Knowledge Management & E-Learning, Vol.13, No.2. Jun 2021

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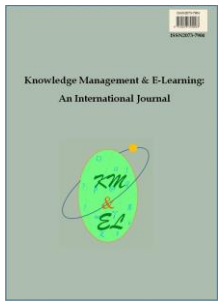

Knowledge Management & E-Learning: An International Journal (KM&EL)
ISSN 2073-7904

Recommended citation:
Im, T. (2021). Online and blended learning in vocational training institutions in South Korea. *Knowledge Management & E-Learning*, *13*(2), 194–208. https://doi.org/10.34105/j.kmel.2021.13.011

Knowledge Management & E-Learning, 13(2), 194–208

Online and blended learning in vocational training institutions in South Korea

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Abstract: This study aims to explore the current status of using e-learning in vocational training institutions in South Korea and the institutions' intent to adopt e-learning or blended learning. A total of 116 responses to an online survey were received from the instructors and administrators in vocational training institutions. The findings of the study are summarized as follows. First, e-learning content was found mostly used as supplementary materials in blended or classroom learning. Second, the main reasons for not using e-learning were related to the low training effectiveness in e-learning and the difficulty of finding appropriate e-learning content. Third, the dominant reasons that vocational training institutions believed they might need e-learning were related to content reuse and e-learning flexibility. Fourth, National Competency Standards-based content, theory-focused content, and practice alternative content were found to be most useful e-learning content in vocational training institutions. Fifth, the most preferred type of e-learning content was smaller modules developed for learning specific knowledge or skills. Lastly, vocational training institutions were found to be hesitant about using e-learning in the future because of the lower training effectiveness in e-learning and the lack of interaction among learners and instructors in e-learning contexts. Suggestions for practitioners and researchers are provided on the basis of the findings.

Keywords: Online learning; Blended learning; Adoption; Intention to use; Vocational education; Vocational training

Biographical notes: Dr. Tami Im is an Assistant Professor in the College of Education, Kongju National University. She holds a Ph.D. in Instructional Systems from Florida State University and has 17 years of professional and research experience in the area of technology enhanced learning such as online learning and virtual reality based learning. She has multiple publications and presentations focusing on how to motivate learners and facilitate learning using motivational and cognitive support based on technologies (e.g., virtual reality, discussion board, synchronous webinar tools, pedagogical agents, games, simulations, social media).

1. Introduction

Traditionally, face-to-face education has been the mainstream form of vocational education in South Korea. However, flipped learning has been suggested as a new educational method in vocational education and human resources development (HRD) and has been actively applied to online content in UNIST (Ulsan National Institute of

Science and Technology) and KAIST (Korea Advanced Institute of Science and Technology) in their regular university courses (National IT Industry Promotion Agency, 2015; Wee et al., 2018). An increasing focus is being given to enhancing the effects of education via flipped learning methods, which emphasize interaction through discussion, participation, and practice (Lo & Hwang, 2018; Thongkoo et al., 2019; Wee et al., 2018). In recent times, trends in vocational education and HRD have been moving toward constructing an educational ecosystem that is fundamentally based on vocational education and uses more online content. Education and training are no longer separated from work and life; rather, these things are combined together through the learning process. In this context, the process by which learners can construct their learning, work, and life organically through one platform that makes use of multiple devices is being emphasized more than before (National IT Industry Promotion Agency, 2015). Thus, a learning platform that supports learners to deliver, share, and re-construct their knowledge and skill is precious. Here, online learning content plays a very important role as a part of learning ecosystem construction.

Based on a governmental report, it was found that satisfaction, cost-effectiveness, and participation scores were higher after learning programs were converted from offline to online in South Korea (National IT Industry Promotion Agency, 2016). Along with these positive results, many companies tried to adapt to online learning for their employee training but this was dependent on the size of the companies. Based on the 2015 survey of the Korean e-Learning Industry, 66.2% of companies that have more than 300 employees have moved to online learning but only 6.2% of companies with less than 300 employees use online learning (National IT Industry Promotion Agency, 2015). Here, it is necessary to provide opportunities for small-mid size companies to apply online learning for their employees' vocational education and performance improvement.

While online learning is increasing in South Korea, the imbalance of online learning use depending on company size and industry type is concerning. Foreign language learning and certification make up most of the online learning industry with 83.4%. It has been found that there is a lack of online learning content development and supply which are necessary for technical skills improvement in small-mid size companies. The purpose of this study is to identify the current status of online learning and the need for online and blended learning in vocational education institutions in South Korea.

