The Future of Blended Learning and the Emerging Competencies of Human Resource Development Professionals in Taiwan

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The purpose of this study was to explore the future direction of blended learning in workplace in Taiwan and to probe into emerging competencies of human resource development (HRD) professionals. One hundred and twelve participants who worked in various types of organizations, including government, business, and non-profit organizations were studied. The results revealed that even though blended learning will keep growing, HRD professionals still need further understanding and more training.

Keywords: Blended Learning, Instructional Strategies, Competencies

Information technology (IT) has grown exponentially during the past two decades, leading to changes in nearly every field of practice, including training and human resource development. Taiwan has profoundly been influenced by this trend. The government of Taiwan is aggressive in promoting e-learning. By 2005, 55% of the population of Taiwan had access to the Internet. According to the 2003 e-learning readiness rankings report from the Economist Intelligence Unit and IBM (2004), Taiwan's e-learning readiness was ranked third in Asia and sixteenth in the world. The Taiwanese government's policy to increase e-learning started in the mid-nineties. The policy has actively brought up the development of e-learning and the industry. For example, in January 2003, the National Science Council (NSC) started the National Science and Technology Program for e-learning. This program is a national project with a plan to spend 120 million USD within a 5-year period. The NSC collaborated several related agencies and focused on cultivating manpower and narrowing the digital divide in three key areas, namely (a) Deployment, (b) Industry and Application, and (c) Research and Development (National Information and Communications Initiative Committee, n.d.).

Although benefits of e-learning have been recognized and drive many organizations to embrace this new learning wave, various limitations of e-learning as a training method in corporate settings (e.g., lack of social interaction) have led to try mixing various delivery methods. Millions of learners around the planet are actually learning in this fashion of blended learning each day (Bonk & Graham, 2006). Additionally, blended learning was recognized as one of the top ten emerging trends in the knowledge delivery industry by ASTD (American Society for Training and Development) in 2003. By the end of the decade, it is conceivable that 80-90 percent of college and corporate training classes will be blended (Kim, Bonk, & Zeng, 2005). Blended learning is becoming the major trend of training in corporate, government, military, and non-profit organizations all over the world. However, the trend has just emerged in Taiwan. Only four articles related to blended learning were published in journals in the past three years. Blended learning is under discussions in practices and research in Taiwanese context.

Theoretical Framework

According to Graham, Allen, and Ure (cited in Graham, 2006), there are three common definitions of blended learning mentioned in the literature: (1) combine instructional modalities; (2) combine instructional methods; (3) combine online and face-to-face instruction. Graham (2006) contended that the first two definitions are too broad, and the third definition more accurately mirrors the historical background of emergence of blended learning ideas and approaches. Several researchers have posited that there are advantages of blended learning in corporate blended learning. Some of the primary benefits include enhanced learning performance, improved cost effectiveness, more effective pedagogy, course access at one's convenience, reduction in physical class or space needs, increased

opportunities for human interaction and contact, and more participation for introverts (Bonk & Graham, 2006).

Although many advantages of blended learning are identified, there is still minimal known about the resulting learning differences among various blended models and the transfer of learning gains from one delivery mechanism (e.g., self-paced online learning to acquire content) and another (e.g., face-to-face classroom training to practice new skills in front of others) (Kim, Bonk, Teng, Son, & Zeng, 2006). Moreover, Graham and Allen (2005) addressed that blended learning conceivably takes more time for instructors to develop materials, to deliver instructions, and to enhance interactions than either in a face-to-face or a fully online environment, since they are required to deal with two different environments simultaneously. Mantyla (2000) indicated several reasons that instructors may be unwilling to change, and these reasons can also impede the development of blended learning, such as a skeptic of the effectiveness, fear of using the technology, training where peers can see them, and fear of lack of control. Additionally, the barriers of institutional culture to instructors and learners are recognized as one of the major challenges as well (Graham & Allen, 2005). For instructors, level of support from management is critical; for learners, blended learning requires more self discipline and motivation to complete the courses. Unfortunately, there is no one universal model which can be a panacea for launching blended learning in all kinds of organizations. It is necessary to tailor individual situations to create local designs (Bonk & Graham, 2006). Consequently, designing a blended learning environment to reach a harmonious learning balance between online access and face-to-face human interaction is essential (Osguthorpe & Graham, 2003), and is explored in the present study.

