International Journal of Advanced Smart Convergence Vol.8 No.3 145-150 (2019)
http://dx.doi.org/10.7236/IJASC.2019.8.3.145

IJASC 19-3-19

A Study on the Change of Education System with the Development of Digital Content Industry

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Abstract

Due to the development of science and technology and the emergence of new industries, the environmental change of the digital contents industry is rapidly progressing. The scope of technological development in the digital contents industry is affecting not only the entertainment industry but also various industries. Recently, with the development of digital convergence using realistic content, games, video, and VR have provided new opportunities for the growth of the content industry. The researcher determined that a new education system would need to be changed as the digital contents industry developed. For this purpose, an AHP questionnaire was conducted for experts with a high basic understanding of the education platform based on previous studies. We proposed a platform model for human resource development as an education system that meets the demand of digital contents industry. The education system for nurturing talents needed by future society should include elements that can interest the learning of users.
The platform should not be approached from a system point of view, but should be developed from the content and user's point of view, considering the platform's original purpose.

Keywords: *Digital Content, Education Platform, Virtual Reality, Augmented Reality, Human Resource Training.*

1. Introduction

In the face of the Fourth Industrial Revolution, researches on the digital contents industry are continuously increasing. With the development and spread of new technologies, social discussions on various digital content related technologies are expanding [1]. The Fourth Industrial Revolution, presented in earnest at the 2016 Davos Forum, emphasizes that the era of disruptive change and innovation has already begun, in which science and technology and digitization completely change everything. It was anticipated that the job competences that would change and required would also vary. As the range of technology development in the digital contents industry has been expanded, it is becoming important to establish education for convergence of industrial platforms necessary for the strategy of new technology development.

In this study, the development of the digital contents industry will change the educational system and how to build the educational system will suggest the direction of future talent development. Therefore, I would like

Manuscript Received: Aug. 6, 2019 / Revised: Aug. 10, 2019 / Accepted: Aug. 20, 2019
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to propose a human resource development platform model applying a new direction of education system.
To foster global talent in the digital contents industry, it is necessary to nurture creative content planners and foster experts with storytelling skills.

The education of the future society requires flexible and creative thinking and is developing to fuse different knowledge. As a result, people of the future will need to have creative personality, expertise and future core competencies.

2. Theoretical background

2.1 Environmental changes in the digital content industry

The use of mobile devices with free access to the Internet has changed the content industry. As new digital technologies are utilized, interest in VR, AR technologies are increasing. With the recent advances in technology and performance of 5G and artificial intelligence, the service range has expanded rapidly.
With the advent of various platforms and application development, most of the programs used in existing PCs can be used through smart phones. Through the use of applications, a converged approach using smart phones is possible.

As a result, global IT companies are focusing on the sensational media and related devices market as a new innovative technology that will succeed smart phones. Initially, the market was formed around the entertainment industry such as games and videos, but recently, the application to various industries is becoming more visible as the mutual growth of related technologies and convergence among industries accelerate. To increase competitiveness in the digital content industry, it is necessary to change the education system that can lead the market prediction and new technologies. The major trends of digital content are shown in the Table 1 below. Digital contents created with new ideas can be perfectly expressed when combined with related technologies.

Table 1. Major trends in the digital content industry.

Change	- Various platforms appeared - Distribution of VR, AR implementation system and related technology development - Enhance new legislation and regulations in the country
Creative	- Creative storytelling - Expand creative contents
Convergence	- Convergence with related industries - Converged contents development

2.2 Human resource training status and problems

Although it is exposed to the rapidly changing digital content industry environment, there is still a shortage of specialists. Digital content related education programs are not providing the quality education that companies need due to lack of professional lecturers. In particular, the digital content curriculum is not specialized and the competitiveness of the workforce is low. Recognizing the importance of digital content production education, program education has been strengthened, but education contents are very lacking in the development of planning ability and creative idea development and application ability by focusing more on production technology.