2. Literature review

2.1. Online learning in vocational education

Online learning has been suggested as a possible solution to resolve the regional education gap in South Korea as offline training availability is dependent on location (Byun et al., 2007). It has also been found that online vocational education and training courses are operated at a similar distribution to training institutions. The concentration of training courses in metropolitan areas is dense, leading to variance in education between different regions. Therefore, there have been requests in South Korea to research ways in which we can use online learning effectively to address this disparity. Park (2010) investigates the effect of blended learning on training transfer, which is strategically implemented in corporate training, and reported that self-directedness and training programs have a significant effect on training transfer.

Based on research that conducted a needs assessment and developed an operating model for an online joint training center, all three groups (training administrators, trainers, and learners) gave positive feedback regarding the necessity of online training (Kwon et al., 2015). Among these three groups, the learner groups were most likely to prefer online training stating that 'it is possible to study anywhere' and 'it is possible to do autonomous and repetitive learning' as their main motivating reasons. However, at the same time, the learner groups noted the 'lack of interaction between trainers and trainees' as a disadvantage in online learning. Furthermore, the training administrator and trainer groups chose 'lower learning effectiveness compared to offline training' as a negative aspect of online learning.

Kwon et al. (2015) suggest three ways to facilitate online learning for vocational education in South Korea. First, it is important to reduce employees' burden by company-level recognition and support for employees' online learning. Second, it is necessary to expand information about online learning for locals. Third, customized online learning content needs to be developed based on employees' aptitude and job categorization so that online learning can be actively utilized to improve employees' job performance.

A study analysed literatures related to e-learning in vocational education and found out advantages and disadvantages of e-learning from learners' perspective and providers' perspective (Belaya, 2018). From learners' perspective, Belaya (2018) suggested five advantages. First, flexibility of time, space, learning pace, and content, second, shortening learning time due to learner's controllability of learning process, third, enhancement of motivation by application of multimedia and interactive exercises, forth, increase of interest by cooperative activities through virtual classrooms, fifth, less expose of shame about what they do not know in front of other learners.

2.2. Blended learning in vocational education

2.2.1. Blended learning

Blended learning is a design strategy for creating optimal learning effects through the combined use of various learning elements such as learning objectives, learning content, learning time and space, learning methods, and learning media to maximize learning outcomes. In this study, blended learning considers instructional strategy as an ideal combination of online learning strategy and offline learning strategy to enhance learning effectiveness (Bonk & Graham, 2012; Driscoll, 2002; Garrison & Kanuka, 2004; Masie, 2002; Wong et al., 2014). Blended learning is not a simple combination of online and offline learning environments; rather, the definition and scope of blended learning are constantly expanding to incorporate successful system designs and strategies to improve learning.

Woo et al. (2009) categorize blended learning into a mixed mode and an adjunct mode. The mixed mode refers to classes that comprise of online and offline sessions that can be further divided into a vertical type and a horizontal type. In the vertical type, online and offline classes are divided based on the range of class topics. In the horizontal type, every class is divided into online and offline. The adjunct mode of blended learning can be subdivided into an online supplementary type and an offline supplementary type. In the online supplementary type, offline classes make up the main part of teaching and learning activities and online classes offer complementary interactions or support the offline classes. In the offline supplementary type, the main learning activities happen online and offline classes are sessions used to reduce the disadvantages of pure online

learning. Here, offline sessions are a way to supplement the online ones by assigning additional time to content such as practice, while operating the regular class online.

Blended learning is used by many companies in South Korea as a training strategy to enhance the success of training as well as to respond more effectively to the quickly changing environment faced by companies. However, most companies experience a variety of problems because they lack built-in effective development and operation strategies to successfully establish blended learning (Kwon et al., 2005). Wang and Han (2017) examined the roles of the institution for implementing blended learning in China and there were three major findings which could be interesting points in the context of South Korea. First, the institution showed a significant leadership role for blended learning implementation in vocational education institute in China. Second, the leadership role of institution became less prominent as the implementation of blended learning progressed. Third, the six components (institution, technology, teacher, content, learning support, learner) in the blende learning system which were suggested by Wang and Han (2017) worked and interacted with based on organic synergy.

