

A study on the effect of strategic Smart-learning system : Focused on its development and implementation

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Abstract

With growing use of smart phone, there has been increasing demands for utilizing it in the field of education in a variety of ways. Businesses have also rapidly begun to adopt and implement Smart-learning system as a part of HRD.

The study aims to understand the effect of Smart-learning based on SNS technology, which can be adopted and utilized in the business area. For the purpose of this, an analysis has been conducted through reviewing definitions and concepts about technology-integrated learning, specifically Smart-learning. And then, factors for successful implementation of Smart-learning and strategies for its optimization are derived through the analysis.

Another issue of the study focuses on a role of HRD in managing and implementing Smart-learning in the business field. For the meaningful results, a focus group interview and survey of 15 stakeholders in charge of Smart-learning system in a company has been made. As a result, five factors for successful implementation of Smart-learning in the business field are derived from a focus group interview and surveys; 'CEO's active involvement', 'appropriateness for company policy', 'correct information', 'cyber security' and 'employees' active participation'.

The results of the study have significant implication in the field of HRD by suggesting several factors to consider in advance for successful implementation and management of Smart-learning.

Key words: *Smart-learning, Mobile-learning, M-learning, Social-media*

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I. Introduction

We live in the knowledge-based society where amount of information travels all over the world and people do their work on the virtual environment which fosters online interactions featured by its great connectivity. Many authors who work in this field argue that it becomes more critical for us to assess, utilize and reconstruct knowledge properly than to just simply receive it (Gardner, 2006, Pargaru, 2009).

Compared to an explosion of interest in its convenience and attractiveness that the state of art technology can bring to educational environment, however, there has been poor attempts to establish a direction and philosophy the technology is heading for in terms of education, which can matter if we adopt it without any considerate mind. For instance, in spite of the fact that approximately 20 million people now reportedly have smartphones in Korean society, it is still hard to find what smart education is, how it can differ from other ways of learning and how to support and implement it systematically as well as strategically. In other words, stakeholders and educators don't give enough consideration into smart education from the perspectives of educational philosophy or strategies. Instead, they just make use of smart devices as a novel tool to facilitate learning process.

In the last decade, media has been evolved from analogue to digital forms, which, in turn, help to lead to lots of new ways of learning including Cyber Learning, E-learning, U-Learning, Social Learning, Mobile Learning, and Smart Learning and so on. Specifically, researches about Smart Learning have been scarcely done and the meaning of Smart Learning has defined variously so that it is hard to converge on to the point where it can be useful and practical for its application. Furthermore, effort has barely been made when it comes to instructional and educational aspects of Smart Learning (Cyber Society Research Center, 2011; Noh, Joo, 2011; KERIS, 2011). Therefore, it is important to draw the consensus about concepts and strategies about Smart Learning and develop practical approaches coming up to the trend of future-oriented education based on advantages brought by technological evolution.

Accordingly, as Smart devices different from other previous media such as PDA or E-book have propagated pervasively, different approaches in terms of educational utilization needs to be developed in the consideration of instructional as well as learning perspectives. This issue becomes more urgent and critical considering the proliferation of types of smart devices and increasing demands of life-long education, industrial education and public education integrated with that technology.

Recent issues of human resource development are social media, smart learning and informal learning way beyond traditional form of learning. ASTD has begun to hold seminar and conferences on the themes of informal learning and various types of novel technology to support it. Reviewing the literatures and corporate reports regarding HRD, advantages of Smart Learning is basically on expanded locus of learning from traditional

learning places like classroom, corporate to street and inside subway. To sum, learning is not limited to traditional places but can happen everywhere and every time.

Second, every employee can participate in producing as well as consuming knowledge. There has been relationship among collaborative learning, coaching system, learners and instructors in the traditional way of training. This relationship, however, has become to change from vertical to horizontal one.

Third, Changes in contents. This change can be divided into two aspects. The first aspect is that workplace learning, which is instantly applicable to work place, is integrated into the contents including CEOs' messages, important conference videos. And the other is that Smart Learning can enhance basic skills and knowledge intended to develop creativity, problem-solving ability and teamwork of employees. All in all, Social Learning environment based on social media can be an appropriate way of learning for an organization or business in a sense that learners can learn, produce and share their knowledge without physical or time constraints.

In that sense, this article aims to compile and consolidate the concept of Smart Learning and come up with practical strategies that are valid as well as applicable on the ground.

