

## Linking Social Network to Education: The Potentials and Challenges

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Despite the relatively short history of Social Network Sites or Services (SNS), it has quickly gained popularity with more than seven hundred million users all over the globe. The SNS emerged as one of the strongest cultural influences for the contemporary society. The SNS would provide both chances and challenges for Education. The main purpose of the article was to explore the way education react and adapt to the emergence of social network and SNS. It tried to provide major theoretical grounds that bridge education and social network. In the due process, the researchers have examined the curriculum and instructional design process of education from the perspective of disruptive and sustainable aspect of SNS technology. Consequently, four major theoretical grounds were identified and reviewed: Gibson's theory of affordance, Vygotsky's social constructivism, Rha's human visual intelligence theory, and the network theory. By investigating these theories, the educational potentials of social network and SNS were emerged. The SNS was viewed as a new medium with abundant potentials of expanding the learning space, empowering the affective aspects of learning, and facilitating the formation of group intelligence. Finally, some future implications and challenges of SNS were suggested.

*Keywords : Social network, Social media, Social constructivism, Affordance, Human visual intelligence, Network theory*

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## Introduction

The pioneers of the field like Durkheim and McLuhan had already foreseen the emergence of social network resulting from the combination of various technologies such as human creativity and the development of electricity. Durkheim insists that 'social phenomenon' is the reality constructed by the interaction among individuals, and that it progresses through organic solidarity which accepts individual specialization (Freeman, 2004). In his work 'Understanding Media', Marshall McLuhan (1964) anticipated that media would not stay limited to personal uses, but would continue to cultivate social relationships. He perceived electricity as playing a major role in expanding and integrating humanity for electricity makes all the other electric media possible. The nature of electricity is to connect things, even beyond the spatial dimension. It connects a machine to a machine and a person to others. So it seems that social network has emerged as a product of people's basic social needs and computer communication technology.

SNS integrated with social media has become the most talked about subject of today's society. Considering the trend for the past few years, it feels as if social network and SNS have become a part of our lives. It is probably because it is the tool that best realizes and expresses the very social nature of human. SNS creates immediate information and rapid expansion through online social networks (boyd & Ellison, 2008). The emergence and influence of SNS could not escape from the attention from the field of education in which shares the essential interest in information (Rha, 1995). The current media should not be investigated from the limited perspectives of teaching and learning because they might have both sustaining and disruptive power at the same time for education.

Then what are the linking points of social network and education? How can we conceptualize the social network in relationship to the education? What are the impacts of SNS to education? And what are the potentials and challenges? The

purpose of this paper is to seek some answers for these questions.

## **The Reality of Social Network**

### **The history of social network**

The history of social network is not too long. The first social networking sites or services (SNS) launched in 1997, and since then only 14 years have passed. Nevertheless, the change it has brought about is enormous. SNS began with SixDegrees.com in 1997, where a user could upload his profile, search for friends, and share profiles with friends (boyd & Ellison, 2008). But SixDegrees.com discontinued its service in 2000. Although the number of users was increasing, they had difficulty expanding its system large enough to sustain all the users at that time (boyd & Ellison, 2008).

Between 1997 and 2001 various SNS allowing users to manage their profiles and share with online friends started, such as LiveJournal, Cyworld, and LunarStorm, but failed to attract many users. In 2002, Friendster launched. In contrast to the previous networking sites focused on befriending with strangers, Friendster recognized the common pattern among people to form a network of online friends with those whom they already knew in person or with friends of friend's. Thus, Friendster built a system to help users find friends, acquaintances, and friends of friends' (boyd & Ellison, 2008). The number of Friendster users increased rapidly. Due to the limited system capacity and the rising worries about false information, however, the number of Friendster users started to decline in the United States. On the other hand, there were increasingly more people using Friendster in East Asia including Singapore, Indonesia, and Philippines (Goldberg, 2007).