2.2.2. Effects of blended learning

Shin (2005) examines the effects of blended learning in firefighting schools and found that groups who actively participated in pre-training online show higher achievements compared to groups who did not meaningfully engage. This research found that online pre-training was very helpful for offline training. A study that examines the effects of learning style on blended learning found that there were no significant differences based on learning style in the learning outcomes; however, it was found that learners preferred blended learning and that it was useful in enhancing participation and interest, and supported learning overall (Song, 2011). Blended learning was found to have a greater effect on cognitive domains such as learning achievement, problem solving, and critical thinking than emotional domains (Kwon et al., 2015). Also, Kwon et al. (2015) prove that blended learning is an effective instructional strategy to improve learning effectiveness in cognitive domains such as learning achievement, problem-solving, and critical thinking. Şahin (2010) found that positive effects of blended learning on students' performance in vocational education.

On the basis of previous studies, the effects of blended learning could be summarized as follows. First, blended learning is helpful for learning and training effectiveness because of the mixed use of optimal instructional strategies based on learning objectives and learner characteristics. Second, blended learning expands learning and training opportunities within institutions. Traditional offline-based training is offered at a fixed time and place, which limits the participants' involvement based on their work schedules. However, online learning is not without limitations as interaction and human presence are reduced. Thus, blended learning could be a productive option that expands the time and space for learning, as well as opportunities. Third, blended learning could maximize the cost-effectiveness of education and training. Forth, blended learning can meet the needs of a variety of learners. Lastly, blended learning targets long-term performance improvement.

2.3. Research objectives

The purpose of this study is to identify the current status of online learning and the need for online and blended learning in vocational education institutions in South Korea. The research questions of this study are specified below.

1) What is the current status of using e-learning in vocational training institutions?
2) What are the needs for vocational training institutions to use e-learning or blended learning?
3) What kinds of support are needed for adopting e-learning or blended learning in vocational education institutions?

3. Methods

3.1. Instrument

A survey including questions about basic information (2 items), the current status of e-learning content use (7 items such as percentage of e-learning, type of e-learning contents, way to attaining e-learning contents, consideration of e-learning hours as training hours, possession of LMS), needs for using e-learning (4 items), intention to adopt blended learning (3 items), and the reasoning for not adopting blended learning and several open-ended questions (see Appendix I). The survey was distributed via an online survey tool to vocational training institutions in South Korea to understand the current status of their operation.

3.2. Participants

The survey was sent to 1000 instructors and administrators in vocational education institutions in South Korea on December 2016, and a total of 116 usable responses were collected. In South Korea, most vocational education institutions are small and lack sufficient budget. Thus, instructors and administrators in these institutions are busy and have heavy workloads. Based on this, the response rate for this survey was not very high. Our results indicate that 22% of respondents had more than 20 years of work experience in the field of vocational education and 20% had less than 5 years of work experience. Fig. 1 shows that the respondents of this study had a diverse range of work experiences in this field.

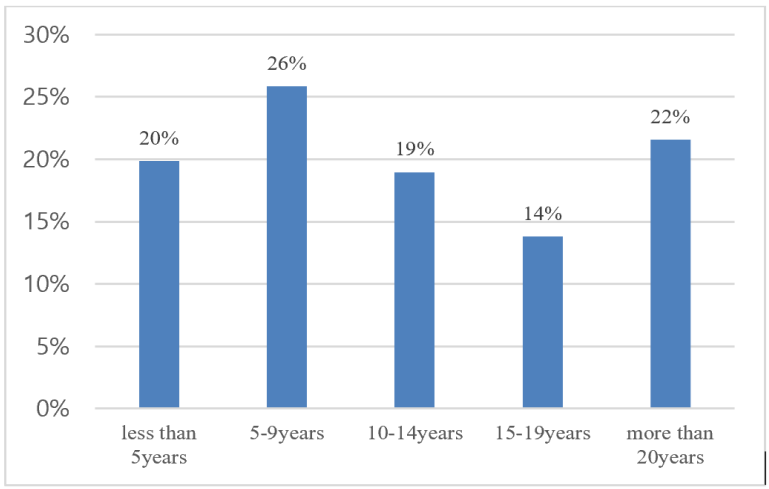

Fig. 1. Work experience

Fig. 2 shows the number of vocational trainers of each institution. Of the respondents, 56% stated they had less than 10 vocational trainers in their institutions.

