IJBPAS, October, 2015, 4(10), Special Issue: 01-13
ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)
'A Bridge Between Laboratory and Reader'
www.ijbpas.com

LEARNING IN BLENDED SPACESBASEDON SOCIAL NETWORK

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ABSTRACT

Beyond any doubt, "learning" and "learning processes" are considered of basic issues in behavioral sciences, psychology, education and educational management. The process was born with human being and has evolved during human being development. The evolutionary procedure has continued its life in learning studies and researches. The current paper aims at investigating the evolutionary trend of learning theories employing descriptive method and studying hard and soft resources. In the present study, learning in real and virtual spaces has been analyzed. Although the emergence of new technologies, generally in education field and especially in learning field, has changed the quantity and quality of those fields, it has created concerns over learners' national values, social development and affective development. Therefore, blended learning has introduced as the strategy for Information and Communication Technology (ICT) era and a model has proposed. Employing educational social networks, electronic learning (e-learning) and networked management plus exploiting social interactions among learners and teachers, teachers and parents and other reciprocal interactions, blended learning can solve numerous concerns of parents and educational specialists while optimizing learning process.

Keywords: Learning, Virtual Learning, Blended Learning, Social Network, Networked Learning.

INTRODUCTION

Looking at the evolutionary history of education systems reveals that this domain of human life has greatly changed like other domains. Informal education of families and tribes and opening of formal schools have evolved in the change procedure. Computer invention and the emergence of new information technologies have greatly affected education domain like other human activity fields. The perspective of the education domain could be easily seen in the hand of the technology in the third millennium. Face-to-face and personal trainings in real educational contexts, that is, schools and homes have been gradually superseded by web virtual spaces. In the rapid today world, many traditional methods are inefficient and slow and do not have proper strength for transferring new concepts to learners (Nowruzi, et al., 2008)[1].

The concept of "literacy" has changed these days. And, in assessing the development rates of societies, digital literacy and the enjoyment form its factors have grabbed the attention of management and planning top bananas. Gutenberg generation had passed and new generation, referred as “digital folk”, has been currently forming. Those are the youth grown using digital technologies including computers and smart phones and lost their inclination toward books and journals (Bakhshipoor, 2012) [2].

Despite many usages of ICT, the issue mostly talked about today is that real physical interactions have reduced thanks to online interactions. As a result, it results in more but weaker social interactions (Khazaee, 2012) [3].

Within those changes, as the propellant motor of education systems, “learning processes” have been changed and their quality has been augmented by employing new technologies. As a result of this evolutionary trend, the output of learning processes, called "behavioral changed", has grabbed the attention of theoreticians and they developed new methods for its assessment.

The Evolution of Learning in the Path of Changes

Undoubtedly, human learning takes a specific root from birthday to death. Proportionate to any period of physical growth and cognitive and mental development aligned with the appearance of spiritual and material needs, effective tools in learning formation processes have been changed and they have proposed necessary solutions to human learning needs through improving their efficiency.

Like learning itself, learning approaches have taken an evolutionary passage in humanity history. Those theories have

passed their infantile age proper to that era's needs and humanity primitive era. Then, those have reached to the stage that numerous forms of education have been created using new technologies in education realm.

3) LEARNING-TEACHING PROCESSES

Learning is defined as "any kind of relatively permanent changes in behavior created as a result of direct or indirect experience" (NekooeiMoghaddam, et al., 2007)[4].

Human learning is currently forming in three fields: real spaces, virtual spaces and blended spaces.

3.1) Learning-Teaching in Real Spaces

Learning happens in real human environment, that is, the spaces human being lives in. Families, schools and social environments are considered three important sources of learning in human being. "Behaviorism poses that behavior should be defined through observable experience, not mental processes. In the opinion of behaviorists, behavior is what we do and observe directly. And, thoughts, emotions and incentives are not proper concepts for behaviorism because they could not be seen directly (Ebrahimzadeh, 2014) [5].