As social networking slowly became to be the cultural norm, more SNS sites that connect people with common interest began to appear. Some of these newly

launched SNS tried to differentiate themselves from others by focusing on certain interest groups; for example, Passion-centric, Care2, Couchsurfing, and MyChuch are SNSs for special interest groups. Adding on to casual networking were those sites involving professional social networks like LinkedIn, Visible Path and Xing. Furthermore, SNS users began to produce, upload and share media contents online; Flickr is a well-known SNS for sharing pictures, Last.FM for sharing music, and YouTube for sharing videos (boyd & Ellison, 2008).

Then, MySpace launched. MySpace sought to differentiate its service from other sites by enabling individualization of profiles. It successfully attracted many users who had initially abandoned Friendster. Especially in Los Angeles, Indie-rock bands started posting their profiles on MySpace to promote their concerts, which then attracted their fans to join MySpace (boyd & Ellison, 2008). Another key feature of MySpace was that it did not have age restrictions, thus allowing teenagers to join as users. So the mainstream of MySpace users consisted of artists, teenagers, and college graduates who formed interactive networks centered around their favorite rock bands. Then, in 2005, MySpace was at the center of attention when it was acquired by News Corporation (BBC, 2005).

The use and interest of SNS began to expand globally. MySpace became popular in United States and other countries as was Friendster in Southeast Asia, Orkut in Brazil, Mixi in Japan, LunarStorm in Sweden, Hyves in the Netherlands, Grono in Poland, Hi5 in Central America, and Bebo in China.

The launch of Facebook, which now dominates SNS industry, has made the society to pay more close attention to SNS. Found in 2004, Facebook was originally limited to Harvard students. It expanded service first to other college students and then eventually to anyone aged 13 and over (boyd & Ellison, 2008). Facebook's distinct feature is that users can create personal profiles, form networks with friends, and be connected to others in the same network. It is now the most typical function of SNS to post your personal information on profiles and build social networks online. If traditional social relations among people were to form 'a group'

centered around common interest before the coming of SNS, now an individual can be the center of a social network itself and form social relations (boyd & Ellison, 2008).

Cyworld, a South Korea's most popular site launched in 1999, has 25 million Korean users as of February 2011 (Herald Media, 2011). The users can create a personal mini-webpage, register others as friends-or first degree relative called 'Ilchon'- post short personal notes and pictures, and share with friends. Between 2004 and 2005 an average of 700 million notes, 4.5 million pictures, 8 million posts were created and read everyday (Kim, 2006). Cyworld also has operations in China and United States.

Twitter launched in 2006 also has rapidly gaining new users. As of April 2010, three hundred thousand users joined everyday (Kwak, Lee, Park, & Moon, 2011). According to Twitter Korean Index, as of January 2011, there are more than 2.5 million users in Korea alone. Twitter is similar to other SNS in that it also allows building connections with other users and leaving short messages online via mobile phones; however, there are some distinct differences. Users on typical social networking sites, like Facebook, build reciprocal relationship with other Facebook users whom they usually know offline. On Twitter, however, a user can form unidirectional relationship simply by 'following' the other person without the person's permission (Kwak et al., 2011).

It is the unique characteristics of Twitter that permits unidirectional following relationship pattern. And such feature of Twitter has made it to have exportability of information (Kwak et al., 2011). Twitter's unidirectional relationship pattern reflects user's subscription to information he or she wants. 'Following' a person on Twitter does not necessarily mean the desire to build social relationships with that person. And it is because of this feature of Twitter that it can have the ripple effect. For instance, when US Airways flight made an emergency landing at Hudson river in 2009, the news was quickly spread through Twitter. After the earthquake in Japan in 2011, Twitter users tried to locate their families and friends on Twitter.

Therefore, Twitter provides a quick way to export those information wanted by the users.

The advents of portable laptops and smart phones have dedicated much to the rapid dominance of SNS. As smart phones, tablet personal computers and other portable electronics make it possible to access SNS ubiquitously, users can enjoy and utilize SNS more often.

### **Social media and social network**

SNS is a web-based service that allows posting personal information of user within a designated boundary of a network, forming social networks, and accessing other users and networks through common friends to expand one's network of friends (boyd & Ellison, 2008). Social media is media produced by measurable publishing technology to facilitate the diffusion of opinion through social interaction (Sul, 2009). Social media transforms one-to-many communication to many-to-many communication by the application of web-based technology while also fulfilling the need for social interaction. It also changes the role of content consumer to content producer.