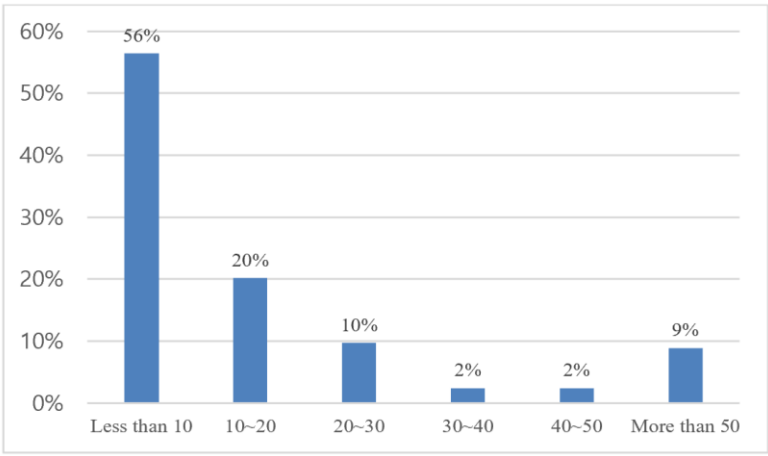

Fig. 2. Number of vocational trainers

4. Results

4.1. Adoption of e-learning

4.1.1. Use of e-learning content

This study found that 75% of respondents indicated that their institutions did not use e-learning content for vocational training and only 25% of institutions did use e-learning content. Among respondents who used e-learning content for their vocational training, more than 50% used e-learning content in less than 30% of their training time. Furthermore, 91% of institutions used e-learning content in less than 50% of their total training time as shown in Fig. 3.

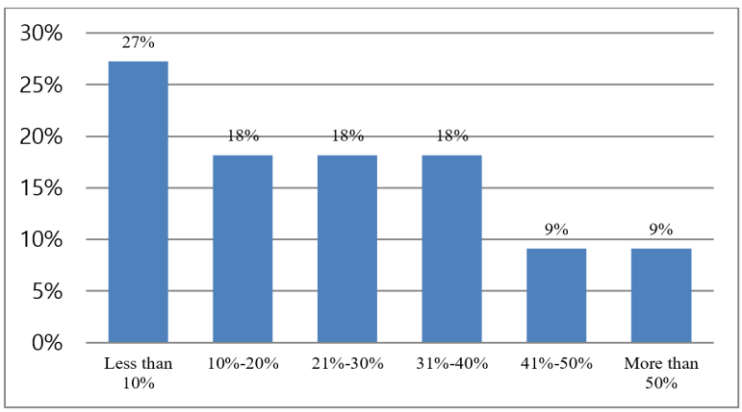

Fig. 3. Percentage of e-learning

Fig. 4 shows that e-learning content was mostly used either as course material (45%) or entirely online (45%) in vocational training institutions followed by blended learning (27%).

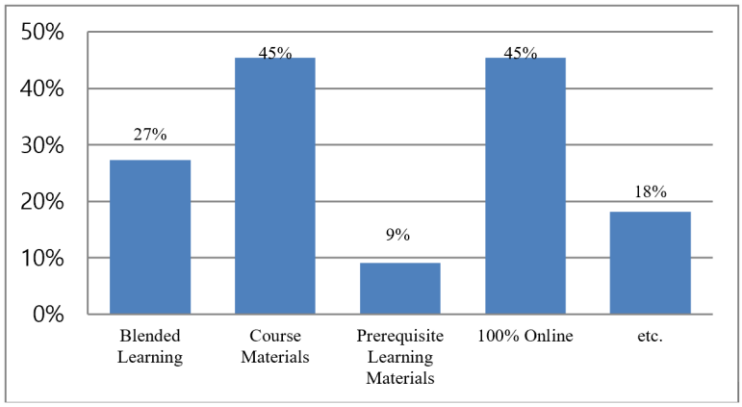

Fig. 4. Types of e-learning content utilization

When asked how vocational training institutions attained e-learning content, 55% of respondents answered that they developed the necessary e-learning content themselves and 27% answered that they rented or purchased the e-learning content. Among vocational training institutions who used e-learning content, 73% responded that they did not count e-learning hours as training hours while 27% did. Among vocational training institutions who used e-learning content for their learners, 55% possessed their own learning management system (LMS) and 45% did not possess an LMS. When asked whether the completion rate of courses increased after using e-learning content, 45% of institutions replied that they found some increase in their trainees' completion rate. This study also explored the main inhibitory factors to using e-learning content for vocational training; 45% of participants responded that the training effects of e-learning content are not satisfactory, and 36% responded that it was difficult to find e-learning content that was well-suited to their curriculum.

4.1.2. Reasons for not using e-learning

We asked participants from vocational training institutions who did not use e-learning content why this was the case and 39% replied that they believed that the educational effects of e-learning were lower than those of offline training. Beyond this, 25% had difficulties counting e-learning as part of training hours and 24% replied that they did not need to use e-learning content in their institutions.