In pursuit of the goal, definitions and concepts about Smart Learning are reviewed and then, analysis is conducted concerning effectiveness and expectations about implementation of Smart Learning. In addition, on the last part of the article, implications and considerations are discussed as to how we can organize resources and what can be appropriate strategies for huge organizations to implement it successfully. In sum, the purposes of the article are listed below.

-What are critical factors to implement and settle Smart Learning on the ground successfully?

-What do learners expect from Smart Learning in terms of its effect and contents in the industrial environment?

-What are the potential barriers and what should stakeholders and educators primarily consider when adopting Smart Learning?

II. Literature Review

1. Understanding of Smart Learning

The traditional way of Learning paradigm that instructors deliver knowledge to learners by maintaining their initiatives to select, organize educational resources has shifted in a way that encourage interactions within and between instructors and learners, but still was stuck in instructor-centered. The advent of knowledge-based society and with help of technological development, however, has caused changes in the education drastically. And as a result, the newly emerging paradigm emphasizes on learners active participation in experiencing, reconstructing and reproducing knowledge in order to get more practical and flexible knowledge supported by communication technology that has been developed enormously in the last decades (Kang 2011). As the new paradigm has been introduced and pervasive, educational contents, methods and environment have been expected to change accordingly.

Smart Learning is viewed the most leading trend of educational technology in the spotlight recently, which is the most adequate way of learning in 21st century. Smart Learning is an other form of distance-learning that has originated and developed from E-Learning integrated with Ubiquitous Learning, major concepts of which overlaps with each other. And it is deemed as the most innovative way of learning backed by state of the art technology, which contributes to the field of human resource development.

2. Definitions of Smart Learning and its Characteristics

Smart learning can be understood as the continuum of distant learning, u-biquitous learning and sometimes conceptually overlap each other. However, It should be clearly noted that, compared to other types of learning, the term ‘Smart Learning’ has not been qualified as an academic jargon. Tracing back to its origin, the term ‘Smart learning’ has been on the surface along with the advent of smartphones such as Galaxy-S or i-phone. It typically indicates smart or intelligent devices and applications that provides possibilities of personalized or intelligent learning. So in order to get a glimpse of the concept, it is imperative to overview relevant concepts.

1) e-Learning

e-learning has been developed as a part of audio-visual education in the 80s, CAI (computer assisted instruction) in the 90s and ICT (information & communication technology) in the 2000s. Specifically, with evolution of the WEB, its most distinctive features; participation, share and openness, have been integrated into philosophical background of e-Learning. E-learning business has been growing in its size and quality

for last decades and major functions of it has begun to beyond mere information distribution; it encouraged and introduced an innovative way of learning in more flexible as well as applicable on the ground, which, in turn, help learners to be involved in meaningful learning experience. As e-learning has become broad and popular way of learning, a tool for creating contents has been far more elaborated and developed in a way that contents provider can have easier access to contents making with support of lots of useful and handy functions embedded with the tool. The essence of e-learning technology is basically and primarily based on learning management system (LMS, abbreviately), which has been continuously evolving into the point where it can recognize learners' learning patterns, manage it properly and facilitate in developing contents at the corporate level. Major characteristics and concepts of e-learning are listed below.

First, openness, which implies that learners can study on the time and place they want.

Secondly, flexibilities, which means that learners can take a major role to make a decision related to learning method and progress.

Thirdly, distributiveness, which indicates that learners can make use of learning resources that is not physically located on the place where learning happens.

From this aspect of e-learning, learning experience can be expanded beyond physical restrictions and ,at the same time, it can forester the simultaneous interactions, which is learner-centered.

To fulfill and maximize the advantages e-learning has, both instructor and learner are required to be knowledgeable and seasoned when it comes to dealing with learning tools. Otherwise, e-learning can be restricted by clumsiness or technical difficulties, which can cause serious decrease in learners' motivation and sense of presence negatively affecting the learning outcomes.

2) Ubiquitous Learning

Ubiquitous learning is another new learning paradigm that has emerged for the sake of fulfilling social demands for learning that can be possible everywhere and every time. And it has developed to the point where it is applicable to the current educational environment thanks to its technical and methodological maturity.

