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Technology Convergence in Tourism Education: Modelling a Multimedia Technology Inclusive Academic Instruction

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Abstract

COVID-19 laid the groundwork for the transition from traditional to digital classrooms during its peak period. In the digital classroom, various technologies enhance teachings, such as hardware (PCs, laptops, tablets, and smartphones) and software (social media sites, videos, slides, sounds, and narrations). To illustrate how digital technologies enhance, innovate, and keep up with tourism education, this paper describes how convergences of digital technologies enhance, innovate, and update tourism education. The author selected a hybrid classroom setting as a case study for International Tourism and Culture, a course offered during the Fall 2021 semester. In designing and implementing the course, the facilitator employed content, pedagogical, and technological knowledge. As part of the course management plan, both the facilitator and students will utilize technology. The study concludes that incorporating multimedia technology in teaching tourism courses provides numerous advantages, such as 1) time and space flexibility, 2) development and practice of technical competencies, 3) positive effect on students' engagement, and 4) promotion of soft skills development. Integrating multimedia technology into the teaching of courses and throughout the curriculum contributes to the development of strategies for transforming Tourism Education.

Keyword : Multimedia technology-inclusive academic instruction, tourism education, time and space flexibility, student engagement, flexible education, promotion of soft skills

1. Introduction

The COVID-19 pandemic has disrupted higher education institutions across the globe, as universities ceased face-to-face classes, with many transitioning to the digital classroom for teaching and learning [1]. The pandemic continues to challenge the ability of universities to function effectively, extending the challenge to educators and students. Some faculty members struggled to adapt technologies in their courses to fit the current needs concisely with little formal training. Likewise, students have to learn new technologies side by side as they learn their courses.

In South Korea, the government has ordered educational institutions to move in-person classes online and suspended international travel for students. Higher Education Institutions acceded to this call as they halted athletic programs and closed most campus buildings. The university must constantly find alternatives to on-campus programs for current students who enrolled this semester. Through technology,

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the university continuously provides education services. With the aid of technology, online classes were designed and implemented so that students can learn wherever they are. Traditional styles shifted to online learning. The shift to an online learning platform opened up the possibility of extending teaching and learning to Korean and international students who could not attend classes on campus. Consequently, Koreans and international students could access education regardless of their geographic location.

To date, most countries are moving towards a post-COVID-19 era. However, remnants of the pandemic, such as technologies used, are still evident such as contactless technologies and smartphones. Contactless technologies emerged before COVID-19 but served a valuable purpose by enabling physical distance. For instance, people can order and pay from coffee shops to restaurants and even convenience stores without interacting with service personnel. Similarly, smartphones as a reliable technology buddy for all person's needs, such as information, payment, and COVID-19 update, are more in demand for people of all ages. In education, technologies play a significant role in the academic environment, such as attendance apps, communication tools between professors and students, and Learning Management systems (LMS). During times of unprecedented change in tourism and universities operating in unchartered waters, it is time to rethink how tourism education should transform to address this new normal. Related research on the interactive improvement plan of the payment APP for the elderly: Focusing on Alipay.

The tourism industry is changing faster than ever. Tourism education needs to consider the many impacts of the pandemic on the tourism business world, such as business and operating models, job responsibilities, and industry structure [2]. In order to meet the demands of the new industry, curriculums and delivery methods need to be updated and aligned with industry job and skills requirements. A way to achieve this is to include digital literacy and skills in the course material. Integrating multimedia technology into tourism curricula is a necessity since it helps foster situated learning and engagement with authentic cases, agents, and contexts [2]. Students need to understand the role and potentialities of digital technologies. However, they also need to know how to use them to be better prepared for their future positions within the tourism industry. Furthermore, it is also essential that research addresses this ever-changing framework and provides evidence for finding adequate, efficient, and sustainable uses of digital technology in Tourism Education. In this regard, this study aims to present a strategy for teaching and learning tourism courses that anticipates the changing nature of education in line with the digitalization of the industry.

This paper aims to present teaching and learning strategies that incorporate technology as part of the teaching and learning process. The author asserts that using multimedia in the classroom provides

numerous benefits, such as enhancing students' technical skills through practice, as well as influencing their engagement and soft skills. Consequently, students will be prepared for the changes in the tourism industry due to digitalization. Thus, the tourism industry can expect future tourism professionals to be knowledgeable, competent, and technologically savvy.