4.1.3. Intention to use e-learning

Among all vocational training institutions, 72% responded that they will use e-learning content for their future vocational training programs. We found that 76% of the vocational training institutions indicated that they were opened to implementing e-learning in the future because learners could study when they wanted and repeat courses easily. Study time flexibility was considered as another central reason, since most vocational training learners in South Korea had full-time jobs and did not have time to study during the day.

4.1.4. Types of useful e-learning content

If vocational training institutions would adopt e-learning, the most useful e-learning content for these institutions was National Competency Standards (NCS)-based content (27%). Theory-based content (25%) was considered the second most useful, and e-learning content that could substitute practice classes was third (21%), as shown in Fig. 5.

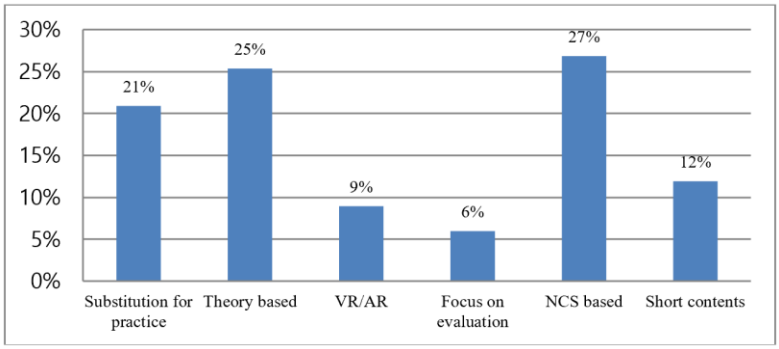

Fig. 5. Types of useful e-learning content

4.1.5. Appropriate learning time of e-learning

If vocational training institutions would use e-learning content for their training programs, 49% responded that it is appropriate to use e-learning content for less than four hours per week and 22% responded that less than eight hours is appropriate. These results are shown in Fig. 6.

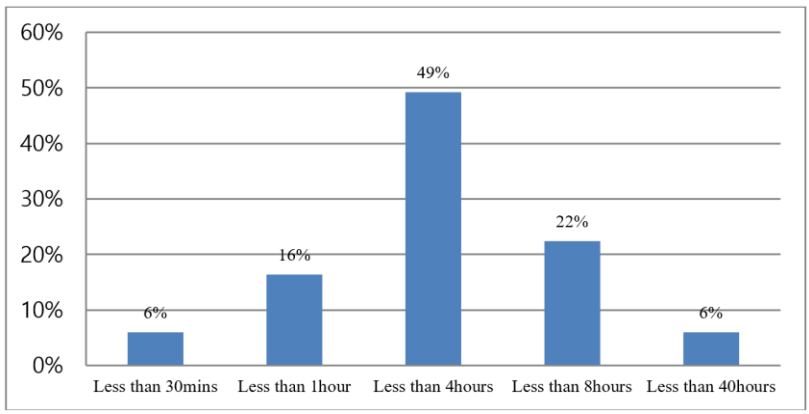

Fig. 6. Appropriate e-learning content learning time (per week)

4.1.6. Appropriate length of e-learning content

The length of e-learning content that vocational training institutions preferred if they would adopt e-learning for vocational training were shorter modules that were developed for learning specific knowledge or skills (45%), and short-term e-learning content that consists of less than ten modules (37%) as shown in Fig. 7.

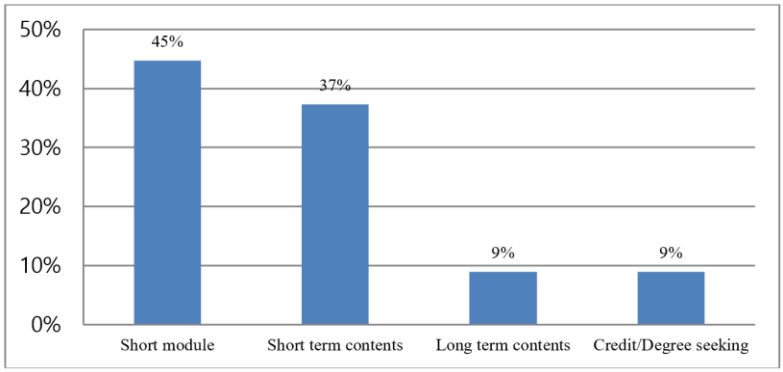

Fig. 7. Length of e-learning content

4.2. Adoption of blended learning

4.2.1. Need for blended learning

As indicated in Fig. 8, 33% of respondents thought that blended learning was needed for vocational training but 27% thought that it was not.