Research Questions

The influences of globalization and the advancement of information technology make workplace learning more dynamic and unforeseen. Under these influences, blended learning has become a more significant strategy, since it can facilitate the shaping of a more flexible and agile corporation and employee, so that workers can cope with the changing and turbulent environment and maintain high performances. HRD professionals are required to acknowledge not only the planned nature of strategies but also the emergent nature which might offer the most potential opportunity, especially in rapidly changing business contexts such as high technology companies (Torraco & Swanson, 1995). Torraco and Swanson (1995) suggest that visioning future trends is one method to develop a plan of emergent strategies. Based on such strategic plans, HRD professionals can play critical roles by assuring that the required expertise is available and effectively utilized; in effect, the development of competencies provides a potential source of ideas for further innovation and increased productivity.

Despite Taiwan's high level of readiness for e-learning, there is a lack of understanding about the future trend of blended learning and how it will be applied to workplace learning in Taiwan. These questions are inherently critical in a country like Taiwan which is flooded with high technology corporations. To this end, the present study was conducted to explore the future development of blended learning in workplace settings in Taiwan. For instance, it explored what instructional strategies as well as emerging technologies will become more widely used in the coming decade. The following questions guided our study:

1. What is the most significant issue or problem with blended learning that must be addressed during the next few years?
2. What instructional strategies that will become more widely used in blended learning during the coming decade?
3. Which emerging technologies will most greatly impact the delivery of blended learning during the next few years?
4. What are the emerging competencies of HRD professionals for adopting blended learning model?

Methodology

In this study, a survey was conducted to answer aforementioned research questions. This survey had 31 questions and was completed by 112 individuals in Taiwan. The participants in this survey study belonged to various types of organizations (e.g., government, business, and non-profit organizations) and a vast array of industries (e.g., information technology, industrial or manufacturing, and education). About 48 percent of the respondents were female and 52 percent were male. Their roles were various, including training or human resources support staff (18.4%), instructional designer or content developer (13.8%), e-learning manager or director (9.2%), salesperson marketing manager or communications (7.3%), and training manager or director (7.3%).

This survey took place between January 2006 and May 2006 using SurveyShare, a Web-based survey tool. This survey is a part of a longitudinal study of the future of e-learning in corporate training and higher education settings that began a few years earlier (Kim & Bonk, 2006; Kim, Bonk, & Zeng, 2005). Other countries surveyed included

Korea, China, the UK, and the United States. The survey instrument was developed in English first, and then was translated into traditional Chinese by investigators who were speakers of the native language. The translation was then cross-checked by other investigators on our research team as well as by external colleagues to check for the accuracy of the translation and also for the validity of the instrument. The traditional Chinese version of the survey was distributed to several online forums and listservs for training and human resource professionals in Taiwan. The participants visited our online survey site to participate in the study and they took the survey anonymously.

Results and Discussions

The most significant issues during the next few years follow. The results indicated that blended learning will keep growing in Taiwan. Sixty-three percent of these professionals predicted that blended learning in their organizations would increase either a little bit or significantly during the next few years. Another 20 percent of them reported that they did not know whether the expense would be increased or not, which indicate that many organizations in Taiwan still possess a wait and see attitude toward the effectiveness of blended learning. One respondent mentioned that "Most small and medium-sized enterprises still hesitate to invest in blended learning, since they are not sure the effects and what will happen in the future." Although blended learning had been recognized as a future trend, some respondents still argued that the most significant issue or problem with blended learning that must be addressed during the next few years is lack of understanding of what blended learning really is (21.1%). As mentioned earlier, a lack of understanding is one reason that some respondent organizations are hesitant to invest. In addition, learner resistance (16.5%), insufficient management support and commitment (11.0%), boring and low quality content (10.1%), and lack of quality instructors (7.3%) were considered as significant issues as well (see Table 1). According to our parallel surveys in other countries, including the UK, the US, and Korea, it is notable that Taiwan is the only country that ranked learner resistance and hesitancy in top five issues (Kim, Bonk, Teng, Son, Zeng, & Oh, 2006).