2. Review of Related Literature

Learning nowadays is not limited to the four corners of the classroom but can be done in different spaces. Various innovative learning methods, techniques, and strategies are employed extensively to enhance, collaborate, and interact with learning. Educational institutions have adopted technologies to supplement and improve learning instructions to allow greater learning stimulation. Multimedia technology is an interactive computing platform that combines both hardware and software. The hardware-related technologies may consist of personal computers (PCs), laptops, smartphones, tablets, and projectors. On the other hand, software-related technologies may include quick response (QR) codes, the Web, social media sites (e.g., Facebook, YouTube, Instagram), multimedia files, videos, narrations, sounds, and even games.

Different digital technologies include computers, tablets, smartphones, and many others. Several authors assert that multimedia tools such as audio, video, and hyperlinks nested in PowerPoint slides stimulate student attention and increase their thinking ability. Bryer and Zavattaro [3] argue that social media tools facilitate social interactions, resulting in collaborations and negotiations between people. Several studies have shown that social media tools promote educational technologies that enhance peer feedback, student mentoring, and social interaction [4][5]. In 2015, Al-Aufi and Fulton [6] conducted a similar study, which examined the effects of social media on patterns of informal communication among students in the social sciences and humanities. The study found that social media tools positively affected students' informal communication.

The use of digital technologies and teaching practices must include an element of interactivity. One of the reasons why synchronous video conferencing is popular is its high degree of interactivity among participants. With the development of the meeting rooms function, instructors can easily organize group activities during video conferences. To ensure students perform well, instructors should provide students with structured guidelines. Saltz & Heckman [7] examined the effect of synchronous video-based break-out rooms and structured pair activities in online programming courses. During guided instruction of activities, students alternated between two roles: driver (the person who controlled the shared screen

and wrote within the shared document) and observer (the person who observed what the driver was writing). Results of observing and surveying 114 break-out room sessions before and after introducing specific guidance indicated increased coordination, expanded responsibilities, and increased engagement and productivity.

The study conducted by Bloodsoe [8] included multimedia tools (videos and sound clips). According to the findings, multimedia tools can be highly effective for promoting student learning and engagement in virtual settings. The study by Hernandez-Sellés et al. [9] found a positive relationship between online collaborative tools (virtual campuses, chat, discussion forums) and interactions within and between student groups.

Regarding diverse learners' online learning experiences [10], found a correlation between sociocultural factors and participation when students worked online with peers from other countries [11]. acknowledged the difficulty of presenting online courses to students from different cultures. The authors pointed out the importance of online instructors creating space for cultural knowledge in their online courses considering the diversity in their online classrooms by examining one student's journey and her experiences with her online course instructor. Instructors recommend integrating cross-cultural discussion at every opportunity and accommodating language diversity to ensure class effectiveness [12]. highlighted the importance of creating engaging activities to enhance online learning. The authors looked at engagement strategies that learners considered necessary in the online environment. This study emphasized the importance of teacher-to-student, student-to-student, and student-to-content engagement.

In Higher Education settings, digital technology is seen as inevitable by both students and teachers. Nonetheless, teachers are aware that they need to understand how students learn through digital technology in order to bring ‘richness and complexity to the ‘traditional’ learning experience’ [13]. Teachers and students can also connect through it, thereby overcoming the digital divide. As the use of multimedia technology in education is not universal and standardized, nor is it immutable, the studies I examined in this research identified limitations and potentialities of its use in specific situations.

3. Case Study

3.1 Course Design

The International Tourism and Culture (ITC) course provides students with a better understanding of how tourism operates on an international and national scale. In ITC, tourism theories and concepts are introduced, followed by an assessment using practical activities to apply students' knowledge. In addition,

this course offers an opportunity to develop inquiry, problem-solving, and decision-making skills. The course is offered primarily to students majoring in tourism management, but they are also available as electives to other university students. The language of instruction is English. Due to the medium of instruction being English, both exchange students and regular international students find interest in this class. This course has the following practical applications. First, students can learn what is happening within the industry, how it has changed, and how the business environment has affected tourism-related businesses. More importantly, students will be able to understand how these changes affect them as tourists or as members of the host community. The multicultural classroom setup offers a rich opportunity to listen to students' presentations to gain insight into tourism culture, activities, and status in other countries. Therefore, they can generate insights and contribute to tourism development in their area. This class requires students to have adequate English communication and digital literacy skills. Since the class is student-centered, students are encouraged to participate in class activities and discussions.

