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# The Impact of Instructors' Capacity in Interior Design Studios\*\*

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Author Author name / Affiliation, Degree  
Author name / Affiliation, Degree\*

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**Abstract** Academic literature uses the abstract to succinctly communicate complex research. An abstract may act as a stand-alone entity instead of a full paper. As such, an abstract is used by many organizations as the basis for selecting research that is proposed for presentation in the form of a poster, platform/oral presentation, or workshop presentation at an academic conference. The purpose of this study is to identify the relationship between museum fatigue and user satisfaction. Most literature database search engines index only abstracts rather than providing the entire text of the paper. The method for data collection is field observation. Full texts of scientific papers must often be purchased because of copyright and/or publisher fees, and therefore the abstract is a significant selling point for the reprint or electronic version of the full text. Abstracts are protected under copyright law just as any other form of written speech is protected. the major findings are as follows. Discontinuity and user participation are strongly associated with user satisfaction in the museum exhibition. It is a common misconception that the abstracts in medline provide sufficient information for medical practitioners, students, scholars, and patients. The abstract can convey the main results and conclusions of a scientific article, but the full text article must be consulted for details of the methodology.

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**Keywords** Technology Integrated Education, Teaching Method, Student Learning, Design Tool, Studio

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## 1. Introduction

On a global scale, many governments have significantly invested in providing schools with more digital technology resources. Students born into the digital era are more technologically capable, so they generally expect that schools would provide technology-integrated education, acknowledging their capability with technologies. Despite the government's investment in digital resources in schools and the student's expectations, empirical research demonstrates that the current education systems do not reflect proper utilization of the technological resources and the student's expectations.

This research started with how students' learning processes will be influenced by instructors' instructional integration of technology in the classroom. It is expected that instructors' views on technology-integrated learning may affect students' learning processes, by encouraging or discouraging their use of technology

in the design process. Rather than the technological developments, such as new software and computer skills, this research emphasizes how instructors integrate the technologies into their courses with a specific perspective, and how students utilize technologies for their learning accordingly.

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## 2. Related Studies

Two representative studies propose several stages for technology-integrated education. The Apple Classroom of Tomorrow (ACOT) project served as a foundation for research on using technology as an integral part of teaching and learning. The ACOT project produced an adoption model, the Stages of Instructional Evolution, for the use of technology in the classroom. According to the model, educators go through five stages of thought and practice when adopting the technology: Entry-Learn, the basics of using technology. Adoption-Use, new technology to support traditional instruction. Adaptation-Integrate, new technology into traditional classroom practice. Appropriation- Focus, on cooperative, project-

Corresponding Author  
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\*교신저자(Corresponding Author): kildong@hankook.ac.kr  
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based, and interdisciplinary work, incorporating the technology as needed and as one of many tools. Invention-Discover, new uses for technology tools. In 2000, the Consortium on Chicago School Research investigated teachers' assignments of technology-related lessons and projects. Based on the responses from the teachers, they categorized teachers' levels of technology integration as follows: highly integrated, integrated, modestly integrated, limited integration, and no integration. The results of the study show teachers' existing views and practices on technology integration.

### 3. Method

This research investigates how instructors' capabilities influence technology-integrated education in design studios. We chose interior design majors in Universities located in Seoul. They utilize design tools such as AutoCAD, Sketch UP, Revit and Max. We asked thirteen Universities if we could conduct a questionnaire survey and obtained permission from seven Universities. We performed the questionnaire survey with two or three instructors in each University, further, students in their studio classes.

Eighteen instructors who lecture the studio classes were surveyed and interviewed. Mostly questionnaires were used, and interviews were additionally carried out on several items that required much more detailed instructors' opinions and thoughts. In addition, thirty students who attended those instructors' classes were randomly sampled for a comparative study between instructors and students about creative pedagogics. The studios were four-year courses; thus, the subjects were four-year students consisting of ten male and twenty female students. The data was collected over three weeks and analyzed by SPSS 20 statistic program. Using variance and regression analysis, we scrutinized the relation between instructors'

value of technology and the class and analyzed the main factors influencing instructors' value of technology.

### 4. Results

We investigated the extent to which instructors use technology in their classes and how much they encourage students to use it. We analyzed how instructors utilized computers with Internet access for classroom instruction to some extent and addressed how much students utilize technologies such as computers and CAD programs for design communication, presentation, drawing, and rendering in studio courses.

#### 4.1. Instructors' Use and Value of Technology for Education

##### (1) Instructors' Characteristics

The instructors' characteristics such as age, gender, lecture experience, design studio lecture, and practice experience were investigated as shown in Table 1.

The instructors' average age is 41.66 years old and is more female than male instructors. The average lecture experience is 7 years, however, the experience of design studio education is only 4.66 years. Most instructors have much practice experience, with an average of about 9.55 years. Two instructors have practice experience of more than 20 years. This result shows that people with many lectures and practice experience become instructors in design studios.

##### (2) Instructors' Value of Technology

The interview was conducted in addition to the questionnaire survey to investigate instructors' value of technology. The question

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<Table 1> Instructors' Characteristics N=18

	Characteristics	Frequency(%)	Mean
age	35 - less than 40 years old	2	41.66
	40 - less than 45 years old	10	
	45 - less than 50 years old	6	
gender	male	6	-
	female	12	
lecture	1 - less than 5 years	6	7.00
	5 - less than 10 years	6	
	10 - less than 15 years	6	
design studio	1 - less than 5 years	8	4.66
	5 - less than 10 years	10	
practice	1 - less than 5 years	6	9.55
	5 - less than 10 years	4	
	more than 10 years	8	

was that ‘Would you explain what technical education means to you?’ Most of them replied that technology tools are essential to design communication for design development at the studio classes. They explained that technology tools enable effective representation of the produced work. Furthermore, several instructors emphasized that ‘technical education should be employed as a way to deploy designers’ ideas and display their creativity for self-expression on top of it being the simple communication method’. One instructor argued that practice for improving design thinking should be performed in studios based on the capability of technology tools while the proficiency for the technology tools itself should be trained in a separate class.



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(Figure 1) Seoul History Archive  
 Source: [http://www.museum.seoul.kr/archive/NR\\_index.do](http://www.museum.seoul.kr/archive/NR_index.do)  
 2019.10.08. extracted

## 5. Conclusion and Discussion

There was a discrepancy between instructors’ evaluation of their creative pedagogics for technology integration and students’ views of the contents of instructors’ classes. Instructors responded that they are utilizing creative pedagogics for technology integration; however, students disagree. Therefore, developing new pedagogics by instructors might be possible through constant feedback from students. Furthermore, instructors’ value of technology affects the most on their creative pedagogics, and their lecture career or practice experience does not influence their creative pedagogics. Therefore, instructors’ professional development should focus on subject-specific content or specific teaching methods; further, instructors should receive follow-up support as they implement new skills in classrooms. The development of diverse learning methods and education that would enable these values of technology to be employed in the class is crucial.

There is a limitation of the study in terms of the number of subjects because it is to target instructors who perform lectures in design studios and students who join the studios in universities. The significance of this research is to emphasize the importance of

technology-integrated design education. Although it is hard to generalize the result, this research found that instructors’ capabilities of technologies influence students’ learning in design studios. In future studies, systematic investigations including more subjects in different areas and curricula will be done for the generalization.

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