Although early sophists such as Comenius, Herbart and Montessori exploited "planned behavior", B. F. Skinner has become most famous supporter of planned teaching and learning machines (Merkel, 2011) [6].

Among the classic theories of learning, the fundamentals and rules of trial and error theory of Edward Lee Thorndike and the operant conditioning theory of B. F. Skinner analyze some part of learning process mechanisms in social environments.

In Thorndike theory, learning is defined as selecting or choosing a response from among the set of available organism responses and linking that response to the stimulant situation. Therefore, Thorndike's learning method is called learning from trial and error (Seif, 2008) [7].

Thorndike's learning theory is based on three laws: effect, readiness and exercise. Among those laws, effect law has many applications in contemporary world's advanced learning environments (Robert, 2006)[8].

In the analysis of learning contexts, Skinners' operant conditioning is significant for the fact that "Organism is active in performing behaviors and effects on and operates in the environment. Therefore, Skinner calls it operant (Seif, 2008)[9].

Operant behavior is also called active because organism is active in this kind of behaviors despite the behavior of the respondent and effects on and operates in the

environment. Therefore, Skinner calls it operant (Ebrahimzadeh, 2014) [10].

In socio-educational contexts, typical person's behaviors are affected by other members of surrounded network. So, Albert Bendura's social-cognitive theory is significant for depicting social learning environment. The approach refers to the reciprocal effect of person and society. Regarding the factors forming learning, he believes that "personal factors (such as beliefs, expectations and attitudes), environmental events (physical and social) and person's (verbal and practical) have mutual influences on each other and none of them could be separately treated as the determinant of human behaviors" (Ebrahimzadeh, 2014) [11].

In the theory mentioned above, when a typical leaner observes another learner's behavior which is reinforced and rewarded, that behavior is learnt by the observing learner. This kind of reinforcement is called vicarious reinforcement (Seif, 2008) [12].

In Bendura's theory, stimulant reinforcement process plays two main roles. Firstly, it creates an expectation among observers for the fact that if they behave like the model whose behavior has been reinforced, they will be reinforced. Secondly, it plays an encouraging role for changing learning to performance (Olson, Matthew H. & B. R. Hergenhahn, (2009) [13].

Vygotsky, Russian psychologist, completed Bendura's social learning theory. "In Vygotsky's cognitive development theory, the mutual interaction between learner and his/her social contextplays a significant role. A notable aspect of his theory is that when learners deal with the activities of a supportive environment and they receive proper information through those tools, education has most output (Mirzabeigi, Kharrazi, &Musavi, 2009) [14].

Environment consists of three subsets: family, school and society.

Firstly, most of the children's mental and physical basic life skills are formed in family environment. Mother is the first creature interacting thoughtfully and emotionally with her child. Father, brothers and sisters and other relatives form the network of the human factorseffective on child's learning in family environment.

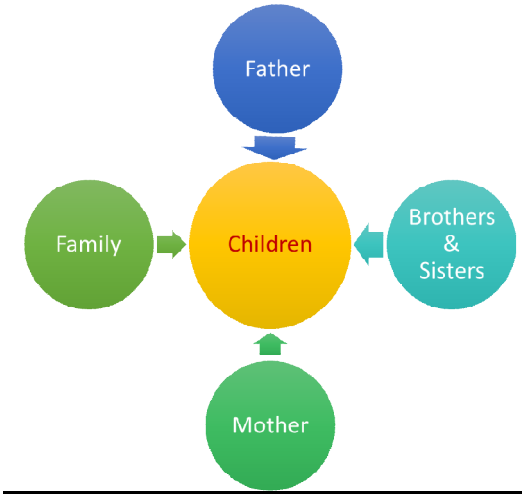

Diagram 1: Learning Model in Family Environment

Secondly, school is the social environment in real space which plays a valuable role in human development and in which formal education takes place. In this context, from writing and reading skills to moral and human criteria and fundamentals are taught in the framework of numerous education programs by teachers. The standard methods of learning evaluation are used in schools.