3.2 Lesson Planning and Operational Strategies

The convergence of technologies has been used to operationalize hybrid classes. In a hybrid class, an instructor combines the benefits of classroom and online instruction [14]. In the Fall of 2021, still under pandemic conditions, a hybrid version of this course was offered. The first eight weeks of the semester were done online, and then on the ninth week, we returned to the classroom. Technology was used both online and in person. Synchronous classes require the facilitator and students to have access to a computer with a camera and microphone. Nevertheless, having a laptop, IPad, tablet, or smartphone as a backup technology would be ideal in case of disruption when using a personal computer.

ITC is a 3-credit course consisting of two and a half hours of contact time per week. In the first eight weeks, students take the course online using synchronous and asynchronous methods. For synchronous mode, real-time classes via Zoom follow the class schedule, while asynchronous mode allows students to view video lectures whenever they like during the class week. During the second half of the semester, teaching and learning returned to the classroom. [Table 1] describes the online operations for a hybrid classroom together with the multimedia technologies needed to implement it.

A variety of pedagogical approaches were considered to teach the course. These include active learning, project-based learning, inquiry-based learning, problem solving-based approach and small group learning [14]. The active learning environment was preferred because it allows students to participate and be engaged while learning.

[Table 1] Hybrid Class Operation Plan

Operation Plan	**Classroom**	**Online**	**Multimedia Technology**
Modality	- Interactive lecture using Powerpoint, YouTube videos and other multimedia materials	- Watch video lectures - Conduct real-time classes using Zoom platform	**Hardware technologies:** PCs, laptops, smartphones, tablets, projectors, cameras **Software technologies:** Learning Management Systems (LMS), YouTube, Google (drive, slides, doc, forms, sheets), Zoom, Powerpoint, Prezi, Internet, multimedia files, videos, narration, translation app, E-dictionary
Pacing	- Make Goals Clear - Have Smooth Transitions - Be Sure Materials Are Ready - Present Instructions Visually - Check for Understanding - Choose Most Effective Type of Teaching	- Watch the video lectures (asynchronous, accessible to students at anytime during a given period) - Conduct real-time classes (synchronous based on the administration's plotted schedule)	
Professor's Role	- Interactive Instruction (online and offline)	- Active instruction (online and offline)	
Student's Role	- Active participation (participate in class discussions, do presentations, work with a team)	- Active participation (class discussions, do presentation, work with a team) - self direct learn when watching video lectures and prepare for activities for presentations	
Communication Strategy - Professor	- Create safe learning environment - Open communication - Clear lesson delivery - Use of body language - Use of multimedia materials - Technical competence - Embrace diversity	- Asynchronous (video recording, YouTube, LMS, e-folder dropbox, email and messaging, SMS, Kakaotalk message and group chats, respond to weekly lesson video lecture comments, feedback and questions in YouTube link) - Synchronous (mark of students' attendance at schedule online class meetings, conduct classes, evaluate students' participation and presentations)	
Communication Strategy - Student	- Openness - Body language - Ask someone to interpret message - Use of translator app - Ask questions or clarification	- Asynchronous (access materials from LMS, can send inquiry to professor using different communication mediums, study and practice skills at any time that works for them) - Synchronous (attend and participate in real-time classes)	

3.3 Implementation

The International Tourism and Course courses at the university attract a variety of students. There are students enrolled in this course from Tourism Management and other majors, including Koreans,

Chinese, Indians, Burmese, Sri Lankans, and Uzbeks. Although most students have PCs, laptops, tablets, and smartphones, not all of them are technically proficient enough to take online courses. The first week of class is dedicated to orienting students on how to use and maximize technology (see the table below) and how it can improve their efficiency, productivity, and engagement as indicated in [Table 2].

