Action Learning is a dynamic process where a team of peers meets regularly to help student members address real issues through a highly structured, facilitated process of reflection and action. Peer accountability and visibility of plan execution are powerful motivators that get results for the student team members and a meaningful experiential learning for all. This process can also be done virtually so members can participate from different geographical locations.

### The Growth in Vocational Training: Alternative to Reduce Unemployment

Our labour markets have become extremely competitive, and flexible, leading to a need to continuously re-train, and develop new skills. The traditional and on-line vocational educational industry has become the main provider of education- since leaving college has only become one step in the continuous personal development we need in the 21st Century. Hence, institutions need to foster continuing education that can lead to employment.

### Facilitation of Universities Outgrowing Traditional Universities

In the United States over 60% of new students study online, instead of in a traditional university. Internationally, private and on-line institutions/ Universities have boomed, because of the flexibility of the degree programs they offer, and the savings compared to studying in a traditional university which our Indian universities and academic institutions need to focus.

### Encouraging Self- Education

**Our knowledge society has led to a “self- educated” generation, who could discover and train themselves, or even create off-line and on-line skill sharing groups. This phenomenal growth in self education is bridging the gap between a cost cutting state run educational sector, and a new generation who need more specialized skills to thrive in today’s societies.**

**As the internet grows more affordable, and continues a recentness expansion into the developing World. Education should become more global, and based on the need for millions of people to re-train, learn new skills and find an affordable College education.**

### Students Teaching Programmes

Students perform better when they have the opportunity to tell their teachers what things in the classroom needs improvement. Contrary to the old belief that students are too young to know what they need, education systems now give the students the opportunity to give pointers to their teachers on how they can better deliver their lessons so that the students can understand.

It was also found that giving the students the chance in contributing and even revising the classroom rules actually make the students abide to them; it gives them the feeling that they actually have a say on what goes in the classroom. Students tend to follow the class rules now since they had a role in making the rules and regulations.

### Stress on Quality above Quantity

Quality of the education system in **India** has been lagging for quite some times now in comparison to the quantity. In the coming time few changes are expected

regarding the matters of transparency and norms. The educational institutes in India would need to fulfill certain basic norms. The institutions are expected to participate more into information sharing and of course accountability. The upcoming educational institutes are expected to be trend setters in adopting several standards related to the quality of education.

### Collaborative Learning - Educators Unite

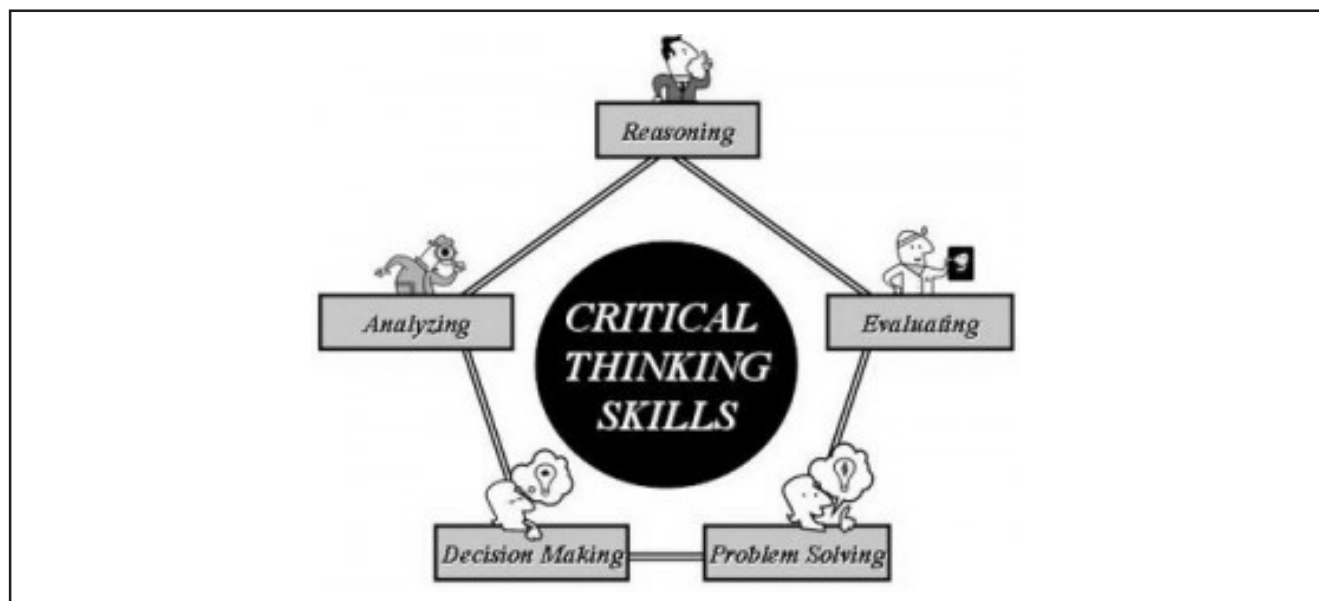
Today, teachers are putting their collective smarts together to find the best ways of engaging students, using social media to teach everything from reading and writing. Educators are also using social media to connect with each other, share ideas, and find the best teaching tools and practices. Sites like **Classroom 2.0, Teacher Tube, PBS Teachers, Edmodo, Edutopia**, and countless others are lit up with teachers sharing success stories, asking for advice, and providing support. Collaboration is happening offline, too, at schools where educators team-teach and organize professional learning networks.