It can be conceived as an integrative system that is desirable for learners by providing learning resources everywhere and every time. On the other term, ubiquitous learning indicates a form of learning supported by a integrative learning system rooted in ubiquitous technology and its infrastructures, which make it possible for learners to learn without physical restrictions such as distance or time (Lee, Nam, 2006).

For the successful implementation of u-learning, learners should be well and properly motivated because effectiveness of this form of learning is largely dependent on learners' sense of control. Management and administrative system, therefore, should technically be available to keep track of learners' learning progress, feedbacks and environment.

3) Smart Learning

Smart learning has its conceptual origination in distance learning and a result of evolution of e-learning, which is supported by mobile technology. In addition to that, it is blend in its concepts of educational philosophies and preexisting u-learning. All in all, smart learning can be viewed from the three perspectives; educational, technological and expansive perspective on the continuum of e or u-learning (Park, 2011).

ASTD (The American Society for Training & Development), an association which aims to encourage the broad use of e-learning, defines Smart-Learning in its glossary as learning process under instructional learning environment with the support of mobile and portable devices such as a mobile phone, laptop and tablet PC. Similarly, Quinn(1996) defines it as “process of learning supported by mobile devices” and Mclean(2003) claims that smart learning is “ a learning system realized by an integrative technology; wireless and mobile technology.

In domestic area, Kim and Lee (2005) view Smart-Learning as “all forms of instruction and learning realized and supported by smart devices in mobile environment. Lee (2005) defines it as “a learning process is made in a way that fosters interactions and mobilities between learners through wireless mobile computing technology.” And Yim(2011) interprets it as “a holistic approach that leads to fundamental changes from traditional way of instruction and learning into interactive, participative and functional ones that aims to improve effectiveness of learning.”

Yim et al (2011) consider Smart Learning as a way of learning that learners develop their competencies through finding educational desires, designing process to achieve them and finally fulfilling their objectives making use of social network and smart devices.

Conceptual definitions of Smart Learning are sorted out in <Table II-1> below.

<Table II -5> Conceptual Definitions of Smart Learning

Name	Definition
Kwak(2010)	An intelligent learner-centered learning process that aims to improve learners' problem solving, communication and thinking abilities in consideration of learners' learning patters and abilities, which is supported by communication technology featured more by its contents and human resources than by devices themselves
Jung(2010)	An intelligent personalized system of instruction and learning that learners can actively design learning process and be supported both in and out of classrooms
MKE(2011)	A new form of e-learning that is integrated with preexisting e-learning technology and smart devices such as smart phones and tablet PCs.
MEST(2011)	A personalized and intelligent instruction-learning system that leads to draw overall shifts in educational system composing of pedagogy, curriculum, assessment and teachers and so on. An optimal form of learning integrated with social learning and adaptive learning that are based on the state of the art communication technology
Noh(2011)	A human-centered and learner-oriented way of learning that makes it possible for learners to design their own educational environment and supports interaction between and within learners and instructors effectively in order to be able to access learning resources conveniently.
Yim et al.(2011)	A learner-centered and competency developing form of learning that learners are actively engaging in diagnosing and planning the learning process while taking advantage of smart devices and social networks.
Cyber Society Research Center(2011)	A way of learning where learning environment enables learners to utilize smart devices and social media characterized by active social interactions, an integration of formal and informal learning and enforced presence based on mobile environment.

4) Features of Smart Learning

We can draw common characteristics from the definitions and concepts of Smart Learning that are previously discussed.

First, Smart Learning is deeply rooted in Social Constructivism that views learning as outcomes derived from social interactions, which make it possible for learners as well as instructors to overcome physical restrictions resulting in more active participation in learning inside and outside the classroom (Ahn,1996 , Kang, 2001). Social constructivism

has its major distinction from the traditional epistemology in a part that it puts a great emphasis on learners as a major agent of learning, educational environment and collaboration.

Second characteristic of Smart Learning is on its adaptability learning, which implies that learners can easily adapt to learning environment with the support of personalized learning environment backed technologically by automatic process of smart devices to properly assist in learners' recognition that is useful in terms of problem solving.

Third, Smart Learning is based on the environment that learners' access into learning resources is available every time and everywhere. It can be conceptualized as a term "Constant Accessibility", which indicates that mobile and networked devices can provide learners with constant access to learning resources. This is can be seen as a significant shift in a sense that physical constraints of learning has no longer been a matter and the remarkably expanded capacity of learning places allows numerous learners can simultaneously participate and have a interaction with one another in the same virtual class (Bae, 2012).

