Education with ICT for Developing Employability in Higher Education Institutions

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ABSTRACT

Higher education institutions (HEIs) are expected to form responsible and employable citizens. But, they produced mere degree holders without having employability skills. There is a mismatch between the expectations of employers and the products of HEIs. The requirement of employability is continually changing because most sectors are connected to the global value chains and hence the skills required are often decided by the global markets. Employers place greatest importance on employee's attitudes and basic skills over job specific skills and having an understanding of the work environment. The demand for having basic and updated knowledge and skills of information and communication technology (ICT) along with basic, higher order and affective skills within the employee is growing day by day. As such, institutions of higher education today need to focus preferably on imparting education with ICT so that basic knowledge and skills of ICT can be acquired by the students in the process of education, i.e. teaching-learning. The basic task of HEIs is to create an ICT-enabled learning environment. For this, an ICT policy needs to be evolved strategically for institutional practice including well equipped ICT infrastructure, education-industry collaboration, competence building of teachers and pedagogy-ICT integration.)

Keywords: ICT, Employability, Higher Education, Skills

General education provides individuals with minimal requirements such as language, literacy and numeracy, communication skills and other foundation skills. It provides individuals with a grasp of basic scientific knowledge and technology to function productively in the workplace. Moreover, higher education including basic science, social sciences and humanities is expected to help students to learn to look at the world they live as an integrated whole. The system is expected to form responsible and employable citizens. The requirement of employability is continually changing because most sectors are connected to the global value

chains and hence the skills required are often decided by the global markets. Information and communication technology (ICT) is extensively occupying all the fields of workplaces. Application of information technology (IT) knowledge, skills and understanding has become a reality for employees. Information and Communication Technology (ICT) has been identified as one possible means of leapfrogging poor economies from peasant to modern information societies (UNECA, 2003). Similarly, higher education in ICT is becoming widely recognised by several countries worldwide as a means of developing an efficient human resource capacity that is required to ensure economic growth and sustainable development (Changeiywo, 2002).

However, questions have been raised about the employability of our graduates produced by higher education institutions. In a job affairs conducted by University of Madras in 2008, though the employers came up with plenty of openings, the number of graduates who had required qualifications and skills in terms of analytical, verbal and interpersonal skills were only 4%; remaining 96% of graduates were found to be unemployable (Sridharan, 2008). A report on global skills for graduates in financial services also says that 58% of our financial organizations are facing difficulties in recruiting with right set of skills. Only 25% of our technical graduates and 10-15% of general graduates are suitable for employment (Business Standard, June 6, 2007). Similarly, the Press Release of the Ministry of Labour and Employment, Govt. of India (2nd, Jan., 2009) revealed that those educated but without professional skills constitute 69% of the total unemployed; whereas out of all university graduates only a meager 13% are employable. Thus, some questions raised,- 'What do future employers look for in fresh graduates from colleges?' 'What are the general employability skills, other than job-specific technical skills, to be possessed by employees?' 'What strategies are to be evolved to use ICT in education by HEIs for developing general employability among the students?' In this paper, an attempt has been made to delineate the employers' expectations; thereafter highlight the some general employability skills; and then deliberate on some of the strategies of ICT policy to be adopted by HEIs for developing employability among students.

EMPLOYERS EXPECTATIONS

Industries require conceptual skills, analytical skills, verbal skills, interpersonal skills and technical skills. According to Martin, Carrier and Hill (1997) employers seek employees who can write official correspondence, read and analyse complex reports, give oral presentations to co-workers or clients and understand verbal instructions from supervisors. Students should also be able to learn and respond to new ideas and have adaptive behaviours. McDaniel (1992) revealed ten ideal characteristics which all employers sought. They were dependability, honesty, neatness, punctuality, the ability to communicate effectively, the ability to work in teams, loyalty to the company, having a strong work ethic, and adaptability. A study by National Association of Colleges and Employers (1997) cited the most frequent responses from employers about the skills to be developed among the educated include interpersonal

skills, honesty, motivation, communication skills, analytical skills, enthusiasm, teamwork skills, computer skills, leadership skills, flexibility, self confidence, work experience, and a strong work ethic.

In his study, Muthukrishnan (2011) found that fresh graduates take time to learn situations on their own on seemingly simple day-to-day work situation. They need to develop learning to learn, analytical and problem solving skills. Moreover, human resource managers and trainers stressed that the education system should build more confidence in students, build some generic skills like team working, improving interpersonal skill, encouraging creativity, presentation and communication, leadership skills, time management, and meeting deadlines.