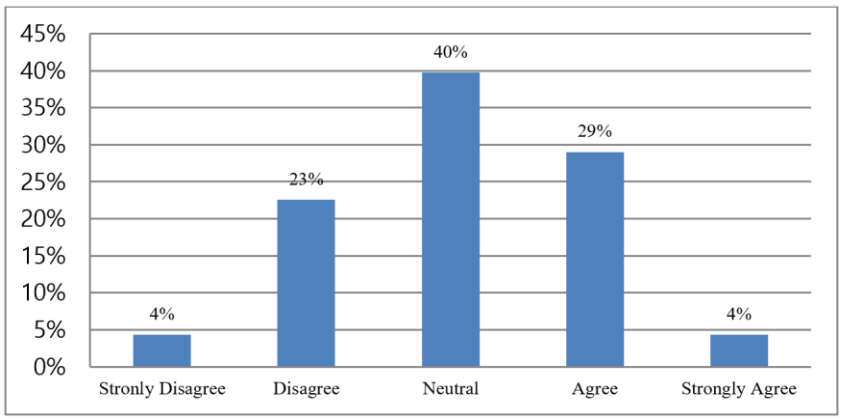

Fig. 8. Need for blended learning

4.2.2. Intention to adopt blended learning

When asked whether they would integrate blended learning into their curriculum, 54% of respondents replied that they intended to try blended learning in their vocational training programs in the future.

4.2.3. Best ratios for online vs. offline learning for vocational training

If vocational training institutions adopted blended learning, the best and second-best ratios of online to offline sessions were 2:8 (46%) and 4:6 (18%) respectively (see Fig. 9).

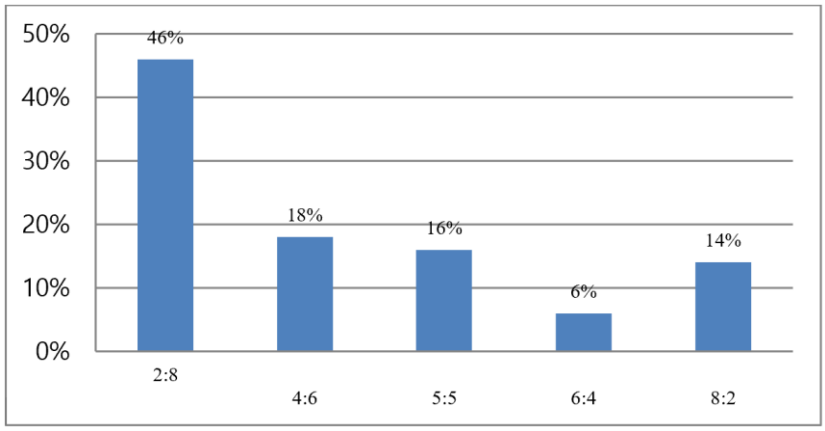

Fig. 9. Ratio for online vs offline

4.2.4. Reasoning for not adopting blended learning

Regarding the open-ended questions on why vocational training institutions did not intend to integrate blended learning, the responses can be summarized into five categories. First, the nature of vocational training is one reason why blended learning is not used in Korean institutions. In South Korea, most vocational training programs are practice-based courses for mechanical engineering, mechatronics engineering, computer science, and others. For these courses, e-learning content is not suitable because of the limitations of engaging in practical lessons via e-learning.

Second, it is hard to work out tuition fees if vocational training institutions employ blended learning. Some institutions preferred offline courses for better profit and some institutions were concerned about complicated fee calculations when they mixed offline and online sessions.

Third, many respondents said that they did not want to use e-learning since they could not guarantee the outcomes of e-learning for their learners. Prejudice regarding e-learning (which consists of watching videos without any interaction) still exists in South Korea. While e-learning content is becoming diverse and includes different types of interactions and simulations, most of these new types of e-learning are not well-suited to the subject matters of vocational training institutions.

Fourth, learners' preference for offline training was a barrier to adopting blended learning for these institutions. Many respondents explained that their learners prefer offline classes to online ones. They also said that their learners did not engage with the e-learning materials before coming to the offline class even though these were necessary for the class. Therefore, instructors needed to repeat the content of e-learning regardless, which was a waste of time.

Lastly, many vocational training institutions felt that it was hard to manage learners' statuses online. Therefore, vocational training institutions who needed to keep track of learners' attendance and progress did not want to adopt blended learning for management and administrative reasons.

Overall, these open-ended questions helped us understand the efforts that are necessary to support vocational training institutions in their use of e-learning content in

their curriculums. Most participants commented that they require NCS-based content, practice-based content, real-world-like content (not only focusing on theory), and basic job skills related to e-learning content. These would be helpful for their current curriculum. Furthermore, the online evaluation quality and short modules need to be improved and more information about available e-learning content should be provided to these institutions.