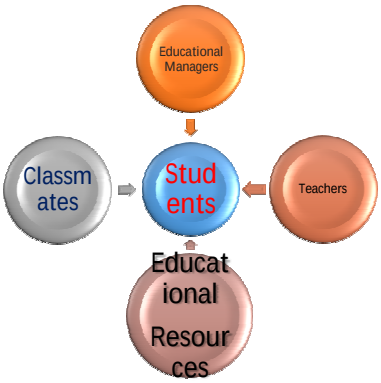

Diagram 2: Learning Model in School Environment

Thirdly, society is the third environment forming real space for learning. In the current paper, society is the space stands beside family and school and its human and cultural factors play a significant role in forming children's several mental processes including learning.

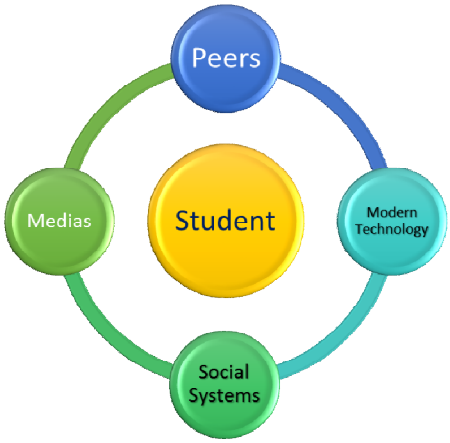

Diagram 3: Learning Model in Society Environment

3.2) Learning-Teaching in Virtual Spaces

As ICT has acceleratedthe process of information feedback for members in any learning system, that speed together with huge amount of data transmitted through information networks not only means information rich era but also means that in rapid globalization era, networked environments have become places for organizational and personal learning development. Now, learning is not merely obtaining information in desolated spaces like schools. Rather, in new era, effective learning happens in ICT and networked spaces facilitating learners' IQ and motivation, mutual interactions, technology and hardware supply for validating and publishing different types of knowledge and transforming them into domestic knowledge (Shekar, et al., 2009) [15].

Mobile learning theory is one of the late theories used so much in terms of deployment on web-based and technology-oriented models.

"Mobile learning, in fact, is a model of electronic learning happening through mobile technologies including cell phones, PDAs, music players, e-books and so on. The effectiveness of mobile learning requires paying attention to the theories and approaches of mobile learning. Exploiting these theories and approaches guides learning activities in mobile learning process

and entails in training human forces suitable for information era" (Barzegar, Dehghanzadeh & Moghaddamzadeh, 2012) [16].

Mobile learning has paved way for the fact that many educational ideals including independent learning, self-guidance in learning, learning anytime anywhere, learner independence in learning process, right for choosing content based on different preferences,recognition of learners' individual differences, possibility of presentation of examples in more tangible forms using computer facilities, cooperative learning and teaching, evaluation and rapid presentation of educational feedbacks have become more feasible (Barzegar, Dehghanzadeh & Moghaddamzadeh, 2012) [17].

Living animal's reaction or response to a typical stimulant results from neurotic links within its body in such a way that during learning, wrong responses reduces and correct answers aiming the creature toward a specific goals appears and these correct responses end in learning (Ebrahimzadeh, 2014) [18].

Ansari and Coch strongly believe and propose that teachers should learn neurology principles and neurologists should be trained education and psychology theories and principles so that a composite approach may be possible (Torabi& Kharrazi, 2012) [19].

Today, in many schools, universities, and higher education institutes and organizations, using this model, learning and teaching networks are designed and installed.

Totally speaking, electronic learning focuses on learners and they should build their knowledge and take the responsibility of their own learning until self-awareness and self-confidence are formed within themselves (Maleki & Aliabadi, 2010)[20].