In fact, social network and social media are different in their function and purpose. Nevertheless, it is usually difficult to clearly discern the boundary between the two because they both involve openness and sharing of information. They are different in that social network focuses on network whereas social media helps the user to both produce and consume information. Yet, it is through social network that social media can be delivered even to a person outside of the user's network.

### **The reality of use of social network**

As of 2011, it is estimated that there are more than seven hundred million SNS users. Facebook alone had more than five hundred million users as of July 2010

(Koo, Yoo, & Choi, 2010), Twitter had one hundred six million as of May 2010 (Lee, Lee, Park, & Lee, 2010), Cyworld had twenty five million users (Herald Media, 2011), and Friendster one hundred fifteen million global users (The Electronic Times, 2011).

Since its emergence, there have been both positive and negative outcomes. In cases like Japan earthquake, SNS acts as the critical communication means. It contributes to the democracy movement, employment process, and even criminal investigation.

It is also used to promote organizations like museums. There are negative effects too.

There have been reports about leakage of personal information, online sex trafficking, and circulation of virus files.

How is SNS perceived in education? According to the National School Boards Association of America, sixty percent of students have posts related to education on SNS. More than fifty percent of students talk about school and studying. However, most of the schools ban using SNS in school environment even though SNS has not caused many problems. There may be various reasons as to why, but it is clear that they are hesitant in officially using SNS in school. They are more confused because they are unsure about exactly what features of SNS grab their attention and about what features could be used in education.

## **Why Should Education Pay Attention to Social Network?**

### **D-aspect and S-aspect of technology**

Every technology has D-aspect and S-aspect. D-aspect stands for disruptive aspects, and S-aspect for sustaining or supportive aspects.

D-aspect means the existing approach is torn down and new approach or

technology is applied while S-aspect means the continuation of exiting approach or improvement of it. Disruptive innovation and sustaining innovation were used in a Harvard professor Clayton M. Christensen's work, "The Innovator's Dilemma". Sustaining innovation refers to technology developed as a continuum of technology that leads the existing market. Disruptive innovation, on the other hand, refers to technology that demolishes sustaining innovation and opens a new market (Kim, 2010; Bower & Christensen, 1995; Christensen, 1997).

The influence of SNS in education could be viewed from the disruptive and sustaining aspects.

From the disruptive aspects, SNS could break the wall of prevailing ideas on education and create a new culture in education. In contrast, SNS might gradually support the need of education from the sustaining aspects. The application of D-aspect and S-aspect of SNS are used as metaphors to explain the role of SNS in education. As if the appearance of new technology has both disruptive and sustaining aspects in a market, technology in education field can also have disruptive and sustaining aspects.

Using these metaphors, this paper investigates if SNS will have disruptive or sustaining aspects, or perhaps both disruptive and sustaining aspects, in education. This investigation is necessary since the advent of new technology will heavily affect not only the market, but also education. In the following sections, we will provide a general description of how SNS will influence education curriculum and educational technology with its D-aspect and S-aspect.

### **How will SNS influence education?**

The Table 1 contains D-aspects and S-aspects of SNS affecting each of the four components of education curriculum which include educational objective, content, the process of learning experience and evaluation.

The Table 1 reveals that SNS will impact education in a considerable way.



**Table 1. D-aspects and S-aspects of SNS affecting to the four components of education curriculum**

Four components of educational curriculum	D-aspects	S-aspects
Educational objective	<ul style="list-style-type: none"> <li>▫ Change to selecting educational objectives</li> <li>▫ More considerations required while selecting educational objectives</li> </ul>	Immediate reflection of learner's needs
Content	<ul style="list-style-type: none"> <li>▫ Dramatic change to the construction of content</li> <li>▫ Subjects that need to be taken down</li> </ul>	Diversity of content
Process of learning experience	<ul style="list-style-type: none"> <li>▫ Dramatic change to teaching-learning situation</li> </ul>	Diversity of learning Experiences
Evaluation	<ul style="list-style-type: none"> <li>▫ Change to evaluation of academic achievement</li> <li>▫ Evaluation of problem solving and higher order thinking skills</li> </ul>	Diversity of evaluation methods