5. Conclusion

In this study, the current status of e-learning use in the vocational training institutions in South Korea and their intent to use e-learning and blended learning in the future are explored. Also, the support these institutions need for integrating e-learning into their curriculum is discussed. Below is a summary of the findings.

First, it was revealed that e-learning content is mostly used as supplementary class material in blended learning or offline classes in Korean vocational training institutions. This could be explained by the nature of vocational training institutions in South Korea. Most training institutions lack budget and professionals for diverse subject matter. Thus, it is hard to provide interactive learning materials that are necessary to enhance learners' motivation, so these institutions use e-learning content as alternatives.

Second, the main reasons for not using e-learning were related to the low training effectiveness in e-learning and the difficulty of finding appropriate e-learning content that fits their discipline and curriculum. The majority of vocational training courses are practice-oriented which enhances learners' performance at work. In this context, e-learning is still considered passive, where video lectures are theory-based rather than practices that focus on real-world situations. Therefore, many vocational training institutions are concerned about using e-learning content because of training effectiveness.

Third, the dominant reasons that vocational training institutions believed they might need e-learning content were related to content reuse and e-learning flexibility. An interesting response was that e-learning makes standardized training possible. This opinion stemmed from the idea that if all vocational training institutions used e-learning content based on NCS, they could offer standardized training for their learners and thus possibly mitigate vocational training disparities based on region.

Fourth, we found that the most useful e-learning content for vocational training institutions is NCS-based content, theory-focused content, and practice alternative content. In South Korea, vocational training strictly follows NCS; thus, if e-learning content is developed based on NCS, it becomes more useful. As mentioned earlier, vocational training courses focus on practical performance improvement at work, and thus several vocational training institutions wanted to use e-learning content for theory learning and then focus on practice in offline classes. Furthermore, some vocational training institutions hoped that e-learning content could replace parts of practice sections from the offline classes.

Fifth, the most preferred type of e-learning content was smaller modules developed for learning specific knowledge or skills. Short series (less than 10 units) were the second most popular type of content. This could be explained by the learning style of vocational training, wherein long e-learning content is not desirable. Nowadays, with the growth of YouTube and social media, people prefer short videos that contain large amounts of information.

Lastly, we found that vocational training institutions are hesitant to use e-learning in the future because of lower training effectiveness outcomes compared to offline training and due to the lack of interaction among learners and instructors or learners and learners.

6. Recommendations

The following suggestions are made on the basis of the results of this study. First, e-learning content should be developed based on NCS in various subject matters, including engineering areas. This content should reflect the latest technology, small-module content, and practice-enhancing content. Second, e-learning content that focuses on teaching theory before offline sections could be useful for vocational training institutions. Third, small-module-sized e-learning content is more beneficial for vocational training purposes than a longer e-learning package. Fourth, research and development that include diverse ways of interacting and integrating practices into e-learning contents are necessary. If these types of e-learning content could be offered, it would be possible to adapt them within vocational training institutions as supplementary class materials and blended learning materials. Fifth, a clear guideline should be drawn up that outlines tuition calculation for when vocational training institutions use e-learning or blended learning in their curriculums. Sixth, it would be useful to combine virtual reality with e-learning content to create a realistic training environment and interactive learning experiences. Seventh, the availability of a free or cheap LMS for vocational training institutions perhaps offered by the government will better facilitate the use of e-learning and support management for learners, thus reducing the institutions' workload.

Beyond this, diversifying training methods following learners' life patterns and preferences is important for vocational training institutions to enhance learners' performance and satisfaction. Adapting e-learning content as a part of their training program will change the mode of teaching/learning and possibly improve learners' motivation and result in better learning outcomes.

It would be valuable to conduct further study to develop a vocational education program applying small module-based e-learning content and examining the effects of the program. Also, further study about needs assessment and program development for virtual reality in vocational education would be beneficial for this field.

Author Statement

The author declares that there is no conflict of interest.

Acknowledgements

This research is supported by HRD Center Research Fund (Title: A Study on How to Utilize Online Contents in the Vocational Training Courses, 2016) from Korea University of Technology and Education.

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References

Belaya, V. (2018). The use of e-learning in vocational education and training (VET): Systematization of existing theoretical approaches. *Journal of Education and Learning*, *7*(5), 92–101. doi: 10.5539/jel.v7n5p92

Bonk, C. J., & Graham, C. R. (2012). *The handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer Publishing.

