

ICT Immersion in Different Domains of Teaching Profession

- A Literature Review

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ABSTRACT

Information and communication technology (ICT) plays a vital role in various domains of teaching profession. It is directly concerned with different perspectives of teaching and incorporated the teachers to cope with the forthcoming challenges of educational society viz a viz quality and efficiency of education, access to knowledge, flexibility, lack of qualified and skilled teachers, teaching learning activities, high dropout rates and so on. In the present paper researcher explored some of the important domains about the teaching profession with special reference to ICT effective usage and integration as: i) Competency, ii) Motivation, iii) Work Stress, and iv) Accessibility. Comprehensive details of this paper revealed that ICT immersion in different domains of teaching profession strengthen the overall educational system throughout the globe.

Keywords: *ICT Immersion; Domains; Teaching Profession.*

Teaching is a social phenomenon, involving a series of actions (Dahiya, 2004 p.209). It is a cluster of actions incorporated to uplift an individual by enabling him/her to acquire knowledge, skills, attitudes etc. It is a profession or service of a community or group of individuals know as teachers'. Researchers emphasized various professional elements like competence, professional motivation, work stress, accessibility, dedication, enthusiasm, professional conduct, and so on, greatly influences the teaching profession (OS, 2013; Maphalala, 2014,&Nzulwa, 2014). Undoubtedly enhancing these professional elements, professionalism of teachers 'get enhanced which in turn will boost present knowledge society. In this era of knowledge society, where ICT is considered as a tool to enhance both tacit as well as explicit knowledge. ICT is one of the basic tenant in teaching profession as it enhances competency, professional motivation, accessibility, enthusiasm, professional conduct, and relieves work stress by integrating all these elements in order to develop a robust educational system.

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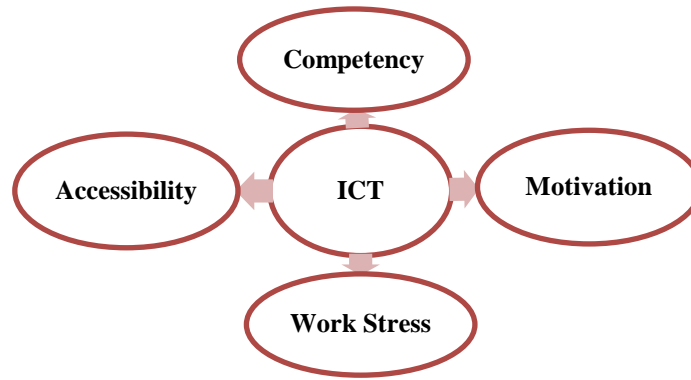
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DEMAND FOR TECHNOLOGY COMPETENT TEACHING

The development and implementation of ICT expels present educational system to respond towards advanced trends of the modern society which helps in the transformation of society into knowledge economy. ICT placed creative and innovative demands over establishments of education and significantly hold implications for research and teaching of these establishments, particularly on flexible forms and life-long learning of education (Siddiqui, 2004). ICT is referred to as the varied collection of technological gears and resources which are made use of to communicate, generate, disseminate, collect and administer information (Sarkar, 2012. p.31). The significant potential of ICT have enhanced knowledge avenues across diverse populations of modern society. ICT empowers not only educators and policymakers to enhance quality of educational process, but also the learning achievements with the help of innovative technology usage (UNESCO, 2009). ICT improves routine management and functional elements of educational institutions like Timetabling, Student admission, financial management, medical services, procurement management, data distribution and management (Krishnaveni, & Meenakumari, 2010, p.282). In the present era where educational world is rapidly changing and bringing innovative challenges and realities to Teacher Educational, with the new inventions in the ICTs possesses important implications, therefore present Teacher Educational system is being renovated and redesigned in order to adopt the changes taking place worldwide (Kanshal, 2012). The act of ICT in teaching learning offers more student-centered learning settings. Be that as it may, with the world moving quickly into digital media and information, the part of ICT in education is turning out to be more imperative and this significance will keep on developing (Noor Ul Amin, 2013).

RATIONALE OF THE STUDY

In spite of the enormously increasing applications for ICT in contemporary society, several studies indicate that people varies greatly with regard to their level and use of ICT. Various reasons have been proposed to explain such differences, like gender, age, education, access, family culture, computer anxiety, computer usefulness, locale difference, etc. (Lee, 2008, 2010; Wang *et al.*, 2009; Hargittai, 2010). According to Khan (2015) ICT enhanced teaching is based on different conceptions including gaining access to information and resources, as a delivery tool, to prepare students for their future profession, a media for active learning and to meet external expectations. However, ICT is not limited to only web 2.0, automation and knowledge based systems but ICT is the best way to gain sustainable competitive advantage so far as the education is concerned. However, researchers and academicians are skeptical about the fact that ICT has enormously enhanced the profession of a teacher by enhancing positive elements and reducing negative ones like; Competency, Motivation, Accessibility to knowledge & Work Stress.