It is to be noted that employers have shown reluctance to recruit inexperienced young people in the entry-level jobs as they found that too many entry-level applicants are deficient in employability skills (Gogoi, 2010). Some of the skills alleged to be lacking in the applicants are:

- ❖ Low grades and low levels of academic accomplishments
- ❖ Poor attitudes, lack of self-confidence
- ❖ Lack of goals, poorly motivated
- ❖ Lack of enthusiasm, lack of drive, little evidence of leadership potential
- ❖ Lack preparation for interview
- ❖ Excessive interest in security and benefits, unrealistic salary demands and expectation
- ❖ Inadequate preparation for type of work, inappropriate background
- ❖ Lack of extracurricular activities
- ❖ Inadequate basic skills (reading, writing, maths, etc.)

EMPLOYABILITY SKILLS

Entry-level workers need to be able to operate independently, using problem-solving and decision making skills. The need for worker collaboration and team work requires employees to be creative, flexible, and possess good interpersonal and managerial skills. Moreover, the increasing multicultural nature of workforce has brought changes in the employability skills, more particularly in the interpersonal skills, in today's workplace. Employers place greatest importance on employee's attitudes and basic skills over job specific skills and having an understanding of the work environment.

On the basis of employers' expectations, employability skills may be organized in three categories:

(i) Basic Skills
- ❖ Oral communication (speaking, listening)

- ❖ Reading especially understanding and following instructions
- ❖ Basic arithmetic
- ❖ Writing (writing draft, letter, application, etc. at the spot)

(ii) Higher-Order Thinking Skills

- ❖ Problem solving
- ❖ Learning skills, strategies
- ❖ Creative, innovative thinking
- ❖ Decision making

(iii) Affective Skills and Traits

- ❖ Dependability/Responsibility
- ❖ Positive attitude toward work
- ❖ Conscientiousness, punctuality, efficiency
- ❖ Interpersonal skills, cooperation, working as a team member
- ❖ Self-confidence, positive self-image
- ❖ Adaptability, flexibility
- ❖ Enthusiasm, motivation
- ❖ Self-discipline, self-management
- ❖ Appropriate dress, grooming
- ❖ Honesty, integrity
- ❖ Mental set of working without supervision

Employers value these generic employability skills above the specific occupation skills. Due to the effect of globalization and privatization, the modus-operandi of the work places has been changed and the demand for having basic and updated knowledge and skills of ICT alongwith basic, higher order and affective skills within the employee is growing day by day. As such, institutions of higher education today need to focus preferably on imparting education with ICT so that basic knowledge and skills of ICT can be acquired by the students in the process of education, i.e. teaching-learning.

EDUCATION IN HEIs WITH ICT

Communication and information are the very heart of the educational process. Information and communication technology has played an educational role in formal and non-formal settings, in programmes provided by governmental agencies, public and private educational institutions,

for profit corporations and non-profit groups, secular and religious communities. ICT becomes an inevitable component of higher education institutions and ICT, if sensibly deployed and with carefully selected software, can positively affect many aspects of the institution, from a healthy questioning of present teaching practices to a gradual improvement of the quality, scope and depth of the learning environment, as well as to provide a remarkable opportunity for teachers' development. In a meta analysis of over 500 individual studies, James Kulki (1980) found that students usually learn more in classes in which they receive computer-based instruction; they learn their lessons in less time with computer-based instruction; students like their classes more when they receive computer help in them; they develop more positive attitudes toward computers when they receive help from them in school; and computers do not, however, have positive effects in every area in which they were studied.

In a recent study undertaken by the Bertelsmann Foundation of students in a German school and a school in the United States concluded "that the use of media and technology improves learning outcomes, instills key qualifications for the information age, and increase motivation". One concern often expressed about ICT is that its use will isolate students from each other and from their teachers. But in a longitudinal study undertaken by Apple Computer revealed that dispelling widespread myths, the researchers found that instead of isolating students, access to technology actually encouraged them to collaborate more than in traditional classrooms. And instead of becoming boring with use, technology was even more interesting to students as they began using it for creating and communicating. Thus, ICT, properly used, may enhance and increase communications between people.

In order to develop employability among the students, the need for ICT is ever increasing in higher education institutions. Because:

❖ *A new society requires new skills:* ICT increasingly pervade every aspect of life (work, learning, leisure and health). Because ICTs are pre-eminent tools for information processing, new generations need to become competent in their use, should acquire the necessary skills, and therefore must have access to computers and networks during their education.

❖ *Productivity enhancement:* Institutions of higher education are centre of acquisition, dissemination and generation of knowledge. ICT should be fundamental management tool for acquisition, dissemination and generation of knowledge in all aspects of higher education from classroom teaching to administration.

❖ *A quest for quality learning:* There is always a quest for quality learning within the students of higher education. HEIs need to revise present teaching practices and resources to create more effective learning environment and improve life-long learning skills and habits in their students. ICTs are versatile and powerful tools that can help in this purpose and therefore be present in every classroom, library and teachers' room.

