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Research Article

IMPACT OF TECHNOLOGY FROM LEARNING ENVIRONMENT TO ORGANIZATIONAL PRACTICES

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Abstract

Technology has been widely adopted in the learning environment to replace conventional face-to-face learning system. The attractiveness of technology into learning was supported by its convenient, versatile, interactive and effectiveness in delivering learning even at remote environment. Flexibility afforded by online learning environment allows its users to interactively transfer knowledge and skills to other users. These learning features promoted the popularity technology integration into learning environment which has been central to converting the abundance information available online and raw data available in organizations into database to improve business activities. In this review, issues arising from knowledge creation and management have been discussed as well as the relevancy of the interactive learning environment afforded by technology. Technology-based learning was found to have become integral part of life and has promoted learning isolated environment. Knowledge creation and management were found to be more effective when they are integrated to resolve organization problems. This paper supported that both knowledge creation and knowledge management are crucial components to create a strategic business advantage.

Keywords: knowledge creation; Knowledge management; Learning environment; Technology; Organizational practices.

Introduction

Technology has extended learning beyond classroom environment. This form of learning platform has provided students with the opportunity to interact globally to achieve higher-order of literacy and skills that are relevant to their daily life activities. Among technological features that support learning include cameras, video, projectors, SmartBoards, sound recording equipment, animation and gaming software as well as PowerPoint which have shown to be useful in engaging students to interactively learn and explore ways to present their learning (Barnes *et al.*, 2007; Dunleavy & Milton, 2009; Zheng *et al.*, 2010; Project Tomorrow, 2010). Technology provides convenience in managing classroom activities, saves time, improves learning, support effective communications and provides platform for a better presentation of class learning activities. In brief, positive outcomes of integrating technology into learning practices include higher performance and quality skills.

Learning based on technology allows individual and group to exploit overall benefit of collaborative efforts through learning and sharing of knowledge (Zheng *et al.*, 2010; Tsai, 2014) and has increasingly contributed towards the enhancement of learning performance (Varekan and

Renukadevi, 2016). Technology has shown to play a significant role in fulfilling academic goal and establishing knowledge creation and transfer of skills to dispense quality knowledge and to meet diverse learning needs especially for student in the isolated environment. Knowledge creation is a primary source of innovative development which promotes competitive advantage in the academic sector.

Technology-based learning connects learner's interest and passion towards knowledge creation and develops them based on their preference. This view supports constructivist theory based on collaborative learning and has strengthened the implementation computer-mediated learning across the globe (MohdAlwi and Fan, 2010). Proponents of collaborative learning have not only proven to support the need to allow small groups to exchange ideas but also to increase knowledge creation and transfer using technology (Olga *et al.*, 2000). In disseminating information and sharing of knowledge, education groups are used as a suitable platform to gain social recognition and economic strength and it is intended to solve many problems in the present days with the emergence of technology. It is deemed important in this paper to extend the scholarly work in especially in knowledge creation and management in improving organizational practices.

Issues

Knowledge and skills development is fundamental to nation’s growth and is needed to maintain competitive advantage within organizations (Abel, 2008; North and Kumta, 2014). In order to disseminate knowledge more efficiently, the role of technology in providing timely learning platform is needed. Although the development brought about by technology into learning environment requires specialized skills and impose complex situations, careful implementation of technology-based learning has shown to be cost-effective and convenient especially in environment where learners a widely dispersed(Alexandru, 2015; Varekan andRenukadevi, 2016Marie-Pierre *et al.*, 2015).

Significance

Relevant knowledge is needed to improve learning skills and quality of education competitive enough to meet the future expectations of organizations (Zheng *et al.*, 2010; Van Hoof and Meehan, 2011; Tsai, 2014). This is a prerequisite in filling the existing gaps between conventional learning system and technology mediated learning based on technology. Therefore, decision and policy making considering the impact of technology in the learning environment could transform the way students incorporate technology solving problem relative to addressing organizational problems.