Collaboration is also finding its way into curriculum with **open-source sites** to which everyone is encouraged to contribute. Working together is woven into the fabric of project-based institutions like the Science Leadership in Academy, which focuses on science, technology, math and entrepreneurship. The idea is simple: by working together, students figure out how to find common ground, balance each others' skills, communicate clearly, and be accountable to the team for their part of the project.

### Tech-Powered Education

Pens and pencils are far from obsolete, but forward-thinking educators are finding other interactive tools to grab their students' attention. Institutional programs are built around teaching how to create video games. **Teachers are using Guitar Hero, geo-caching (high-tech scavenger hunt), Google maps for teaching literature, Voice Thread to communicate, ePals and LiveMocha to learn global languages with native speakers, Voki to create avatars of characters in stories, and Skype to communicate with peers from all over the world.**

### Education Aiming at Critical Thinking



It is a type of reasonable, reflective thinking that is aimed at deciding what to believe or what to do. It is a way of deciding whether a claim is always true, sometimes true, partly true, or false. Critical thinking can be traced in Western thought to the Socratic method of Ancient Greece and in the East, to the Buddhist kalama sutta and Abhidharma.

Critical thinking is primarily concerned with judging the true value of statements and seeking errors. Edward de Bono defines four types of thinking tools:

### Developing Lateral Thinking

It is solving problems through an indirect and creative approach, using reasoning that is not immediately obvious and involving ideas that may not be obtainable by using only traditional step-by-step logic. The term was coined in 1967 by Edward de Bono. A person uses

lateral thinking to move from one known idea to creating new ideas.

As taught by de Bono, lateral thinking deliberately distances itself from standard perceptions of creativity as either "vertical" logic (the classic method for problem solving: working out the solution step-by-step from the given data) or "horizontal" imagination (having a thousand ideas but being unconcerned with the detailed implementation of them).

### Use Active Learning in Class

Most students cannot stay focused throughout a lecture. After about 10 minutes their attention begins to drift, first for brief moments and then for longer intervals, and by the end of the lecture they are taking in very little and retaining less. A classroom research study showed that immediately after a lecture, students recalled 70% of

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the information presented in the first ten minutes and only 20% of that from the last ten minutes (McKeachie 1999).

Students' attention can be maintained throughout a class session by periodically giving them something to do. Active learning exercises may address a variety of objectives. Some examples follow.

- ♦ *Recalling prior material.* The students may be given one minute to list as many points as they can recall about the previous lecture or about a specific topic covered in an assigned reading.
- ♦ *Analytical, critical, and creative thinking.* The students may be asked to list assumptions, problems, errors, or ethical dilemmas in a case study or design; explain a technical concept in jargon-free terms; find the logical flaw in an argument; predict the outcome of an experiment or strategies and justify a choice made. The more practice and feedback the students get in the types of thinking the instructor wants them to master, the more likely they are to develop the requisite skills.

### Assessment and Evaluation of Teaching Quality

**To be frank our current education system including expectations of the parents and teachers is oriented toward passing examinations at any costs regardless of whether students have mastered the content or not.** Examinations are not set to evaluate knowledge, skills and creativity which have been mastered by a student.

Teachers spend most of their time in spoon feeding students and providing exercises and examinations that are geared toward preparing them for passing final exams without ensuring them that they have built skills related to innovation and creativity. The teacher must learn to reach out to all students while at the same time not keeping the level of education appropriate. In order for a good mix to be created the teacher must be able to use various media to help the higher end learner remain engaged in the lesson and promote creativity. To do this requires getting to know each student. Teachers need to design lessons so that students have to actively respond by getting up, move around, go to the board and move in their seats.