ENHANCING COMPETENCY WITH ICT

In the modern era ICT is becoming part and parcel of the educational system, ICT has not only become a medium of teaching and learning, but also a supplementary instrument for preparing documentation, assignments, collecting data, communicating and conducting research (Khan 2012). Restructuring of education system is highlighted by the technology integration in each and every aspect of education. Knowledge regarding ICT motivated teachers' to improve their knowledge and skills. ICT integration into educational practices is familiarized due to reasons as it provides avenues of skill development, plays a significant role in constructive transformation of curriculum & pedagogical practices (Fitzallen, 2005). ICT plays a role of vital instrument used for understanding the concepts of various subjects, like science, mathematics, and so on. Rodrigue *set al.*, (2003). Angeli, & Valanides, (2009), revealed that introduction of ICT as an important element of technological pedagogical content knowledge (TPCK) helps in understanding the knowledge regarding teaching content, pedagogy and synthesizing context how various topics which are challenging to be presented for teachers and difficult to be understood by learners can be renovated and imparted more efficiently with the help of technology, similarly ICT integration shows a positive effect on teachers Professionalism (Oner, & Nilay, 2012). Potential of web pages enhance educational requirements like exploring constructive knowledge and information, sustenance and nurture of active learning, improving interconnectivity among various information resources (databases) and enhancing learning in innovative atmosphere (Kubricky & Castkova, 2015).

ICT integration in teacher education improves and transforms the quality of present teacher education system (Khan 2012). Systematic usage of internet resources as teaching learning material boosted competency among teachers (Ameyaw, & Sarpong, 2011), likewise teachers having exposure of technology (like data projectors) rated higher scores on perceived teaching assistance and perceived competence of technology integration than those having less or no technology exposure (Yuan, & Lee. 2012). ICT provides an enjoyable environment for both the teacher as well as learner. This shift develops a creative and interactive environment for both (Khan 2012). ICT policy and integration could greatly improve the status of knowledge based economy, and can develop an effective and robust Education System (Shaikh & Khoja, 2011). However, teacher and students consider the Internet as a potential educational resource and not

only as a support or reinforcement tool that complements the textbook, they also like to use ICT and consider it as useful tools in the process teaching/learning (Rodriguez, 2012).

Following paragraph highlights some studies about how teachers learn to transform by developing various projects and educational programs to increase their competency like: technological pedagogical content knowledge (TPCK), partnership in primary science (PIPS), Galileo Network's program (GNP), Improvement quality education for all (IQEA) collaborated with applications of the ICT (Angeli, & Valanides, 2009; Rodrigues *et al.*, 2003; Jacobsen, 2001; Ming, *et al.*, 2010). They examined the various applications of ICT which plays a vital role and factors influencing the professionalism of teachers belonging to different subject areas (Avalos, 2011; Oner, & Nilay, 2012). Fundamental purpose of these studies is to explore the process of renaissance among teachers, some are based on approaches, and some are conceptual while some are Meta-analytic. Last but not the least effective integration of ICT skills into teaching learning practices is necessary for the enhancing opportunities of professionalism (Fitzallen, 2005). Unquestionably ICT improved the competency among the teachers of knowledge society. It acts as a helping hand to enhance professionalism by increasing global & social connectivity due to virtual interaction. It also resulted in the establishment of academic communities, digital relationships, and global methods of teaching approach. Due ICT integration, inventions & innovation all over the globe became accessible for the Upliftment and enhancement of teacher competency.

MOTIVATION ACCUMULATION WITH ICT

Continuous development in the fundamental elements of educational system impacted the present world persistently. Existing information gets rapidly outdated and procurement of innovative knowledge and its applications results in constant transformation of political, cultural and social environments. Due to this, citizens of present technological society are required to have capacity to think fundamentally, collaborate and communicate with others, use various perspectives of technology by taking initiative and integrate diverse viewpoints with new learning situation (Angeli, & Valanides, 2009). ICT enhanced the opportunities to boost the knowledge and skills of the teachers by establishing online communities where teachers and their colleagues are able to work online as a team (Leask & Pachler 2014), likewise a significant positive difference has been reported by Rodrigues *et al.*, (2010) between the students whose teachers possesses higher adoption with the ICT than those of lower ones. Teacher's lays emphasis that incorporation of ICT in core subjects (Science, Mathematics and English) and fundamental classroom practices have enhanced and extended existing classroom practice, and revolutionized emerging activities which improved the teaching practices. Teachers were practicing and testing new strategies for mediating ICT-based learning, which in-turn revolutionized the pedagogical development (Hennessy *et al.*, 2007). Leask & Pachler (2014) it is evident when ICT is integrated appropriately into curriculum it not only enhances learning of pupil but also improves the existing teaching practices, they further emphasized that teachers should work in collaboration, so that they can establish up to date and superior professional