Knowledge Creation and Management

Knowledge creation and management represents a key factor underpinning the development processes of an organization and the transfer of expatriate skill to younger generation (Haas and Hansen, 2005). Fundamentally, knowledge and skill development is vital in the present day to meet the innovative advances afforded by the technology. This is a critical need of every developing venture because technology has gone deep into the fabric of organization to facilitate transfer of innovation and

knowledge-based skills that are central to organization competitiveness (Hassan *et al.*, 2012). In sharing knowledge, rapid transformation leveraging intellectual capability is nurtured to resolve chronic problems arising from conventional learning practices (Beyerleinet *al.*, 2002; North andKumta, 2014; Alexandru, 2015). This concept is more effective in integrating the knowledge creation and management capabilities into organizational practices (Fig. 1). Knowledge creation and sharing based on technology has explicitly become a key channel for transferring value and organizations are supporting its adoption to foster competitive edge (Hassan *et al.*, 2012; Al-Yahyaand Farah, 2009).

The integration of technology into learning platform has not only strengthens learning system (Pan andScarbrough, 2009; Dooga 2010) but also has immensely contributed towards the development of extended learning environment accessible enough to cater for the growing population (Mohdand Irfan, 2015). Therefore, technology mediated learning represents a large databanks of knowledge to richly impact learners at different geographical location (BoulayandRaalte, 2014; Alexandru, 2015; Mohdand Irfan, 2015).

However, ways in which decisions are processed differs across different learning environment. Technology makes learning more interactive and powerful in disseminating knowledge and skills to learners. Therefore, collaborative technology-based learning can enhance the effectiveness of interchanging knowledge from physically disconnected environment (SchümmerandLukosch, 2007).

This has proven to be efficient because technology makes information and knowledge easily available and contributes towards improving individual and group that depends on it in aligning knowledge with organizational goals (Tsai, 2014).

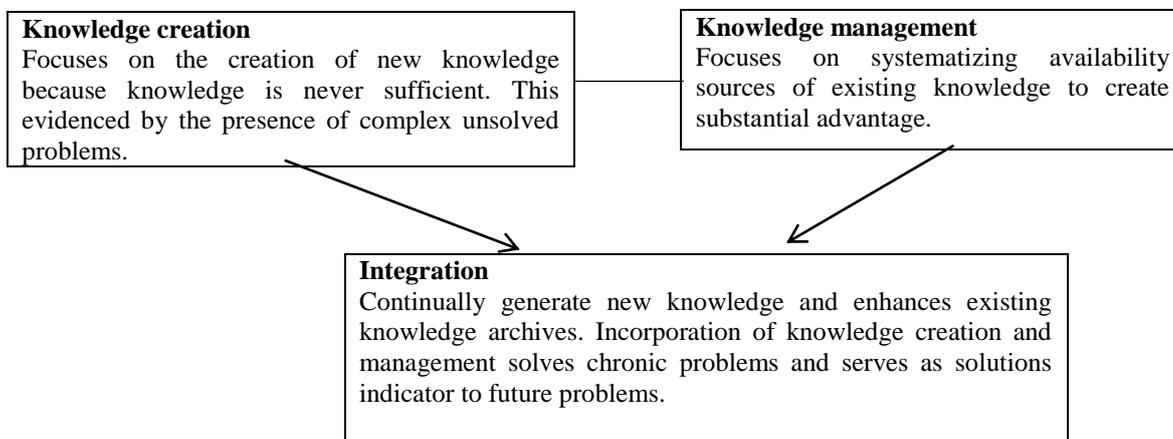


Fig. 1: Emerging effectiveness of the distinction between knowledge management and knowledge creation

Relevance of Interactive Technology-based Learning

Technology based learning offer varieties of benefits that improve besides cost-effectiveness which has been reported in prior studies (Mei *et al.*, 2016; Charrondiere *et al.*, 2016), Sinclair *et al.*, (2016) found that technology mediated learning is a convenient means of impact skills to improve clinical behavior. Olga *et al.*, (2015) found that technology based learning is at the forefront of transforming educational practices to impact learners with quality outcome. This in this section, the relevance and the interaction afforded by the incorporation of technology into learning platform is discussed. These features were found to support the translation of knowledge creation and management into effective organizational practices.