While the digital content industry requires creative engineers with planning skills, educational institutions focus on using programs and developing content management skills. The reason for the severe quality

discrepancy in the supply and demand is largely attributable to this educational situation. Analyzing foreign digital content education, students produce results that entertain, inspire, inform, and influence developers and consumers in carrying out projects. In addition, students use both techniques and creative elements in their creative capacity. Students and researchers who have studied different disciplines will be involved in converting designers into engineers or vice versa to learn about the concept forms of humanities, society, literature, values, and other digital content. They are educated to be fully creative in their mastery. Also, they run a program that focuses on experiments and practices through internships and projects, and focuses on creativity rather than computer skills. It operates a curriculum with a focus on field projects, but focuses on creativity development and training by shifting humanities education and engineering perspectives to human communication perspectives [1]. The Figure 1 below from Oxford Martin School & Citi Reserch shows the job competencies required for future industries.

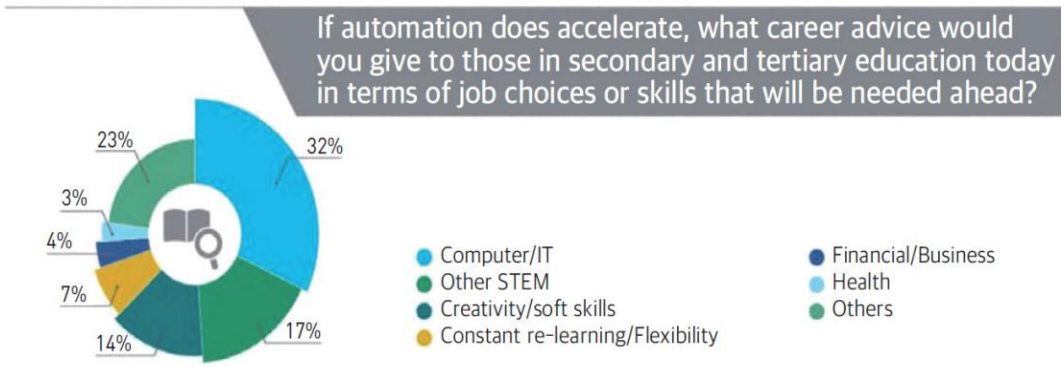

Figure 1. Job competence required in the digital content industry

3. Research method

This study started from a previous study to understand the necessity of changing the educational system according to the environmental changes in the digital content industry. I surveyed and analyzed user requirements for success factors of human resource development platform according to the development of digital contents industry. I attempted to derive success factors from the perspective of students and teachers who utilize the platform, and investigated and analyzed whether these factors affect users.

3.1 Research stages and participants

This survey was conducted on 5 education and technical experts to select important factors that could affect the construction and operation of the platform. Participants in the survey proceeded to set the priority of evaluation items according to the experiences and insights of experts in the field. The basic characteristics of the participants are shown in the Table 2 below. To secure the credibility of AHP research, this study was conducted for professionals who are engaged in education, information and communication industry (ICT), ICT convergence education, and have a basic understanding of education platform. The composition of the response experts is as follows.

Table 2. Configure response experts

	Age	Sex	Job group
A	38	Male	Programmer
B	40	Female	Modeler

C	48	Male	Professor
D	50	Male	Teacher
E	55	Male	Professor

3.2 Research analysis

According to the experiences and insights of experts in the field, priorities were determined. The respondents consist of three groups, educators, ICT practitioners, educators and ICT practitioners, all of whom are experts with more than five years of experience in the professional field. AHP analysis on the matters to be improved for the future talent development platform. In terms of priority, each group of experts differed slightly. All the groups agreed on improving educational content. The ICT convergence education expert group considered platform accessibility a priority improvement. The Table 3 below shows the survey items written by experts in the field.

Table 3. Survey items

Classification	Factor
Learner properties	Knowledge and understanding of new technology Creativity, innovation, sincerity, pleasure of learning
Instructor talent	New technical knowledge and expertise Platform familiarity Creativity, innovation, interaction with learners Learner assessment and management Positive attitude toward platform utilization
Platform Quality	Platform accessibility, Usefulness, Ease of use Automation& Intelligence, Functionality Interactivity, Stability, Speed, Design attractiveness
Curriculum and Content Quality	Curriculum and contents usefulness Level of relevance, Diversity, Interest visuality Interactivity, Completion