### How will social network influence educational technology?

Educational technology is defined as the study and practice of analyzing problems involved in human learning and devising solutions, and is consisted of five major areas: design, development, application, management and evaluation. Educational technology is essential in any instances of discussing education since it involves identifying educational problems, designing instruction, and utilizing instructional media. Therefore, in addition to the general discussion of SNS's impact on education, it is also important to explore the potential impacts of SNS on the aforementioned areas of educational technology. The potential role of SNS in the process of educational technology can be anticipated in terms of its disruptive and sustaining aspect. Table 2 presents these prospective roles of SNS in the process of educational technology.

Table 2. The role of SNS in the process of educational technology

	D-aspect	S-aspect
Design	Increase in detailed design elements Analysis for the overall process of instructional design	Increase in available resources in the design process
Development	Inclusion of SNS in development process	Support for past development strategy Diversity of media development
Application	Possibility of creation of new information and knowledge	Greater support for innovation
Management	Change to management strategy	Support resource management (human and physical resources)
Evaluation	Change to concept of evaluation	Immediate and repetitive evaluation

As disruptive technology, if SNS were to be adopted in the process of educational technology, it could possibly increase detailed elements in design process, include SNS in development process, create new information through the use of SNS, and transform management and evaluation strategies. As sustaining technology, SNS could provide more resources in design process, diversify media development, support various resource management, and practice immediate and repetitive evaluations.

### Theoretical Grounds to Bridge Social Network and Education

Education is an activity that is deliberately planned and delivered, whereas SNS is an unintentional process initiated by users' voluntary participation and interest. Formal education is compulsory while SNS depends on personal choice. Then how

is it possible for education and SNS to have a point of contact with each other?  
 What are the theoretical grounds to support SNS's educational use?

### Gibson's theory of affordance

Psychologist Gibson (1979) defined the concept of affordance originating from ecological psychology as what is provided by the surrounding environment which includes the mediums, the surfaces and the substances. Affordance is useful information which induces a person to perform an action latent in the environment. It is related to the action capability of an actor who form a complementary relation with the environment. The actor interacts directly with the environment without having to interact with a medium, a condition possible when the environment

Table 3. Types of affordance

Types of Affordance	Descriptions	Examples
Cognitive affordance	Design feature that helps users in knowing something	A button label that helps users know what will happen if they click on it
Physical affordance	Design feature that helps users perform a physical action in the interface	A button that is large enough so that users can click on it accurately
Sensory affordance	Design feature that helps users sense something (especially cognitive and physical affordances)	A label font size large enough to read easily
<b>Functional affordance</b>	Design feature that helps users accomplish work (i.e., the usefulness of a system function)	the internal system ability to sort a series of numbers (invoked by users clicking on the Sort button)

*Note.* Adapted from “Cognitive, physical, sensory, and functional affordances in interaction design” by H. R. Hartson, *Behavior & Information Technology*, p. 323

possesses information eliciting particular action from the actor. In such environment, the actor receives action capability from the environment (McGrenere & Ho, 2000). In trying to make the concept of affordance more available to be used in the design of human-computer interaction, Hartson (2003) identified four types of affordances: cognitive, physical, sensory, and functional affordances. His classification bears important implications.

### Vygotsky's social constructivism

Social constructivism addresses learning context and social context in which a learner exchanges influences. It focuses on the relationship between an individual and the surrounding environment. The individual consists the environment as much as the environment makes up the characteristics of the individual. If the social relationship between the environment and its members changes, the individual will also undergo some changes (Bredo, 1994; Gredler, 1997). Therefore, learning cannot be taken out of context.

Constructive learning environments (CLEs) are learning contexts in which learners can actively construct knowledge by voluntary participation and self-directed learning (Korean Society for Educational Technology, 2005). Knowledge is seen by constructivism as a process of generating new meaning from interaction between learners' experiences and the environment. Therefore, the support system of social context helps one realize constructive learning environment (Palincsar, 1998; Jonassen, 1999).