Table 1. *The Most Significant Issue or Problem that Must be Addressed During the Next Few Years*

Items	**Reponses**	**Ratio (%)**
Lack of understanding of what blended learning really is	23	21.10
Learner resistance/hesitancy	18	16.51
Insufficient management support and commitment	12	11.01
Boring and low quality content	11	10.09
Lack of quality instructors	8	7.34
Lack of standards	8	7.34
Limited organizational vision and planning	7	6.42
High costs of delivery	5	4.59
Learners lacking self-regulated learning skills	5	4.59
Limited bandwidth	3	2.75
Fast changing technology	2	1.83
More hype than fact	2	1.83
Organizational / cultural resistance	2	1.83
Other	2	1.83
Unethical vendors	1	.92
Total	109	100

Interestingly, even though high costs of delivery was not highly rated as the most significant issue with blended learning. In response to an open-ended question in our questionnaire, some respondents contended that the cost of blended learning is the main obstacle confronting the development of blended learning. They believed that blended learning is more costly than fully online courses and face-to-face courses. One respondent claimed that "Many organizations prefer either fully online courses or face-to-face courses, since they think blended learning is more costly than other two types. The price of blended learning for an organization includes the cost of online materials plus the payment for instructors. Blended learning seems to be a delivery method that they will never benefit from." Another perspective about the higher cost of blended learning was that "Compared to fully online and face-to-face courses, learners in blended learning settings are required to have both time and accessible physical space. So, blended learning actually requires more learners' time and efforts." One respondent reported that his/her

organization's strategic plan was to transform most courses to e-Learning and to apply blended learning only to the most important courses. These opinions reflected respondents' beliefs about blended learning and were also related to other problems that they selected, such as insufficient management support. One respondent stated that "because of the high cost of blended learning, it is difficult to convince management to adopt blended learning."

Regarding the evaluation of the quality of blended learning, respondents believed that they should evaluate employee performance on the job, employee performance on simulated tasks of real-world activities, cost-benefit analyses, comparison of learner achievement with those in live or face-to-face classroom settings, and return on investment (ROI) calculations (see Table 2). In fact, employee performance on the job was viewed as the most effective method to measure the quality across the four countries we surveyed—Korea, US, UK, and Taiwan (Kim, Bonk, Teng, Son, Zeng, & Oh, 2006). Respondents believed that effective evaluation of blended learning is the key factor that influences the future direction of blended learning in Taiwan. One professional reported that "The rate of effective evaluation of blended learning is way too low. Government and corporations only focus on learning content and do not make an effort to evaluate the quality." According to another study from our group, the percent of organizations evaluating the quality of blended learning in Taiwan is considerably lower than that of Korea, the U.K, and the United States (Teng, Bonk, & Kim, 2006). Additionally, another respondent declared that "If a way or a study can present the effectiveness of blended learning, the resistance can be reduced."

Table 2. *The Most Effective Way to Measure Quality of Blended Learning*

Items	**Reponses**	**Ratio (%)**
Employee performance on the job	31	28.70
Employee performance on simulated tasks of real-world activities	16	14.81
Cost-benefit analyses	15	13.89
Comparison of learner achievement with those in live or face-to-face classroom settings	13	12.04
Return on investment (ROI) calculations	13	12.04
Learner satisfaction questionnaires	6	5.56
Time to competency	5	4.63
Computer log data of student usage and activity	4	3.70
Course completion rates	2	1.85
Course evaluations	2	1.85
Other	1	.93
Total	108	100

As addressed earlier, a lack of understanding of what blended learning really was the most significant issue during the next few years. To clarify some of their concerns, the respondents were further asked to identify what kind of information they needed the most in a blended learning portal. The results indicated that blended learning advice and live blended learning consulting were the most needed for these professionals. More specifically, 14 percent of them preferred examples and success stories of blended learning, and 11.2 percent of them wanted access to related books, magazines, and charts (see Table 3). Such findings indicate that training professionals want expert advice and examples of success not just more information to read, Web links to browse, or conferences to attend.

More Widely Used Instructional Strategies during the Coming Decade

Our survey respondents also predicted the factors that would promote blended learning the most in the next few yeas. Interestingly, among the most highly ranked instructional strategies were the use of real world cases stories and examples in training (34.58%), collaboration, community building, and global connectedness (26.17%), individualized or personalized e-learning (11.21%), on-demand learning (9.35%), learners/employees making their own learning decisions (8.41%), and the blurring of the lines between work and learning (8.41%). As shown in Table 4, for instructional approaches or strategies that would become widely used in blended learning for the coming decade, authentic cases and scenario learning, virtual team collaboration and problem solving, problem-based learning, coaching and mentoring, and guided learning were most frequently mentioned. These instructional strategies all place more emphasis on connecting training with real-world applications and a sense of meaningful or personal interaction.