Interaction

Technology provide platform for both virtual and personal relationship to improve learning. This is essential because social and interactive learning environment support knowledge creation and transfer of skills Willms *et al.*, (2009) found that interaction between in a learning environment is beyond classroom and school environment experience. This could be because, social platform afforded by technology enables learners to interact more often to share knowledge and develop intimate relationship than can be experienced in a confined classroom environment that are controlled by school authorities. In addition, classroom interaction is usually curtailed within specific subject however; technology provides unlimited access for learners to learn and socialize.

- Students want more intimate relationships with their teachers as well as with other students and their community.
- Students desire their teachers to understand how they learn and share their views as well as what they misunderstand.
- Students desire their teachers to make learning environments more interactive to develop interdependent relationships to promote learning culture (Willms *et al.*, 2009).

This knowledge could be used as a guide to develop a more interactive learning environment that could afford to meet students learning needs.

In the present day learners want constant interactive learning environment to support their views and helps them in learning ways to handle difficult task relative to their career. The emergence of technology support interactive learning environment by allowing learners from different background of knowledge to share experiences (Windham, 2005, p. 5.7; Dunleavy & Milton, 2009).

Dunleavy & Milton, (2009) found out that students prefer learning environment that support interaction among learners, connect with people having different professional

skills and have more opportunities for conversation. The nature of conversations preferred by students is beyond classroom environment and extends to the relevance of each subject. For instance, discussion on issues pertaining to Physics, students prefer to engage in a discussion with physicist and engineers who they believed have broad experience and can address their problems. Windham (2005) suggested that “learning environment should incorporate opportunities to interact with other expert in the field of discussion and students should develop meaningful relationships with expert”.

Facilitating expanded relationship in a learning environment requires a shift from conventional view to enabling students actively develop learning experiences from a mutually-interactive knowledge-based learning environment.

Genuine intellectual interaction requires a deeper teaching-learning that actively reciprocate in the relationship between learners and teachers towards deeply conceptualized understanding in building diversified new knowledge and practices (Friesen, 2008, p. 8.; Dunleavy & Milton, 2009, p. 14). Interactive teaching and learning environment is considered important to enable teachers to explore the views of learners such as to develop a practically functional learning scheme that is compatible with learning content and modeling learning rather than giving students answers to a process or outcome (Claxton, 2007; Button *et al.*, 2014).

Interactive learning environment is central to developing a relationship for knowledge creation between learners and teachers and support the development of a new curriculum as described by Dunleavy and Milton (2009).

Relevancy

Relevancy is among important prerequisite for engaging into learners. Learners often tend to know how their learning applies to real-life situation as opposed to theoretical knowledge. This understanding is built within the sense of purpose learning are conducted and the limit of usefulness of learning experience (Claxton, 2007; Dunleavy and Milton 2009; Willms, Friesen and Milton, 2009).

Every learning activity students undertake should be relevant and meaningful towards building their future goal (Willms, *et al.*, 2009, p. 34). Students always want to engage in intellectual activities effective enough to be characterized by thoughtfully designing learning tasks consisting of (Willms, Friesen and Milton, 2009, p. 34; Ramaley and Zia's, 2005; Oblinger and Oblinger's, 2005):

- Task requiring deep thinking.
- Task requiring immense disciplinary condition.
- Learning task extends beyond classroom environment.

- Learning task is associated with intellectual rigor.
- Learning task is complemented by substantial conversation

Two main ideas that emerged from keeping learners connected include: forming an intimate relationship between learners and teacher together with the social contexts of learning and, developing and ideal learning curriculum for instruction that is relevant in developing learner’s experiences and long-term aspiration.