Byun, S., Lee, S., & Kwon, S. (2007). *E-Learning for solving regional education gap*. Seoul: Korea Research Institute for Vocational Education & Training.

Driscoll, M. (2002). Blended learning: Let's get beyond the hype. *E-learning*, *1*(4), 1–4.

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The internet and higher education*, *7*(2), 95–105.

Kwon, H., Moon, E., & Park, I. (2015). A meta-analysis on effects of blended learning in Korea. *The Journal of Educational Information and Media*, *21*(3), 333–359. doi: 10.15833/KAFEIAM.21.3.333

Kwon, S., Yoo, S., & Kang, K. (2005). A case study on effective development and implementation of blended learning in corporations. *Journal of Vocational Education & Training*, *7*, 89–126.

Lo, C. K., & Hwang, G. J. (2018). How to advance our understanding of flipped learning: Directions and a descriptive framework for future research. *Knowledge Management & E-Learning*, *10*(4), 441–454.

Masie, E. (2002). Blended learning: The magic is in the mix. In A. Rossett (Ed.), *The ASTD e-Learning Handbook* (pp.58–63). New York, NY: McGraw-Hill.

National IT Industry Promotion Agency. (2015). *2013-2014 e-learning White Paper*. Jincheon, North Chungcheong Province: Ministry of Trade, Industry & Energy.

National IT Industry Promotion Agency. (2016). *2015 survey of Korean e-learning industry*. Jincheon, North Chungcheong Province: Ministry of Trade, Industry & Energy.

Park, Y. (2010). The effect of the self-direction in learning. *The Civilization Journal*, *11*(1), 77–112. Retrieved from http://210.101.116.28/W_files/ftp42/0m700311_pv.pdf

Şahin, M. (2010). Blended learning in vocational education: An experimental study. *International Journal of Vocational and Technical Education*, *2*(6), 95–101.

Shin, Y. (2005). An empirical study on strategic operation of online learning for performance-oriented blended learning. In *Proceedings of The Korean Association for Local Government Studies Conference* (pp. 501–521). Retrieved from http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE01765124&language=ko_KR

Song, J. (2011). Effect of learning style of students on web based blended learning. *Journal of the Korea Contents Association*, *11*(1), 469–478. Retrieved from http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE01592672&language=ko_KR

Thongkoo, K., Panjaburee, P., & Daungcharone, K. (2019). Integrating inquiry learning and knowledge management into a flipped classroom to improve students' web programming performance in higher education. *Knowledge Management & E-Learning*, *11*(3), 304–324.

Wang, Y., & Han, X. (2017). Institutional roles in blended learning implementation: A

case study of vocational education in China. *International Journal of Technology in Teaching and Learning*, *13*(1), 16–32.

Wee, Y. E., Jung, H., & Lee, H. (2018). A case study of flipped learning application of public vocational education and training on the 4th industry occupation. *Journal of Practical Engineering Education*, *10*(2), 103–111.

Wong, L., Tatnall, A., & Burgess, S. (2014). A framework for investigating blended learning effectiveness. *Education + Training*, *56*(2/3), 233–251.

Woo, J. J., Kim, B. N., & Lee, O. H. (2009). A study on the blended learning as an alternative of face-to-face learning in university. *Journal of Korean Institute of Information Technology* *7*(2), 219–225. Retrieved from http://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE01180330&language=ko_KR

Appendix I

Survey Items

Basic information	How long have you been working in Vocational Education
	How many vocational trainers are working in your institution?
Current status of e-learning content use	Does your institution use e-learning contents?
	How's the percentage of e-learning contents in your vocational training courses?
	How do you use e-learning contents for your courses?
	How do you attain e-learning contents for your vocational training courses?
	Does your institution count e-learning hours as vocational training hours
	Does your institution possess own LMS (Learning Management System)?
	Did use of e-learning contents increase completion rate of vocational training in your institution?
Needs for using e-learning	Does your institution have intention to use e-learning contents for vocational training?
	If your institution would adopt e-learning content for vocational training, which type of e-learning content would be the most useful?
	If your institution would adopt e-learning content for vocational training, how long would be appropriate learning time for e-learning?
	If your institution would adopt e-learning content for vocational training, what would be the best length of e-learning content?
Intention to adopt blended learning	Do you think blended learning is necessary for vocational training?
	Does your institution have to adopt blended learning for vocational training?
	If your institution would adopt blended learning for vocational training, what would be the best ratio for online and offline?
Reasons for not adopting blended learning in the future	Why your institution does not want to adopt blended learning for vocational training? Please write down the reasons.