Social constructivism is similar to Vygotsky's social development theory (1978) in that it views the construction of knowledge in terms of one's interaction with social context. He insists that cognitive development is completed by internalization of social interaction. Learning is a process of internalization of knowledge situated in social context, and this process is facilitated by interaction with others (Wertsch & Stone, 1985).

Vygotsky's zone of proximal development also shows the importance of social

engagement or sociocultural interaction in learning. Zone of proximal development highlights the cognitive development as a product of social interaction. The theory provides the important theoretical ground for demonstrating the role of a teacher or an adult as facilitators in child's cognitive development (Rha, 2007).

### **Human visual intelligence theory**

Human visual intelligence theory can be another theoretical bridge between SNS and education as it provides significant insights into the ability to use product and byproduct of human perception (Rha, 2007).

According to the visual intelligence theory, visual creativity and the ability to produce and interpret visual cues are the fundamental requirements for the communication, which enables social networking in the digital environment. SNS requires the ability to imagine the presence of others, and understand and create context just from reading texts. It is common to observe the use of various emotions, colloquial language, sentence fragments, and abbreviations in any culture of SNS (Lee & Choi, 2010). Such “anti-language” expressions improve users' visual imagination and comprehension skills, and can be understood as efforts not only to establish common ground and rapport, but also to communicate accurately. Thus, online communication is built on visual comprehension ability, imagination, and operation skills (Rha, 2007).

Visual intelligence theory can serve the central role in explaining the perception, comprehension, interpretation, and application of complex and important affordances created by technology. Moreover, the theory also provides reasoning for effective ways to arrange technological affordances in the environment.

### **Network theory**

Social network has been the central concern of sociology. In recent years, however, it is starting to be researched all across the academic fields, including

anthropology, biology, communications, economics, geography, information science, social psychology, and socio-linguistics.

Usually in sociology research, social network refers to social structure consisted of connections of individuals or organizations. These individuals and organizations are called “nodes” that are established by interdependent relationships of friendship, family relatives, financial exchange, or religious groups. Social network analysis perceives social relationships as nodes and ties from the perspective of network theory. Nodes refer to individual actor within a particular network, and ties refer to connection among individuals. As one node takes up a variety of structures and forms, the results can be quite complex to present. Social network analysis, thus, displays the results in a simple way by using a network map. The node connected to a person represents that person's social contact. The network acts as an important standard to measure social capital which is the value an individual earns from social networks.

Social network and social network analysis methodology can help to bridge education and network by providing necessary knowledge about how to increase the value of learning through social network. The understanding of social dynamics from network analysis will also help to deepen the understanding of characteristics of learners who communicate, learn and live with Web 2.0 technology that is participatory, liberal and cooperative. That people learn from social interactions with others has been demonstrated by many researchers, establishing a theory of social constructivism for which Vygotsky is the most well-known theorist (Vygotsky, 1978; Palinscar, 1998). Therefore, from these perspectives, SNS can be viewed as an important source of social interactions and social learning that are highly valued in education. One's participation in SNS and creation of network through SNS can readily fulfill the important social learning functions (Greenhow & Robelia, 2009).

Observing the fast growth of SNS and its potential usefulness in education, researchers have recently begun to examine practical ways to apply the principle of social network in learning, and have demonstrated the effectiveness of SNS in

creating a network of learners to enhance learning. For instance, Tu, Sujo-Montes, Yen, Chan, and Blocher (2012) built an online course using Web 2.0 technology in attempts to investigate the uses of personal and network learning environments by learners. The online course designed to facilitate social networking through the integration of Web 2.0 technology helped learners build authentic network learning community, from which students were able to share knowledge and information in a networked, collaborative way (Tu et al., 2012). Furthermore, emphasizing the value of learning through social network, the researchers insist that effective learning should foster “network” learners (Tu et al., 2012).

The understanding of network theory, therefore, helps clarifying the potential role of SNS in education; SNS can create participatory, liberal, and cooperative learning experiences. With elaborate inclusion of SNS in instructional design, SNS can offer practical ways for learners to actively build and engage in networks which they will use to share information, produce performance outcomes and receive feedbacks.