Forth, Smart learning can realize an integration of formal and informal learning where playing and learning can coexist in the realistic environment. And this can be understood succinctly as a practical learning that learning is actually made in the process of experiences and activities made in Smart Learning.

To sum it up, Smart learning can be defined as a sort of learning process featured by a) learners' active social interaction, b) active participation, c) encouraged self-motivation, d) the optimal integration of informal and formal learning and e) reinforced presence of learning with technical support of smart devices and mobile network.

Admittedly, it may as well be cautious to define the concept of Smart-Learning because it may be constantly evolving as time goes, according to technical preparedness and philosophical maturity that can currently be seen as tentative, not completed.

III. Research Methodology

The study originally aims to draw critical implications and considerations as to how a business can implement Smart Learning successfully and what strategies can be considered when it comes to make it while executing conceptual review of relevant literatures. Focus Group Interview, literature review and survey have been conducted as an research methodologies.

A group composing of randomly selected 250, who had never experienced or participated in Smart learning courses before, from different positions was given the first survey through online in november, 2011. Overall, in an experimental service, 6 content areas classified and 26 courses including 9 financial courses and 3 marketing

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courses and 56 open courses were implemented. In february, 2012, 1,500 participants out of 7113, who downloaded a mobile application and set it up on their phones are randomly selected for a survey about utilization of smart learning. Demographic information of participants are listed below.

<Table III-1> Demographic information of respondents(non-participants to experimental Smart Learning service)

	group	respondents	ratio(%)
gender	male	122	55
	female	98	45
position	deputy	62	45
	section chief	52	24
	deputy department head	42	19
	vice head of department	34	16
	head of department and above	30	13
	total	220	100

In february, 2012. 1,250 participants out of 1500 with 83.3% of response rate, who were selected as a survey group that had downloaded a mobile application and set it up on their phones. The survey was conducted in order to understand participants needs when it comes to utilization of smart learning. Demographic information of participants are sorted out in <Table III-2>

<Table III-2> Demographic information of respondents(participants to experimental Smart Learning service)

	group	respondents	ratio(%)
gender	male	708	57
	female	542	43
position	deputy	400	31
	section chief	320	26
	deputy department head	321	26
	vice head of department	172	16
	head of department and above	37	3
	total	1250	100

Focus group interview has been conducted to 15 out of all participants whether they participated in the experimental service or not. Focus group interview was progressed in a form of panel discussion and the major purpose is understanding depth of information by digging out the qualitative information from the group(Yun, 2004). FGI was progressed in open-questions and answers back and forth with 3 groups; 5 participants for each group, which totally takes 3 hours; 1 hours for each group.

IV. Research Results

1. Survey Analysis

1) Survey results from non-participants of the experimental Smart Learning

82% of respondents who didn't participate in the experimental Smart Learning service reveal positive outlook about a plan for Smart Learning and only 9 taking up merely 4% shows expectations in a negative way. This result indicates that there are overall high expectations of implementing Smart Learning in corporate. Details are in <Table IV-1>.

<Table IV-1> Expectations of participants about Smart Learning

expectations	respondents	ratio (%)
very low	0	0
low	9	4
middle	47	21
high	124	56
very high	58	26
total	238	100

Specifically, as <Table IV-2 illustrates, participants expected from Smart Learning to provide them with learning contents useful to get certificates (n=99, 45%) or to enhance their English competencies(n=90, 41%). It is reported that they think positive of utilizing Smart Learning during rush hours(n=10, 2%), which is little bit less ration than expected.

<Table IV-2> The most expected outcomes from implementing Smart Learning

Items	respondents	ratio(%)
Usefulness to prepare for a certificate	99	45
Enhancement of English competencies	90	41
Development of Professionalism	85	37
Usefulness for Value-training such as leadership	79	35
Efficiency in utilization during rush hours	22	10
Total	375	100

157 of respondents consisting of 72% responded that Smart Learning can assist in efficiency and productivity in working process in <Table IV-3>

<Table IV-3> An expected efficiency of working process when implementing Smart Learning

Usefulness in Productivity of organization	respondents	ratio(%)
not at all	0	0
barely	6	2
neutral	57	26
little	94	43
very	63	29
total	220	100

2) Survey results from participants of the experimental Smart Learning

It is reported that participants put a great emphasis on a bond of sympathy and communication between and within employees and board members. Furthermore, they are expecting that Smart learning can practically assist in workplace. In pursuit of this, creating an encouraging environment and team chemistry in workplace is regarded as critical.