In order to have long lasting effects, to be effectively infused into the institutional culture, to be considered relevant by teachers and administrators, and to be effectively utilized by students for developing emerging employability skills, an ICT policy should be evolved for institutional practice in HEIs. For this, institutions should have a strategic plan to create an ICT-enabled learning environment:

(i) Infrastructure

In order to make use of digital ICTs, HEIs must be equipped with computers, internet connection and other technological gadgets so that these resources can be used properly for the cause of education. For this, having ICT usable well structured building of classrooms, libraries, laboratories, rooms for teachers and administrators are equally important as equipping technological gadgets.

(ii) Education-Business Collaboration

 Collaboration, including cost sharing, between education and industry to build infrastructure is becoming an important issue. Commercial companies, industries and even government organizations can supply computers to educational institutions in collaborative manner. Recently, University Grants Commission (UGC) has focused upon ICT involvement in education and has been providing grants to HEIs so that they can be well equipped with these technological gadgets.

(iii) Competence Building of Teachers

Modern constructivist educational theory emphasizes critical thinking, problem solving, authentic learning experiences, social negotiation of knowledge, and collaboration. The teaching methods concerned change the role of the teacher from a disseminator of information to a learning facilitator, helping students as they actively engage with information and materials to construct their own understanding. ICTs have the potential to be used in support of these new educational methods, enabling students to learn by doing.

Digital ICTs are quickly becoming more accessible and teacher can no longer avoid using ICTs in classroom teaching. Teachers are required to develop the simplest ICT skills in the midst of authentic teaching and learning activities. Teachers' competency building is to be carefully planned which is appropriate to teachers' understanding and skills. They require building competency level in ICT in terms of four major clusters (Shankar, 2007):

Cluster 1: Integrating productivity tools in learning practices

❖ Demonstrate expertise in working with productivity tools that are applicable for teaching and learning activities.

❖ Design authentic and realistic tasks-based on pedagogical principles.

❖ Demonstrate positive attitude in utilizing productivity tools for professional competence.

❖ Demonstrate knowledge and skills of using ICT in ethical, legal and secure ways.

Cluster 2: Enhancing teaching and facilitating learning

❖ Identify, plan and locate ICT resources to design and manage learner centered instruction and to support diverse needs of learners.

❖ Demonstrate expertise with various instructional software development tools.

❖ Design meaningful learning experiences and integrate interactive multimedia learning environments.

❖ Apply ICT to facilitate a variety of assessment and evaluation strategies.

Cluster 3: Processing curriculum resources and learning materials

❖ Demonstrate expertise in developing multi-modal resources using ICT to support curriculum.

❖ Demonstrate expertise in developing web-based open and flexible learning materials.

❖ Stimulate and integrate learner directed research by using ICT to support knowledge construction.

❖ Use ICT resources to collect, analyse, interpret and communicate findings to instructional practices.

Cluster 4: Integrating ICT for pedagogical innovation

❖ Apply ICT to develop higher order skills and creativity

❖ Integrate ICT in meeting the needs of pedagogical innovations and learning strategies.

❖ Employ specialized software tools to support pedagogical innovation.

❖ Apply current research on teaching and learning with ICT while planning learning environment.

(iv) Pedagogy – ICT Integration

While developing ICT strategy in HEIs, it is essential to integrate the whole systems of education with ICT. In order to promote pedagogy-ICT integration in its proper context, some guiding principles must be followed:

❖ Structure the entire curriculum with ICT components.

❖ Integrate ICT in all activities of education: teaching, learning and administration.

❖ Empower teachers to develop knowledge, skills and positive attitudes actively towards integrating ICT in teaching and learning.

❖ Integrate ICT in all aspects of learning, and all phases of learning process.

❖ Integrate ICT for life-long learning.

❖ Innovate ICT to embody and model the forms of pedagogy that teachers can use themselves in their classrooms.

❖ Apply hands on, learner centered principles in designing professional development programme.

❖ Use ICT for empowering teachers to use a variety of learning strategies.

❖ Apply ICT to promote higher order thinking skills.

❖ Emphasise the professional development of teachers to reduce the digital divide within and among the member/participating countries.

❖ Use ICT to remove barriers between learners and facilitators.

❖ Provide an authentic learning environment for ICT integration.

❖ Encourage teachers to be mentors, tutors, guides and facilitators.

❖ Encourage self-directed learning independent of pace and time.

CONCLUSION

Education with ICT will provide the students with special talents a vast amount of digital tools and resources as well as groups of similarly inclined youngsters all over the world with whom to share and develop their talents. On the other hand, students with special needs will also find resources and tools for remedial or self-paced learning. Education with ICT can provide a plenty of learning opportunities and information resources for developing employability among the students.

However, it is not the presence of technology in itself that will stimulate significant changes among the students in particular and in HEIs in general. Without teacher involvement, students may not take advantage of all the available potential on their own. Teachers need to become active participants for effective ICT educational use, such as providing guidance, help and usage rules for the students. Teachers are needed to organize the learning spaces and to guide toward the achievement of significant learning objectives pertaining to instill employability skills among the students.

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