## **The Potential and Challenge of Social Network**

### **Potential of social network in education**

SNS and other technologies that facilitate social networks can function as affordance themselves. If used for educational purposes, social network can influence intellectual development as described in Vygotsky's social learning theory. The formation and extinction of social network as well as its impact are determined by the network's internal dynamics. In other words, the quality of social network's educational effect-either positive or negative-will be determined by people who create networks.

To explain the history of cultural development, Bhola (1982, 1988) refers to ideology and technology. According to his explanation, cultural development is

proceeded by the interaction between ideology that determines one's value and belief system and technology that provides means and resources to actualize ideology. The formation of social network from the emergence of social media can be treated as one of such technological element described in Bhola's account. The next important step to take to create new culture is to examine the purpose, the characteristics and the potential of these technologies.

Although the advent of social media and social network conveys important potential for education, it may still be a little too early to foresee its impact as they are recent technologies. It is possible that they will be used in a more creative, novel way than they are now. Nevertheless, it would be worth to prospect and discuss some of the possibilities of social network in education as follows.

#### **Possibility for the practical expansion of the meaning of learning**

The view of education seems to be shifting from formal school education to include informal learning as a result of SNS. SNS has potential to bring learning to learners whenever and wherever they are. For example, a writer uses Twitter to send out daily tweets to guide the development of writing skills to his followers. He can provide instant feedback to what his followers post as response. Sometimes opinion leaders can share thoughts and initiate debates online on current issues. There are other instances where SNS users share their situations online to seek advices from their network of friends. All of the described instances, through happened strictly outside of classrooms, can certainly be seen as learning experiences. In some ways, they involve more practical learning.

Merriam and others (2007) state that formal learning is highly institutionalized, bureaucratic, curriculum driven, and formally recognized with grades, diplomas, or certificates. On the other hand, informal learning is oriented towards autodidactic and self-directed learning and places special emphasis on the self-definition of the learning process by the learner (Livingstone, 2001). Studies of informal learning, especially those asking about adults' self-directed learning projects, reveal that upwards of 90 percent of adults are engaged in hundreds of hours of informal



learning. It has also been estimated that the great majority of learning in the workplace is informal, although billions of dollars each year are spent by business and industry on formal training programs (Merriam et al, 2007. p.35-36). According to Overwien (2000), experience indicates that much of the learning for performance is informal. More efforts are needed to go beyond the territory of traditional school education and to include informal learning as another domain of education. And SNS can provide meaningful means to facilitate informal learning to extend what learning is.

### **Possibility for the expansion of learning spaces**

The rise of social network has brought about faster and broader expansion of learning spaces (Rha & Jung, 2004). In presenting 'Expansion of Learning Space Theory' as a new approach to explain distance learning, Rha and Jung (2004) insisted that four aspects of learning spaces (information acquisition space, information application space, learning discourse space, and knowledge construction space) are expanded in distance education. Such expansion of learning spaces was made possible by e-learning, but with SNS acting as affordance, learning spaces are enlarged rapidly.

Information acquisition space can now be expanded infinitely by SNS and mobile media. Not only is it possible to obtain diverse information offered on the internet, but also it is now possible to obtain better quality of information through networking and conversation space. Information application space was initially treated as personal learning pace for personal use of information gained; however, in SNS one can apply information in bigger learning space. Learning discourse space exceeds the temporal, spatial, and physical limitations of just between an instructor and a learner. In knowledge construction space, a learner can more easily and freely construct knowledge through collaborative learning with other learners in the network. In summary, social network can be said to have potential to positively affect learning activities by extending learning spaces.

### **Potential to influence the affective domain of learning**

According to Korea Internet Security Agency (2009), SNS is the internet based maintenance and management services which is ‘connecting people, information sharing, social networking, and self-expression.’ The basic premises of SNS are the formation of relationships between people and the sharing of knowledge and information (Jeong & Bae, 2007; Kim, 2010; KERIS, 2010; NIA, 2010).