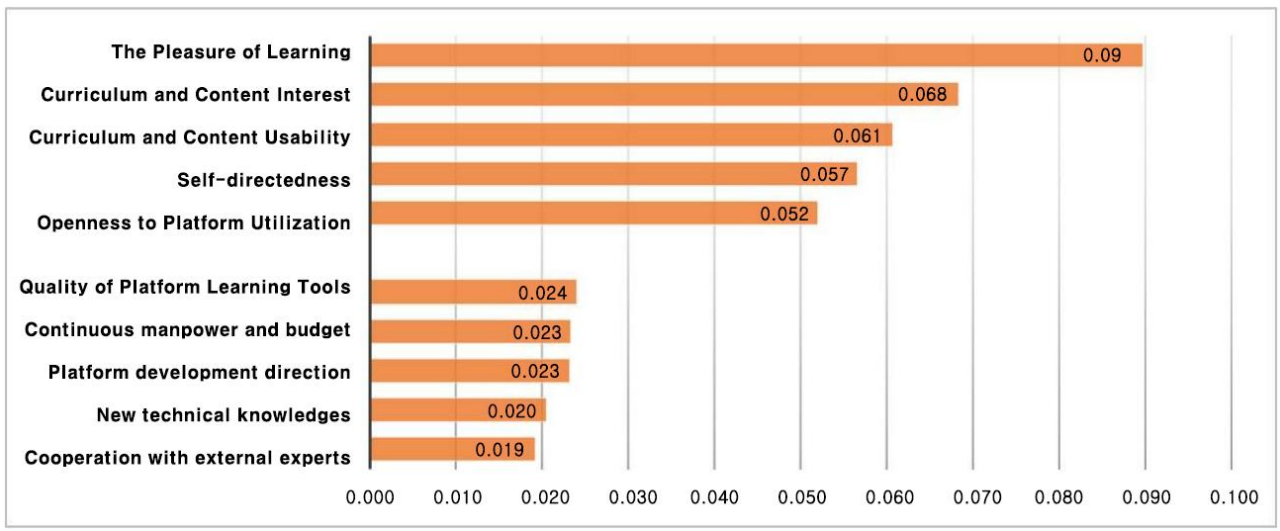

Figure 2. AHP survey evaluation results

The Figure 2 above shows the final results of the AHP survey evaluation items. A good platform is a system that can motivate users. Good content should be informative from a learning point of view and should include elements that interest users.

3.3 Research Results

In order to build a new future talent training platform, the characteristics of content consumers will play an important role in driving learning effects. The characteristics of the curriculum and contents were also found to have a great influence on learning satisfaction. Although the contents of the curriculum and the contents of the contents are as important as the characteristics of the contents consumers, they are presently insignificant. Therefore, in order to develop a differentiated future talent development platform, it was found that producing and utilizing high quality contents is more important than any other factors. In addition, the platform management must be supported so that educational contents can be delivered to learners through the platform.

According to AHP analysis, the management of the platform is insufficient in the existing online education system. From the user's point of view, the environment that makes the platform easy to use has been identified as an important factor in enhancing learning effects by increasing learners' engagement and participation.

Therefore, in order for learners to easily access the contents and use the platform, the learners should be provided with the functions or contents provided by the platform clearly and be able to lead the learning through easy operation. To this end, a platform that independently develops, provides, and distributes educational content services in various smart devices and convergence technology environments should be established. In other words, the platform should support the flexible structure to expand and reconstruct the form and contents of educational contents, and should be improved in a way that can interact with learners, instructors, and external resources according to various learning environment changes.

4. Conclusion

Recently, with the rapid development of information and communication technology, a variety of service platforms have been created. Through this, an online education system providing education contents to learners is continuously spreading. The online education system is attracting attention from the fact that learners can actively participate as the subjects of learning and reinforce their learning capacity, away from the traditional method of education, which was dependent only on instructors. Researches on the existing online education system have analyzed the various factors in order to find ways to increase the learner's learning effect, and viewed the characteristics of the learner as the most important factors in leading the learning effect.
Therefore, many educational systems have been developed that focus on factors such as the belief that learners themselves lead the learning, learners use the educational contents provided through the educational platform appropriately, and achieve the desired learning outcomes.

As a result, online platforms that specialize in providing educational content for various learners are easily found in the online market. However, the limitations of this study should further study whether learners have actually improved learning effects and whether high-quality education for the new era of the fourth industrial revolution can be effectively provided through current systems and systems. It will be more valuable to discuss further studies and comprehensive stories at various levels. According to the survey results, a good platform is a system that can motivate users with a lot of good content. Good content should be useful from an educational point of view and include elements that can interest users. The platform should not be approached from a system point of view, but should be developed from the content and user's point of view, considering the platform's original purpose.

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