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practices like; teaching methodologies, assessment techniques, learning enhancement and so on. Numerous assumptions have been made about the impact of ICT on work life, research on human concerns and human resource issues in a variety of settings, sectors, and occupational groups (Dorothy, 2004), and it is notable that Integration of ICT plays a vital role in generating employment opportunities, (UNCTD, 2011).

Technology in general and ICT in particular possesses potential and liberates its users from routine boredom and encourage them to focus on coherent and innovative, rather than routine professional tasks, hence providing motivation. ICT provides a huge amount of valuable intel in any subject and also provides ability to reproduce and disseminate this information, by enabling networking and immersion in virtual worlds (Leask & Pachler, 2014). So, ICT integration and potentialities replaced the theoretical concepts with practical and visual demonstration making routine tasks of teaching and learning more and more interesting, thereby motivating teachers to integrate more and more technological approaches in each and every aspect of profession.

RESPIRING WORK STRESS WITH ICT

Educational society of present world is trying to keep the pace with the increasing demands of global society which otherwise influenced the professionals mostly in educational society. Therefore, the enhancement of stress and anxiety among the stake holders in general and teachers in particular is obvious. Some people would be surprised to know how intensely stressed teachers of present society have become due to various reasons like increased workload, administrative role, digital needs of the students and performance pressure from the organization and so on.

In order to address this serious issues ICT enhanced learning acts as a great resource to reduce the various causes of stress among teachers by enhancing various elements of teaching process. ICT appeals to all the senses of its users facilitate the use of various modern sources of interaction, which in-turn provides resources to adapt and edit teaching learning material quickly and easily thereby enabling teachers to reach more students effectively. In contemporary world ICT delivers opportunities for rapid and effective communication among users and provides access to tremendous amount of valuable information. With the help of ICT individuals of the modern world are able to reach to any corner of the world at any time, which helps to integrate the private and professional spheres (Thomee *et al*, 2007). Use of virtual reality classrooms changes the traditional characteristics of education, it provides opportunity to teachers to organize the teaching activities and helps students to become persons who discover the knowledge rather being remaining a passive receiver there by developing Modern model of teaching. Further Fan & Wang, (2012) expressed their view as it helps to resolve various problems like time limit, understanding and grasping level by providing tangible and applied acts. Application of ICT and Metal Age method enhances capital development by increasing work ability, decreasing stress by positive stress management, leadership enhancement by improving cooperation, interpersonal communication (Maciocha, *et al.*, 2012). Likewise Morgan

& Cotton, (2003) revealed that adequate time spent with e-mail and instant messaging reduces depressive symptoms.

In accordance with extraordinary influence of ICT in teaching, various elements like approach towards ICT, use of ICT in teaching learning, skills and knowledge regarding ICT, were utmost factors for creating self-confidence among teachers thereby helping in reducing their stress (Ahmadi & Keshavarzi, 2013). Integration of whiteboard technology in teaching process helped teachers to reduce major causes of occupational stress like extra workload and inability to meet the student needs (White paper, 2009), it enables teachers to plan and prepare efficiently and encourages sharing of resources among peers, thereby reducing demand on the time of the teachers. In the comprehensive concern ICT has greatly enhanced the various elements of teaching like; time management, reducing paperwork and data entry, access to sophisticated information, administration and management aspects, data collection requirements and techniques, computerized analyses of written grammar and continuous assessment of students, re-allocation of tasks among teachers, boosting morale, enhancement in teaching, confidence and communication, better access to school networks and web-based teaching resources etc. facilitating the each and every corner of the professional society. (ACS & HMIS, 1999; Bushweller, 2000; DfES, 2001; Greene *et al.*, 2002; & PricewaterhouseCoopers, 2002).

ENHANCING ACCESSIBILITY WITH ICT

Globalization and developments in the technology is pressurizing modern educational society to incorporate the ICT to enhance its various elements, because the stakeholder of present education system requires up to date information for proper development. Use of ICT in the education is acting as a dominant and dynamic delivery system possessing improved potentialities in order to enhance the teaching learning system of contemporary world. According to Forcier (1999) onset of technology integration worked as a tool for the Upliftment of educational process, as students and teachers are able to obtain teaching learning material with less efforts and without purchasing it from the market.