Similarly, education involves creation and transfer of knowledge through relationships. Therefore, the characteristics of SNS that allows formation of relationships and transfer of knowledge can be used for educational purposes.

SNS is based on computer mediated communication (CMC) but it is more focused on users’ social-emotional needs compared with CMC which is focused on information sharing and exchanging such as on-line community, blog, and so on (Rau & Gao, 2008; KISA, 2010). For example, SNS can also affect the extent to which a person feels lonely. Rau and Gao (2008) explain that SNS may provide people with a sense of connection. Especially as the affective domain of learning is given as much significance as the cognitive domain, SNS can be used to manage the affective domain of learning and increase motivation from learners.

### **Potential to promote the formation of group intelligence**

SNS extends the role of users in communication process of information. Before the start of SNS, the role of users in communication was limited to providing and receiving information. Nowadays SNS allows the users to have reciprocal communication and provides specified process of communication. Not only does SNS offer a variety of information, but also delivers information to users almost immediately as it transcends the spatio-temporal restrictions. For instance, TV as a medium delivers information to people in one direction, but Facebook allows its users to engage in the communication process itself, create threads of information, and thus understand also the context of information.

As SNS becomes more accessible via mobile technology, the boundary of offline and online world is likely to become fuzzier. Sharing and editing information will be

more convenient, as receiving feedback will also be immediate through SNS. For example, if a person wanted to verify some information obtained offline, he can simply post it on SNS and ask the content matter expert for verification.

The features of SNS that permits engaging and immediate communication of information will be a great benefit to those professions that need the information from the public. As people will be able to freely and actively form online community to share information, SNS can also provide meaningful ways to benefit education with its readiness to create group intelligence.

### Future challenges

Jung and Latchem (2009) defined the central components of e-learning as dialogue and reflection. SNS provides affordances critical to both of these two components. Thus it is useful to look at the educational potential of SNS from this perspective to understand the role of SNS in education.

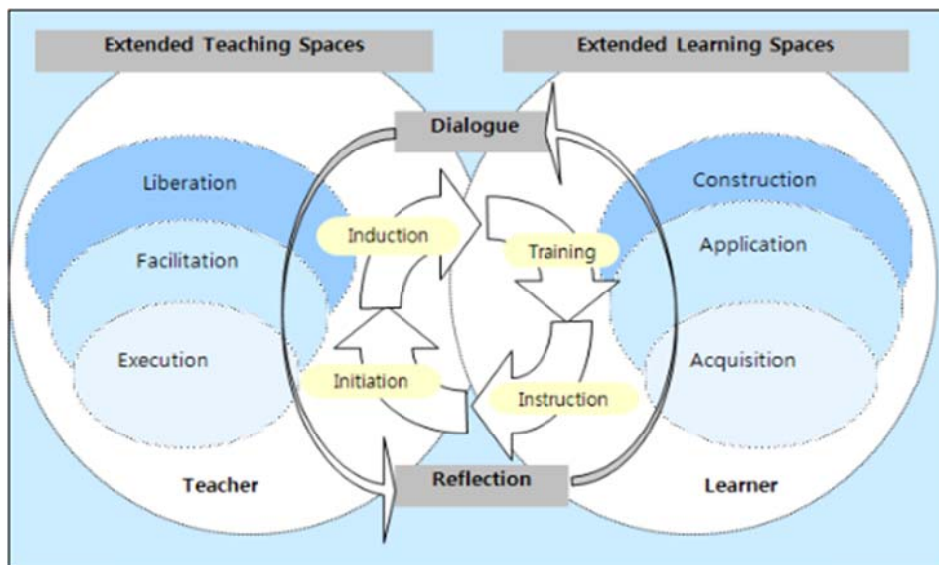


Figure 1. Extended learning spaces in e-learning (Jung & Latchem, 2009)

The challenge that will determine the future relationship between SNS and education centers around how SNS will be applied to improve education.

Further considerations for the role of social network and SNS in education include educational policy, socio-cultural aspects and the nature of SNS.

Also, the development of social network as a new technology and the integration of new affordance into instructional and learning systems are the areas that remain for future research.

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