<Table IV-4> Considerations for active and successful Smart Learning

Considerations	respondents	ratio(%)
A bond of sympathy between and within employees and board members	562	45
Practical and useful programs	537	43
Creating learning environment in an organization	462	37
Establishing a system reflecting learning results on performance rating in personnel	400	32
Encouraging it not in compulsory but voluntary and motivating way	187	15
Devising Incentive system or strategy to draw active and constant participation	150	12
total	1249	

- multiple answers allowed

2. Results of Focus Group Interview

It is suggested that major barriers that participants can expect can be classified as four dimensions; education system, program level, promoting infrastructure and individual competency. <Table IV-5> illustrates details with each dimension.

<Table IV-5> Anticipated difficulties of implementing Smart Learning in corporate

Classification	Details
Education system	Board members' understanding & A bond of sympathy, communication issues appropriate for the business, consideration of gap between individual capabilities
Program level	Motivating and playful learning beyond traditional one
Promoting infrastructure	Systemic Instabilities, errors Lack of assists in administrating Smart Learning Security concerns (confidential leaking)
Individual competency	Knowledge such as know-how that is hard to transfer through Smart Learning

V. Discussions

1. Factors for Success Implementation of Smart Learning

Factors for success in terms of implementing Smart Learning derived from literature review, survey and FGI in a corporate are listed below.

A Leading Role of Managerial Members

If an initial person or department who plays a leading role is not that influential or hard to draw motivation or respects from other members, ignorance or distrust can be caused not only by lack of information or but also passive participation of major leaders in a corporate. On the opposite way, if an influencing figure takes an initiative for realizing Smart Learning, we can draw more active and successful participation from a corporate because being influential means he or she has enough charisma in a way that they can lead communication, tune it and draw lots of respects from others.

Especially in the initial stage, it is critical to take an initiative and lead decisions not by just system or program manager but by the person equipped with proficiency as well as leading ability because leaders like CEO can draw more supports and respects from their employees and have more power to turn them in favor of Smart Learning by providing a sense of community by communicating them more frequently and directly.

Appropriate Types of Smart Learning for a Business

The second factor for success of Smart Learning is choosing an appropriate type of Smart Learning for business. In most businesses, they primarily concern the accessibility and usefulness of Smart Learning for their employees and adopt it considering them. It is, of course, costly to adopt all forms of social media for Smart Learning and unnecessary. So it is desirable to adopt it in consideration of objectives, target users and the size and types of a business. Social media can be classified to 4 types in according to its major function. 'Intranet type' indicates a system for employee to upload information. Features of it are that through sharing their knowledge, a business can come up with a new idea and the elderly can have access easily to information. It, however, costs and spends a lot for a business to build 'intranet.' Thus, not until establishment can information transfer not initiate. Another type is blog which can be contributed to information transfer through an individual blog or homepage. This blog type can be useful not only in information transfer from individual interests from corporate notification but also in building a sense of community among workers. It is cheap relatively in maintenance but time-consuming for workers to post up the contents in a blog. Workers can instantly transfer their knowledge through Twitter type of social

media. It does not cost or spend that much on making up the contents by workers but has a risk for information leaks or distortion. However, the best feature of it is fostering communication among workers that has a positive effect on sense of community or idea sharing among workers.

Smart learning can bring lack of control or lack of teamwork because the working place and time aren't tied up. And if one cannot have access to resources, individual can feel loneliness, anxiety and isolation. So an alternative to the problems is prepared. Recently, new strategies utilizing mobile devices have increasingly adopted by business area. For instance, Samsung SDS has just initiated a messenger form of communication technology called 'Online Nanjang' designed to encourage interactions and share of knowledge such as leadership between managerial members and workers.

Enhancement of Information Credibility

Information distributed to workers needs to be objective and correct. Biased information or too formal work-oriented information can cause ignorance and lack of reliability of information. Too much public relation about a company through social media or Smart Learning can also discourage its workers' interests and royalty.

So it is important to periodically check and screen the rumors and distorted information and put an effort to improve information quality. Therefore, the recent state of information about a company needs to be shared constantly through social media correctly among its members.