Successful integration of the ICT boosted the present educational system. Use of online lectures, virtual libraries, classrooms and laboratories enhanced accessibility of teachers and students, thereby reducing the geographical barriers (Bhattacharya, 2008). Similarly Ismai'ila, & Hammad (2013), expressed how potentialities of ICT usage in teaching learning process improved the accessibility via video libraries, animation use, videodisks, electronic encyclopedias, web-based learning and so on. Ahmed, Banday & Jan (2014) stated that ICT has tremendously improved the communication structure of the educational system through some special communication applications like web 2.0 technology and Computer Assisted Language Learning for understanding the fundamental aspects of pronunciation, vocabulary and grammar thereby helping in bridging the gap among the stakeholders of the ICT.

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ICT based teaching enabled the teachers to become technically sound for their teaching and on the other hand helped them to attain the accessibility of professional information for easy delivery and for active learning etc. thereby improving teacher centered framework (Khan, 2015). Current educational society is in a rapid development due to onset of ICT in education, various elements of ICT like e-mails, social networking websites, search engines, video conferences and lectures, blogs and web pages has upgraded the teaching learning process by transforming the present society into gigantic knowledge planet. Tirziu, & Vrabie, (2015) revealed that information access and online communications inflate the range of courses by enabling anytime, anywhere access to teachers and students, techniques like e-learning, web 2.0, helps in demonstrating face-to-face material effectively in online environment, allowing academic community to attain sophisticated level of satisfaction for learning and cognitive understanding of course material.

Proliferation of use of ICT in teaching learning process enhanced the exploration and delivery of knowledge, in order to make education accessible to all. It not only improves the teaching methodology but almost every aspect of teaching enormously. It increased the accessibility of the teachers to vast domain of knowledge which in-turn would prepare learners for lifelong learning and increased the geographical flexibility of teachers' thereby reducing barriers and enhancing professional environment and occupational health. De Pablos-Pons *et al.*, (2013) exposed ICT innovation and practices improves elements of teacher's well-being like Motivation, Values, Capabilities, Emotions and Satisfaction. Likewise Uzunboylu, & Tuncay, (2009) publicized that web-based, technology and e-learning enhances the experience and accessibility of the vocational education teachers to various job related activities, last but not least Various components of ICT like blogs, podcasts, e-learning and wikis are acting as essential gear's for enhancing digital literacy of an individual, that enhances his/her effort expectancy and work performance (Mohammadyari, & Singh, 2015).

DISCUSSION AND CONCLUSION

Globalization and developments in the technology is pressurizing modern educational society to incorporate ICT in educational process and latest trends in teaching profession reflects the changes in the planning and delivering of education. It is believed that ICT in present era encompasses in every aspect of life mostly influences on educational environment. Effective use of ICT in teaching profession increases the accessibility of teaching learning opportunities and these results are in line with Uzunboylu, & Tuncay, (2009), it helps to enhance the quality of teaching with the help of advanced methods of teaching, reforming management in education system, reduces the workload, increases engagement and so on. ICT proved as one of the affective and impressionable agent for professional Upliftment in challenging educational society. On the other hand ICT shake its hands with teachers to reduce their anxiety, work stress and provide easy and comfortable routine professional life similar results has been reported by (DfES, 2001; Greene *et al.*, 2002; & PricewaterhouseCoopers, 2002). Constant development of ICT in education will have a strong influence on basic units of teaching profession like, material

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to be learnt, how it is learnt, when and where it is learnt and taught. Integration of ICT promotes open educational environment for both teacher and students enabling and strengthening interface among stakeholders. The present paper makes contribution to the literature on ICT and teaching profession by investigating how various domains (Competency, Motivation, Work Stress, and Accessibility) of teaching profession are positively influenced by the effective use of ICT. Present paper reveals that overall teaching profession is enriched by the enhancement of ICT usage in aforementioned functional areas of teaching profession in realm of universal competitive global academic community. Present paper can possibly serve as an elementary guide for educational planners to deploy technology based teaching profession successfully.

IMPLICATIONS

1. Present study will contribute to the literature on ICT and teaching profession.
2. It will act as a guide for education planners to enhance the use of ICT in teaching profession.
3. There is need to provide appropriate guidance regarding the ICT usage to enhance the teaching profession.
4. In order to have balanced and effective teachers the educational administrators should conduct seminars, workshops highlighting the effective use and integration of ICT in teaching profession.

LIMITATIONS OF RESEARCH

1. First and foremost limitation of present study is lack of empirical data.
2. Present study only focuses on the positive aspects of ICT in teaching profession neglecting the negative ones.
3. Present study explores only four dimensions of teaching profession.

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