Most institutions use only end-of-course student surveys to evaluate teaching quality. While student opinions are important and should be including in any assessment plan, meaningful evaluation of teaching must rely primarily on assessment of learning outcomes.

### Quality Assurance in Education

Across the world, quality assurance has become an increasingly dominant theme in education in the past ten years, and international processes play an important role in the way quality assurance is interpreted and implemented. Institutions like, Central and Eastern Europe network of quality assurance agencies (CEE)

has been established and there is an International Network for Quality Assurance Agencies in Higher Education (INQAAHE).

### Education Improving Quality of Life

We believe that education is important in an institutional setting because that education has to be accompanied by social interaction. The term quality of life is used to evaluate the general well-being of individuals and societies. The term is used in a wide range of contexts, including the fields of healthcare, and politics. Quality of life should not be confused with the concept of standard of living, which is based primarily on income.

Instead, standard indicators of the quality of life include not only wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time, and social belonging, our definition of quality of life is: The degree to which a person enjoys the important possibilities of his/her life. Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors.

**The conceptualization of Being, Belonging, and Becoming as the domains of quality of life can be developed in right kind of environment which can be facilitated by academia today.**

### An Effective Institutional Teaching Improvement Program

We have so far spoken only of changes in teaching methods, but improvements in instructional programs may also involve subject integration, just-in-time instruction, writing across the curriculum, or any of a variety of other non-traditional approaches that have been found to improve learning. In the final analysis, however, the quality of a teaching program is primarily related to the quality of the instruction that takes place in individual classrooms. For the new curricula and instructional methods to have the desired impact, a reasonable percentage of the faculty must participate willingly and competently in both their delivery and their assessment.

Here, are some views that can be followed to improve the instructional program for imparting education. Each step requires agreement of the faculty members who must implement it and the administrators who must provide the necessary resources.

1. Faculty members and administrators define the knowledge, skills, and values that the graduates of the program should have.
2. With the assistance of experts in pedagogy and learning assessment, the faculty defines the instructional methods most likely to lead to the acquisition of the desired attributes, selects the methods needed to assess the effectiveness of the instruction, and estimates the resources (including provisions for faculty development) needed to implement both the instruction and the assessment.

3. The administration commits to provide both the necessary resources to initiate and sustain the program and appropriate incentives for faculty members to participate.
4. The faculty and administration formulate a detailed implementation plan.
5. The faculty implements the plan.
6. The faculty and administration assess the results and modify the plan as necessary to move closer to the desired outcomes.

### Shift in the Roles and Responsibilities of Teachers in 21<sup>st</sup> Century

Today we mark a shift in the roles and responsibilities of teachers as teachers or instructor are no more traditional rather they are facilitators.

- ◆ Teachers' and students' relationships are changing, as they learn from each other.
- ◆ Teachers' roles are shifting from owners of information to facilitators and guides to learning.
- ◆ Educators are finding different ways of using class time.
- ◆ Introverted students are finding ways to participate in class discussions online.
- ◆ Different approaches to teaching are being used in the same class.
- ◆ Students are getting a global perspective.

### Understanding the Skill Gaps in Education

It tells about the gap between the current skill of students & what they need more which will make them effective. It ultimately says that the lower skill people require high skill for their betterment. To fill up this gap, we need a method by which there will be balance between the actual skill & required skill for the students.

There are many skills which an individual requires. The 10 important skills which are needed today are follows-

1. Commercial awareness or business acumen
2. Communication
3. Initiative or self motivation
4. Leadership & Teamwork
5. Negotiation and persuasion
6. Problem solving
7. Organising and prioritizing
8. Stress & Crisis Management
9. Drive and determination to get things done
10. Flexibility & adaptability

### Identification of Skill Gap

Identifying skills gap needs a process through which we can know the students' requirements. It can be done in the following way.