Table 3. *The Most Preferred Information Provided by a Blended Learning Portal*

Items	Reponses	Ratio (%)
Blended learning advice, live blended learning consulting, and the ability to list blended learning needs	33	30.84
Examples and success stories of blended learning	15	14.02
Access to books, magazines, newsletters, etc.	12	11.21
Expert presentations, webinars, and chats	9	8.41
A community forum, chats, blogs, and discussion related to blended learning	8	7.48
Technology and tools for blended learning	8	7.48
Video streamed presentations and demonstrations related to blended learning	7	6.54
Web resources related to blended learning	7	6.54
Answers and solutions to FAQs (frequently asked questions) on blended learning	3	2.80
Information on conferences, institutions, seminars, workshops on blended learning	3	2.80
White papers, technical reports, and research reports	2	1.87
Total	107	100

Table 4. *Instructional Approaches or Strategies that will be Widely used in Blended Learning*

Items	Responses	Ratio (%)
Authentic cases and scenario learning	78	70.91
Virtual team collaboration and problem solving	46	41.82
Problem-based learning	41	37.27
Coaching and mentoring	40	36.36
Guided learning	38	34.55
Simulations or gaming	30	27.27
Modeling of the solution process	26	23.64
Self-paced learning	20	18.18
Discussion	19	17.27
Exploration and discovery	17	15.45
Lecturing and instructor-directed activities	15	13.64
Debates and role play	14	12.73
Socratic questioning	4	3.64

Emerging Technologies during the Next Few Years

In regards to emerging technologies, 31 percent of respondents predicted that knowledge management tools would most greatly impact the delivery of blended learning during the next few years. Cell phones and other mobile and handheld technologies, electronic books, weblogs, and online simulations were also highly ranked (see Table 5). Among the four countries that we studied, Taiwan, Korea, and the UK ranked knowledge management tools as the number one emerging technology and it was deemed to be the third highest rated emerging technology in the United States (Kim, Bonk, Teng, Son, Zeng, & Oh, 2006). Clearly, knowledge management tools have become one of the most important tools for blended learning in training departments around the world. Successful companies have learned how to leverage knowledge management practices and to create blended learning programs from employee skills development (Chute, Williams, & Hancock, 2006).

Emerging Competencies of HRD Professionals for Adopting Blended Learning Model

The society is rapidly changing which greatly impacts the workplace and the roles of HRD professionals. Blended learning as an emerging training trend is creating new competencies that HRD professionals should possess. A competency is a knowledge or skill area that is essential for producing key outputs. By visioning the future of blended learning, new competencies can be identified. Accordingly, the question of what knowledge and skills would enable people to select, manage, and use blended learning for their HRD work is explored. Since ASTD's

Table 5. *The Emerging Technologies Impacting the Delivery of Blended Learning*

Items	Responses	Ratio (%)
Knowledge Management Tools	34	31.48
Cell Phones and Other Mobile and Handheld Technologies	15	13.89
Electronic Books	14	12.96
Weblogs (i.e., blogs) and Online Diaries	8	7.41
Online Simulations	7	6.48
Webcasting and Video Streaming	7	6.48
Wireless Technologies	5	4.63
Language Training and Support Tools	4	3.70
Wikis	4	3.70
Digital Libraries and Content Repositories (learning content management tools)	3	2.78
Massive Multiplayer Online Gaming	3	2.78
Pod Casting and iPods	3	2.78
Intelligent Agents	1	0.93
Total	108	100

model of management and distribution competencies for learning technologies is unique to e-learning environments (Aragon & Johnson, 2002; Piskurich & Sanders, 1998; Sander, 2001), the competencies are discussed based on the model. These competencies are focused on blended learning and situated for the development of blended learning in Taiwan.

The results of this study indicated that a lack of understanding of what blended learning really is impedes the development of blended learning in Taiwan. There is also a concern from practitioners that they want to have more general knowledge about blended learning, such as definitions, impacts, and models of blended learning. Advanced knowledge about how to select learning technologies as well as adequate instructional strategies and to assure the effective and meaningful integration of all blended learning components are required. Professionals also need to know the true limitations and benefits of each training delivery method or combination of methods, so that better decisions that meet organizational goals and needs can be made. In addition to the knowledge about blended learning, HRD professionals also want to be aware of and sensitive to new technologies, envision possible applications and new visions of use, and employ the technologies creatively in practice.