Table 1: Electronic Learning Dimensions

E-Learning Dimensions	Investigated Topics
School	Administrative, educational and service affairs of students' e-learning
Management	Maintenance of learning environment and information distribution
Technology	Technical infrastructure topics in learning environments including infrastructure design, infrastructure, software and hardware
Training Method	Teaching learning including analysis of content, audiences, goals, design approaches, organization design and learning strategies
Moral	Socio-political changes, cultural differences, geographical differences, learners' differences, digital gap, way of conduct and legal stands
User Interface Design	General form and content of electronic learning programs including page, site and content design, navigation and accessibility and usability tests
Resource Support	Online support and required resources for meaningful learning
Assessment	Assessment of learners, learning and teaching environment

Reference: Moheb Ali, et al., 2013 [21]

Diagram 4 shows the learning model in virtual spaces:

Diagram 4: Learning Model in Virtual Spaces

Many studies have been carried out by specialists on electronic learning. In electronic learning and teaching systems, "electronic content" acts as the heart of the teaching style and learning model.

Based on the way multimedia content influences on learners' cognitive processing system and with emphasis on two factors of "selective care" and "memory", Lemercict and Tricot has categorized available theories into four parts in this regard Mirzabeigi, Kharrazi, &Musavi, 2009) [38].

Table 2: Principles for Preparing Electronic Content

Hypothesis	Basic Hypothesis	Principles
Mayer multimedia learning hypothesis	Atkinson-Shiffrin news processing hypothesis	Understandability, believability & Applicability
Swellerrecognition hypothesis	Piaget mental growth theory &Atkinson – Shiffrinmulti-store memory model	Presentation quality, redundancy, media elements interactive effect, split attention effect & skills reversal effect
Schonatze&Benert's Text and picture combination theory	Paivios dual coding hypothesis	Proximity of text and picture
Perfeti& Colleagues' Multi-document presentation theory	-	Presentation of information via single source

3.3) Learning-Teaching in Blended Spaces

Blended learning combines effective factors on learning in two real and virtual realms.

Regarding professional trainings and the formation of communities for supporting this kind of learning, the integration of face-to-face and on-line environments has different dimensions (Stacey &Gerbic, 2009) [22].

Blended approaches mean combining different learning forms according to learners' preferences and needs. Blended approaches consist of face-to-face classes, live e-learning and self-study learning and should be presented in the form of blended simultaneous online training and conference, non-simultaneous self-study and learning from peers in forums. According to educational needs and design, learners study educational content by themselves, sometimes attend at real or virtual classes and often try to discover new concepts and complete their own learning through participative learning and sharing knowledge with other peers (Moheb Ali, et al., 2013) [23].

Blended learning is the convergence between face-to-face and distant learning methods activated in most part using technological advances and distant communications and has more flexibility in learning environments.

Numerous studies indicate that e-learning using both models (face to face and distant)

is effective and popular among learners.Most learners prefer some forms of face-to-face methods or a method having real-time interaction with their teachers while they want the flexibility of online access to contents and other learners (Stacey & Gerbic, 2009) [24].

Theoretical and Research Foundation Of Blended Learning

Learning and teaching have greatly grabbed the attention of theoreticians in globalization paradigm.

In the face of globalization challenges, there are demands for changing traditional location-based education into new location-free paradigm. Such demands are multiplied by advances in ICT domain (Aghazadeh & Asareh, 2009) [25].

Toward the globalization of education, the internalization of curriculum has absorbed the attentions of theorists. "In this regard, the internalization of curriculum depends on such factors and variables as employees' curriculum content (teachers, principals) as well as teaching and learning methods in such a way that the capacity and capability of creating international communications could be possible for above-mentioned people (Shekari, 2009) [26].

Regarding the encounter of education with globalization phenomenon, Cheng has presented interesting viewpoints.