Cyber Security

Businesses have to prepare for security concerns such as information leak, hacking and cyber-attacks and so on. According to the recent research done by British Security Company SOPHOS, 70% of increasing hacking attempts on the social media is reportedly notified after conducting survey of 500 companies. In addition to this, there has been 10% increase in 'pissing' and 'malware' attacks, which can result in serious damage on personal computers.

Security education programs and campaigns needs to be enhanced to prevent cyber-attacks and information leak. Plus, programmers designing Smart Learning platform should prepare for security concern and support it technically.

Establishing guidelines for all positions and adopting security rating system can be a good preparedness in case of corporate confidential leak.

Active Involvement

In the initial stage of Smart Learning, poor participation in the program can be solved by ensuring incentive and motivating system. Especially, for securing certain amount of

participants' involvement, initial strategies should be carefully planned in a way that early adaptor can take a major role to inform and spread it to other workers. By doing so, network effect of workers' interests in Smart Learning can be expected (Lee, 2010).

For instance, incentive system can be considered that if there is an individual who plays active role in producing the quality of contents and dedicates himself in encouraging participations among workers in social network can be awarded in a whole corporate level. In addition, His or her dedication can be reflected on personnel evaluation resulting in promotion.

To put it succinctly, businesses take an active measure to prepare for the social trends of Smart Learning by establishing system appropriate for Smart Education effectively as well as efficiently.

2. Role of department for Active Workers' Participation of Smart Learning

In this part, department level of strategies for activation and utilization of Smart Learning are discussed with 5 managerial members who participated in the one of three FGI sessions with more than 5 years career in the bank industry under the agenda; what strategies should be established in terms of HRD in smart environment. Execution and activation strategies can be encapsulated into five categories.

First, contents should be developed in a tailored and considerate way for a department. In order to do that, we should phase in the new learning system and not just apply it into the business without critical mind. There are lots of tasks and issues in localizing the technology including compatibility, standardization and infrastructure issues. More importantly, it is essential to secure the environment that fosters a virtuous cycle, which requires effort to make a consensus about guideline and a conduit to spread it all over the business.

Third, it is recommended to recruit and manage potential and promising workers. A business can make use of smart media as a powerful and influential tool to make a public relation with possible workers to acknowledge which person a company wants to recruit to them. By doing so, economic way of recruiting for both company and applicants can be established.

Fourth, Communication can be a part of leadership education under the social networking environment. Both individual and organizational competencies such as coming up with lots of business opportunities, creative solutions, and facilitating innovation can be enhanced under the circumstances that vertical and horizontal communication is well proceeded.

Fifth, the settlement of Smart Education in an organization can foster to use a variety of contents and tools. Admittedly, a gap between individuals within an organization is expected in terms of proficiency in dealing with social networking tools. A proficient individual can take a leading role to make user-created contents (UCC) and

it can naturally lead to informal learning by followers in an organization. In addition, communities of practice can also take a major role to organize the process of learning and learning resources, which results in learning process.

Recently, in the field of industry, vertical and horizontal communication and an environment for it are deemed as major strategies to be adapted to the constantly changing social trends. In this atmosphere, it is inevitable to create a ecology of commutation that emphasize the self-motivation, self-creating and broad share. And for that, each group of a company play catalysis for supporting the environment.

Google, for example, placed task force team and proficient curators in order to assist its workers in enhancing their media-literacy and competencies required in social network society. IBM also adopted a strategy to maximize the effectiveness inside and outside of a corporate. In that sense, it encourages its employees to make use of Twitter and Facebook with a guideline which contents are including details such as confidential securement, carefulness in remarks, criticism inhibition, source clarification and discernibility between individual opinion and public one. Five strategies have been discussed in an attempt to successfully activate Smart Learning on the ground.

VI. Implication

Along with the growth of mobile industries that are going to be further propelled by wide popularity of smartphones, domestic corporates are preparing for utilizing Smart learning as an expanded form of cyber learning. There are three tips below for stakeholders in charge of designers of contents or platforms.

First, in the initial stage, contents should be composed in short-term oriented, segmented and easily accessible ways in order for employees to be motivated to learn on way to work. Contents dealing with foreign language and special lectures worthing spread by critical figures in a company are desirable as well as recommended.