The impact of technology in knowledge creation and management has been predominant over recent years owing to its interactive environment that support transfer of relevant knowledge and skills to learners (Johannessen and Olsen, 2010; Marie-Pierre *et al.*, 2015; Mohd and Irfan, 2015). Claxton (2007) suggested that curricula must possess relevancy to engage learners and transfer of knowledge is easier when learning is interactive.

Technology-based learning as integral path of Life

Technology which was designed to support learning system has eventually took over the entire learning structure and presently support distance learning which was previously noted as with narrower concept (Olga *et al.*, 2015). Thus with technology, remote communication between a teacher and students has improved learning system. However, knowledge management application processes and practices in various learning environment can be affected by (Alnashri, 2015):

- Absence of appropriate interfaces to facilitate learning process.
- Lack of skills for knowledge management.
- Lack or insufficient skill on methods and processes of knowledge management.

- Lack of training program to enhance knowledge management

Therefore it can be deduced that to actively implement knowledge management practices in a learning environment, the following points should be taken into consideration:

Empower the administrators and instructors in various learning centers with appropriate technology infrastructures that contribute towards developing knowledge management and transfer into organizational practices.

- Develop interactive learning environment.
- Develop worker’s technological-based skills as foundational to future development.
- Provide sufficient facilities to facilitate knowledge management application.
- Support in developing schools with existing information management network (such as the internet).

Prospect and Challenges

Technology-based learning system has been vastly used to support learner’s passion towards knowledge creation and management thus; enhance the implementation computer-mediated learning (MohdAlwi and Fan, 2010). There are three main factors that outlined prospect for the rapid adoption of technology in learning practices the present day. These factors represent a prerequisite for the adoption of new technologies for teaching learners either in native or non-native language and constitute the prospect of technology based learning system. The prospect and challenges that can be drawn from prior studies on technology-based learning and knowledge transfer are shown in the table below (Table 1).

Table 1: The prospect and challenges that can be drawn from prior studies on technology-based learning and knowledge transfer

Prospect	Challenges	References
1. Learning based on technology has been established universally virtually in every country.	*The interfaces of most software used for learning are similar and does not depend on native language.	Olga <i>et al.</i> (2015)
2. Students see technology as the only convenient way to exchange information and thus an integral part of learning. Technology has becomes learning tools and has increasingly propelled informal education.	*Tradition of formal education has been neglected. Learners independently acquire information through electronic systems such as; mass medias, e-books, reference books, encyclopedias, video repositories, and social networks and open educational resources.	Dunleavy, J. and Milton, P. (2009); Mei <i>et al.</i> , (2016)
3. The speed internet which is central to online learning requires a very fast and cheap to generate and transfer knowledge. Technological advances and present state of learning gave rise to the use of electronic medium for learning. Technology has been successfully adopted in most countries for training future professionals in different field and for organizational training.	*Competitiveness in various economic and educational sectors depends on the available technology in use.	Olga <i>et al.</i> 2015; Harrison-Broninski, and Korhonen, 2012.

Conclusion

The integration of technology into learning practices extended learning environment to provide students with the opportunity to interact globally and explore knowledge. This has become a sort-for platform of learning because, it is convenient, saves time, more effective and provides a broader learning environment than confined classroom activities. The versatility of technology-mediated learning environment makes it easier to create and share knowledge to improve skills and enhance the performance of learners using the internet.

Knowledge creation and management guarantees solution to unsolved chronic problems. This has shown to be of high demand as organizations are rapidly changing to adopt technology-based practices with increasing use of computer. Knowledge management and creation stand to support products and services development and provide accessible skills to individuals and group. Therefore, present study highlighted the need for continual creation and management of knowledge which can be stored instantaneously in a retrievable form that can be made available upon demand. The two facets of knowledge comprise knowledge management and knowledge creation. Knowledge management focuses on efficiency use of information or data that has been already known while knowledge creation focuses on developing virtually new knowledge. Both facets of knowledge require a careful integration to create a strategic business advantage and resolve chronic problems surrounding organizational practices. Without integration, large storage of information cannot be put to use in solving future problems.

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