Cheng's theory of tree "keeps local identity and values – whether traditional or modern – against globalization knowledge. In fact, in the framework of the theory, local culture has digested global knowledge in the strictest sense of the word and entered it in personal identity" (Aghazadeh, & Asareh, 2009) [27].

Also, based on Cheng's theory of crystal, "it is expected that education outputs supervise the training of individuals who think local values through the window of global skills, knowledge and tactics (Aghazadeh & Asareh, 2009) [28].

In other words, "educational results of this viewpoint are the growth and development of nationalist learners with global knowledge in such a way that they think and act locally through globalization techniques (IT, ICT, international language) (Shekari et al., 2009) [29].

Cheng's DNA theory shows the other reflection of learning in global dimension. "In such a system, students are strongly encouraged to acquire global knowledge as much as they could and transfer it to local knowledge for development and flourish. This incidence causes people to be two dimensional, meaning that they can work in local and global dimensions (Aghazadeh, & Asareh, 2009) [30].

Based on Cheng's theory of fungus, "education and curriculum should be

organized around the fact that students may be capable in recognizing and learning global knowledge for the benefit of local knowledge"(Aghazadeh, &Asareh, 2009) [31].

In this theory, education and curriculum designers should empower students so that they may recognize global valuable knowledge for self and society development (Shekari, et al., 2009) [32].

Ultimately, as Cheng's sixth theory on globalization, amoeba theory requires curriculum designers to design the full chain of global instructive programs so that students could use global knowledge as much as possible while adapting better with changeable environments. Therefore, to have a wide global view, students should employ knowledge both locally and globally (Shekari, et al., 2009) [33].

Probably, one could say that Cheng's networked learning is the most fundamental theory of learning which could account for blended learning system.

According to Moc and Cheng viewpoint, learners, teachers and parents form classroom learning processes in a unified network. In a specified network, classrooms form school's learning. Also, schools and community in a network form learning society. And, learning societies influence on data size and its type in a network basis all over the world.

Regarding memory, "cognitive scholars believe that information processing in computers resembles to information processing in human mind, that is, reception, restoration and recovery. This similarity allows designers to design the computer in such a way that it could think like human, that is, artificial intelligent (Merkel, 2011) [34].

Cognitive theorists feel that learning is an intrinsic process which could not happen as a rapid change in obvious behavior. Rather, it is built as abilities within individuals and restored in their memory and they could use those abilities whenever they want (Seif, 2008) [35].

The term of "schema" is used instead of general knowledge resulting in information processing in any specific field. Students are able to produce and understand schema while connecting separate elements of any specified concept and linking them together likeweaving wrap and weft. Schema facilitates the process of coding, restoring and recovering data relevant to a domain (Torabi& Kharrazi, 2012) [36].

As a potential hypothesis in response to changing forces relevant to technology and knowledge society, connectivism learning theory may have more applications for new virtual spaces whereas older theories, even behaviorism, continue their lives in the fields in which their capability has been

approved. Furthermore, if previous learning theories have focused on "why" and "what" knowledge, connectivism emphasizes on "where" and "who" knowledge. Therefore, beside other theories, the new theory could respond to the new conditions of knowledge society and resolve its limitations (Eskandari, Fardanesh&Sajjadi, 2009) [37].

Today, in organizational learning field, IT has greatly assisted managers in organizational decisions. For so doing, organizational memory, something like blended learning network memory, is the main part of organizational learning.

Organizational memory plays a vital role in organizational learning. Both learning utility and feasibility depend on the effectiveness of organizational memory. In data interpretation, the most basic challenge for organizations is the creation of organizational memory easily accessible (NekooeiMoghaddam, et al., 2008) [40].

Blended learning system is a smart network. Therefore, "to select a learning model for the architecture of a smart agent, it should be noted that reacting factors are not able to recognize environment and draw a picture from extrinsic environment. Therefore, reasoning is not possible for them and affective learning models are applicable for them although agents have usually those two features fairly.