1. Understanding the objective behind developing the skills sets
2. Assessing the current skills sets of students and setting the desired changes.
3. Identify & determine new skills needed based on an evaluation (considering the need from learning and employability point of view)
4. Understanding and deciding the methodology to adopt for delivering the required skill sets.
5. Development of plans and procedure
6. Implementation through academic innovation
7. Evaluation and feedback for further improvements

### Strategic Plan for Mitigating Skills Gap

A robust system of higher education is essential for continued rapid economic growth, social cohesion and international competitiveness. Today, rapid economic growth and technological advancement in are changing the nature of work. Many more jobs now require higher levels of education. Higher education is seen as critical to a country's ability to reap the demographic dividend in the short to medium term. In a dynamic environment, higher education practice has to cater to new skills and lifelong learning. There is a shift from traditional undergraduate and graduate studies to continuing education and studies linked to career changes, using both on campus and online methods. Higher education expansion has to cater to these changing circumstances.

Thus, there should be continued commitment for higher education expansion, albeit with a strategic shift from the creation of new institutions to their consolidation, focusing on quality and raising the bar for high quality institutions to make them globally competitive. Expansion needs to be aligned with the skill needs of the country and there should be seamless integration of higher education, vocational education and training provision.

Capacity expansion has to be linked to changing labour market conditions and youth aspirations, while also maintaining a balance between general and professional education on one hand and sciences, the humanities and social sciences on the other. In a balanced system of higher education, excellence takes different forms - not all institutions should and can be "world-class" but they can and should adopt the best institutional and pedagogical practices possible. Hence institutional differentiation needs to be encouraged and institutions should be allowed to grow at their own pace.

Open and distance education provision can also increase capacity and widen participation for those who face time-



constraints imposed by personal responsibilities and commitments. Research activities are to be encouraged and given value for enhancing the standard of education. Efforts are needed to improve its quality through innovative curricula and interactive pedagogic practice.

Professional programmes, which have become increasingly popular, are often expensive and long. They are usually run by narrowly specialized institutions which offer few, if any, liberal-arts components although these are essential for the development of intelligent and able citizens, capable of contributions to the polity beyond their field of academic specialty. This calls for an integrated curriculum and innovative pedagogic practices and is being tried by a few institutions at present but there is a case to make it more widespread.

The quality of staffing has to be improved in institutions & universities by fostering innovative methods for faculty training and certification and reviewing the qualifications required for faculty positions. Learning must be tailored more to the individual needs of students and be more interactive and collaborative, using the latest telecommunications and digital infrastructure. Accreditation must also be harnessed to improve quality.

## Conclusion

Today India is becoming a hub of academia and universities from Europe, the United States and Canada are beating a path to India hoping to collaborate with Indian higher education institutions. **“The challenges that our societies will face are setting up standard & quality academics to meet and compete with these foreign universities and the students passing out from them”**. “In 10 years time India will have 550 million young people under the age of 25. If we have to take advantage of this demographic dividend, we need creativity and innovation along with enhancing quality of the education.

Creativity and innovation should be viewed as an integral part of a holistic approach to education and can be made to form part of an educational organization’s culture and shared values for reducing the skill gaps. Perhaps one idea could be the idea of ‘creativity champions’ amongst teachers in institutions to spearhead this approach.

Both creativity and innovation are becoming increasingly important for the development of the 21<sup>st</sup> century knowledge society. They contribute to economic prosperity as well as to social and individual wellbeing and are essential factors for a more competitive and dynamic society. Education is seen as central in fostering creative and innovative skills.

*Innovation* is the application of such a process or product in order to benefit a domain or field - in this case, teaching. Therefore, *innovative teaching* is the process leading to creative learning, the implementation of new methods, tools and contents which could benefit learners and their creative potential. The creativity in education has more to do with the process than with the product, and focuses therefore on the development of thinking and cognitive

skills. Creativity and innovation have strong links with *knowledge and learning*.

Creative learning requires *innovative teaching*. Innovative teaching is both the practice of teaching for creativity and of applying innovation to teaching. Both aspects call for an educational culture which values creativity and sees it as an asset in the classroom. In particular, curricula and assessment are key areas to be addressed in order to allow creativity in the classroom. Curricula should undergo a skilful and thorough development, giving the same importance to every subject, taking creativity into consideration and defining it coherently throughout the curriculum, allowing freedom and time for discovery, and taking learners’ interests into account. Assessment should also allow creativity to flourish by valuing it, both at micro, everyday level and at macro, exam level.

The three functions of assessment (diagnostic, formative and summative) must contribute to the development of both knowledge acquisition and skills development for learning and creating. *Technologies* play a crucial role in learners’ lives and can enable educational change towards an innovative and creative environment. They could act as a platform to foster creative learning and innovative teaching and are currently offering a variety of opportunities for constructive change.

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