Additionally, competencies about how to assess blended learning and to evaluate the blended learning programs are significant for adopting blended learning as well. The result generated by evaluation processes can conceivably enhance the management support and reduce resistance. According to the ASTD's model, evaluation of blended learning can be broadly categorized in the following three ways: (1) instructional strategies evaluation (effect of instructional strategies on learners, effect of combinations of instructional strategies on learners, and cost analysis of instructional strategies), (2) blended learning components evaluation (effect of components on learners, effect of the combination of components on learners, and cost analyses of components), and (3) technology evaluation (effect of component technologies on learners, effect of the combination of component technologies on learners, and cost analysis of technology). Professionals need to be proficient on all three types of evaluation, so they can generate a holistic view of the effectiveness of blended learning.

Based on preceding discussions about the emerging competencies, benchmarking becomes a competency that HRD professionals should pursue. Building successful examples may facilitate these professionals to see what types of training practices work and how they were successfully implemented and to establish a training strategy and set priorities for training practices (Noe, 2005). The designer of blended learning should be seeking best practices for how to combine instructional strategies in face-to-face and online environments that take advantages of the strengths of each environment and avoid their weaknesses. HRD professionals need the capability to collect all kinds of resources and create a purposeful benchmarking approach, so the organization can truly benefit from this process.

Last but not least, as shown in Table 1, learner resistance and hesitancy may be a serious issue in Taiwan. Therefore, change management skill arises as a critical competency when an organization is adopting blended learning. Change management "helps people adapt to the changes brought on by new technologies and helps them to see the value and benefits of new technologies" (Sanders, 2001, p2). The resistance could conceivably come from various reasons or misconceptions. Noe (2005) proposed four steps to implement change, including overcoming resistance to change, managing the transition to the new practice, shaping political dynamics, and using training to

understand new tasks. HRD professionals are required to possess this competency in order to take advantage of blended learning.

Conclusion, Recommendations, and Implications for HRD

The purpose of this study was to explore the future direction of blended learning in workplace. Questions it addressed included what instructional strategies as well as emerging technologies will become more widely used in Taiwan during the coming decade. Results of this study present empirical data that allow for constructive suggestions related to the future development of blended learning in Taiwan. The results showed that blended learning was expected to keep growing in Taiwan. However, many Taiwanese organizations, especially small and medium-sized enterprises, maintained a wait and see posture regarding the development of blended learning. It was also found that Taiwanese HRD professionals were skeptical about the effectiveness of blended learning in comparison to fully online and face-to-face instructions. Additionally, the most significant issue or problem with blended learning that must be addressed during the next few years is a lack of understanding of what blended learning really is. Learner resistance and hesitancy should also be investigated and addressed when adopting blended learning

Many other issues were addressed in this survey. For instance, regarding the evaluation of the quality of blended learning, many respondents believed that the most effective method is to evaluate employee performance on the job. In reaction to questions about the utility of a blended learning portal, respondents preferred to access to blended learning advice and live blended learning consulting not just more information or reports. Perhaps more importantly, the instructional strategies which were predicted as more widely used all place more emphasis on connecting training with real world applications such as authentic cases and scenario learning. In terms of emerging technology, knowledge management tools were ranked as the key technology that will most greatly impact the delivery of blended learning across four countries, including Taiwan, Korea, the UK, and the United States. Additional competencies about the evaluation of instructional strategies and technologies involved in blended learning, benchmarking techniques, and change management processes are required for HRD professionals to adopt blended learning in Taiwan.

It is speculated that a particular attribute of the Taiwanese corporate ecology influences the design and development of blended learning in Taiwanese corporations. The size of Taiwanese companies is extremely different from other countries such as Korea which are dominated by large mega-sized corporations. Ninety five percent of companies in Taiwan are small and medium-sized enterprises (Chou, Chang, & Fu, 2002). The small size of Taiwanese corporate organizations may inhibit their acceptance, understanding, and use of blended learning to some extent. As Benson, Johnson, and Kuchinke (2002) suggest, information technology is not a value-neutral instrumental innovation but rather a profound force on our lives; it represents a social transformation with profound implications and severe challenges and issues. In effect, the organizations which hold the least resources may easily become the losers in this game. However, blended learning may provide more training opportunities for such organizations, since it offers more flexible applications than either fully online or traditional face-to-face instruction. Consequently, researchers and practitioners in Taiwan have to be aware of this challenge and put more effort into implementing blended learning in such types of organizations.

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