Secondly, vividness and speed of interaction with quality of information within participants and between lecturers and participants is essential factor for the success of smart learning. To enhance the interaction, a mentor system would be a recommended alternative by utilizing SNS because paring metors and mentees can be powerful motivation to participate in new way of learning process.

Thirdly, reportedly, there have been constant attempts, experimental stage though, to incorporate CoP(Community of Practice) as a measure to draw valuable knowledge by reinforcing in-time communication through SNS. Some large companies and financial firms take advantage of SNS as a creative channel for communication among their employees. Desirably, network should be made in paralleled fashion, tough to successful in hierarchical circumstances though, so that instructors and learners can interact without any physical or hierarchical constraints.

VII. Conclusions and Suggestions

Recently, the pervasion and popularity of Smart Phones are turning into increasing desires for mobile learning market. To meet up to the trend, it is important to have a strategic approach when a business tries to develop and implement Smart Learning on the ground. Following three lessons learnt from this article and previous researches can be useful for it.

First, in an initial stage of Smart Learning, it is critical to for a company to make it widely known to its workers, spread it and make it use with handy and desired contents such as foreign language or special lectures of managerial leaders.

Second, it is preferable to activate a mentoring system for encouraging vigorous engagement and interactions among learners.

Third, CoP(Community of practices) has been considered useful way to share knowledge inside and outside of a corporate and enhance interactions among learners.

Forth, roles of leaders in a group play an important role for successful Smart Learning because they can motivate workers and be catalysis in team chemistry.

Fifth, Security concerns should be dealt with in a thought and considerate way. Otherwise, an active connectivity can be detrimental for a business.

Limitations of this research are followings. The result drawn from this research has a lack of generality because it focuses on a qualitative case study and more like an in-depth analysis.

Furthermore, a generality of the study is possibly dependent on proficiencies and capabilities FGI participants have and reveals. So, follow-up studies can be expected to test whether the result of the research has validity and generality. Quantitative analysis can be taken along with it such as Delphi and surveys in order to draw more reliable discussions.

Based on the result of the research, suggestions for next research topic will be followings. Provided that Smart Learning is adopted and implemented successfully, what factors have a significant impact on performance or outcomes both individual and corporate level.

Hopefully, this research can be a stepping stone to draw more following studies of Smart Learning in an industry area. Last but not least, since Smart Learning has its conceptual origin mostly on western society, we need to critically adopt, adapt and process it for localization appropriate for Korean society.

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요 약

전략적 스마트 러닝 시스템 개발 및 구현의 효과에 관한 연구

안병룡, 유영만

요약

최근 스마트 기기의 폭발적인 증가로 스마트폰을 중심으로 한 새로운 형태의 모바일 컴퓨터 유형에 대한 학습에의 활용가능성이 높아지고 있으며, 최첨단 정보통신 솔루션의 도입에 따라 스마트러닝을 확대 적용하는 기업들이 늘어나고 있다. 본 연구의 목적은 기업 내에서 소셜 미디어에 기반을 둔 스마트러닝을 활성화하기 위하여 최근 등장하는 첨단 학습방식의 개념 및 정의를 통해 스마트러닝을 구현하고 효과를 살펴보고자 하였다. 이를 위해 기업에 최적으로 적용, 활용하려면 어떻게 해야 성공할 수 있는지에 대한 요인을 분석해 보는 것이다. 이러한 가운데 인적자원개발 부서는 어떤 역할을 해야 하는 것인지를 구체적으로 고민하였고, 이를 위해 국내 S은행 스마트러닝 도입을 위한 활동시 관련자를 대상으로 설문을 실시, 결과를 분석하였다. 도출된 주요이슈를 토대로 15명을 대상으로 포커스그룹 인터뷰를 통해 도출한 결과는 다음의 다섯 가지이다. ‘경영리더의 주도적 참여’, ‘회사 특성에 적합한 선택’, ‘정확한 정보’, ‘사이버 보안의 안전성’, ‘자발적인 참여’, 이것이 기업 내 스마트러닝 활성화를 위한 중요한 성공요인으로 분석되었다. 또한 기업 내 스마트러닝 활성화를 위한 인적자원개발 부서의 역할을 도출함으로써 스마트러닝을 도입 할 때 우선적으로 고려해야 할 요인을 체계적으로 제시하는데 그 의미가 있다.

핵심 되는 말: 스마트 러닝, 모바일 러닝, 소셜 미디어, HRD, 사례연구