It should be noted that in the architecture of a smart agent, the combination of several learning models are used and the selection of proper model(s) depends on agent design and problem environment. So, one could not introduce one of the above models as the most optimal because each of them has distinct usages and for any problem, any specified model should be discussed separately" (An introduction to neurotic networks, 2012) [41].

When looking into available learning theories form the window of technology, Siemens (2005) poses questions challenging dominant learning theories. In his opinion, theorists naturally try to revise and evolve theories due to changing conditions. However, in some cases, fundamental conditions change basically which the correction of previous approach will need a completely new approach. He knows changes resulted from technology and new sciences revolution, that is, distributed cognition, chaos, complexity and network as changes in fundamental conditions (Eskandari, Fardanesh & Sajjadi, 2009) [42].

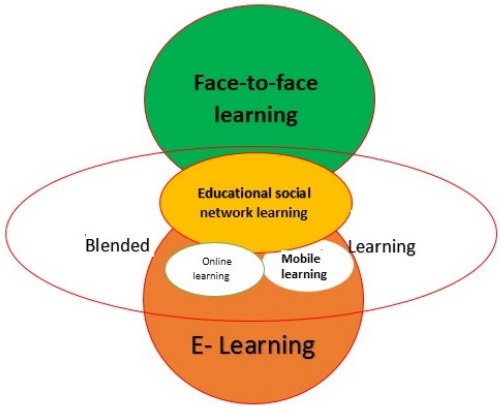

Diagram 6: Position of blended learning among other models

CONCLUDING REMARKS

In the rapid changes of human life domains, generally education systems and specially schools not only are in the path of change but also could accelerate and direct it. Therefore, theoreticians have proposed following features for future schools

- being open and flexible
- creating possibility of new cooperation cases and creative problem solving
- supporting and encouraging teachers in employing new technologies
- making use of technology as a tool for managing schools
- managing schools without limitations and borderlines
- supporting all learning styles

Traditional education has been gradually superseded by web virtual space. Organization, control and management of educational processes have been difficult. In addition to the accountability to educational demands of learners and parents expectations, blended learning model empowers school principals in using new information technologies.

Currently, a brief look at social atmosphere of families and schools shows that a major part of people's daily activities are performed in virtual and semi-virtual spaces from paying utility bills to the attendance in virtual university classes or different exams and test sessions.

Therefore, "instead of being a pioneer in adapting new technologies, education lags behind all. Taking a look at the expansion of new digital technologies in the Africa, it is obvious that most available technologies have been established by private sector and facilitated by irregular public links rather than the high levels of innovations and strategies" (Kaosan, 2004) [43].

In this situation, human and emotional interactions have the sense of physics and electrons. The nature of these interactions is spirituality. Material could not transfer its spiritual load. Therefore, some spaces are needed for facilitating teaching-learning process and transferring emotions and thoughts through the most advanced technologies while they should be humanized as a fact of human changing life.

The main point is that emotions and thoughts are humans' two valuable mental sources. The blood in the vessels of the bodies of education systems consists of the combination of those two spiritual elements. The highest level of exchange between emotions and thoughts happen in teacher-student interrelationships. If those interactions are formed in culturally constructive contexts, the majority of behavioral goals are deeply and richly materialized in learning processes.

As these processes are human-to-human interactions and educational software and hardware play the role of facilitators,to what extent these facilities, technology and message receiving and sending channels are designed based on human resources' national, organizational and personal culture, those could be more aligned with educational general trend and not only they could improve the quality of education, but also they could play a role as organizational cultures' materialistic elements.

Blended learning model is a response to this need of education system. Besides protecting spiritual and affective interactions of real environment, the model facilitates several education processes including teaching-learning procedure using new technologies. A part of those processes are performed in real spaces, life environments and study and the other part in virtual spaces. Ultimately, all processes relevant to learning and teaching are integrated in a blended space.

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