[Table 2] Technology Use Orientation Points

How to use technology to enhance learning?
- Browsing the internet for schoolwork
- Chatting online (politely with the professor)
- Checking Learning Management System (LMS) for an announcement
- Choosing appropriate multimedia materials for project
- Doing individual homework using technology
- Downloading, uploading, or browsing material from the school's website
- Dropping files on an e-folder
- Editing video presentation
- Joining in an e-meeting
- Preparing presentations with clear images
- Posting work on the school's website
- Posting work on YouTube channel
- Recording video
- Share school-related materials with other students
- Using computers and smartphones for communication with other students
- Using Zoom (how to enter, how to create a meeting room, how to show a presentation, how to send a message on the chat box)
- Using email to communicate with professors
- Using chat groups formally in communicating with professors and classmates
- Using app for translation (i.e. English to Korean, English to Vietnamese, Chinese to English)
- Worksharing

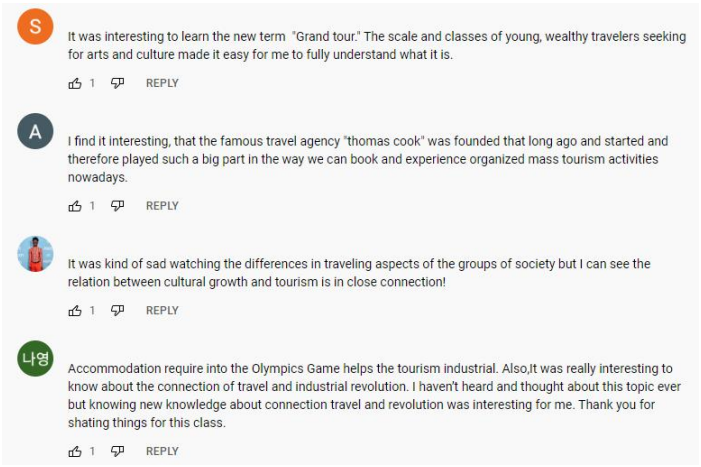
3.4 Technology as a Tool for Personalized Learning

Consequently, there is a wide range of learning levels. While some students are smart and have a good command of English, others have difficulty learning the lesson. To reinforce learning, the real-time online class was recorded and uploaded to YouTube. A link to YouTube is made available to students through the class Kakaotalk group for them to review the finished lesson as depicted in [Fig. 1] (e.g. https://youtu.be/fppVyMqEK8c). Images and visual examples are added together with the recorded video lecture content for better understanding and comprehension.

The high-order thinking questions replaced the objective tests or quizzes requiring memorization-students sharing their travel experiences, observations, and opinions related to the lesson were encouraged instead. Students left comments on the YouTube comments during the asynchronous viewing of prerecorded lectures (what they learned, what was interesting, and what they did not

understand) as depicted in [Fig. 2]. Students' comments are read and marked with a thumbs-up icon if they have worthwhile insights. In order to enlighten students, unclear or confusing comments are addressed. For further explanations, a Zoom meeting or a visit to the course facilitator's office can be arranged.

[Fig. 1] Images and visual examples of a lesson screenshot from the author's video recording uploaded on YouTube (https://www.youtube.com/watch?v=fppVyMqEK8c)



[Fig. 2] Students' comments from the watched lesson, screenshot from the author's video recording uploaded on YouTube (https://www.youtube.com/watch?v=fppVyMqEK8c)

Students were required to carry out practical activities and apply concepts in response to the video

lecture. Then they present their output during an online class. They get in touch via email, message, or Zoom whenever they have questions about the activities. Students who have difficulty using English can send emails or messages in Hangeul. The translator app helps translate messages and enables responding in Korean using the translator app.

Students have been actively involved in their learning through the use of technology, both online and off. Several practical activities were designed to achieve a high level of learning, including designing tour packages, creating a vlog about the 'pull factors' of a favorite destination, reflecting on travel experiences, and analyzing tourism trends.

4. Discussion

During the pandemic, the most logical solution to continue education was to use technology to deliver courses. Technology has proven its versatility and ability to innovate and upgrade instruction during trying times. The case study demonstrated an innovative lesson plan and implementation for a tourism course that incorporated technology in teaching and learning. The inclusion of technology in academic instruction and student learning has proven to be extremely beneficial. Harnessing technology met the needs of varied students in different geographical locations as it addressed flexibility and access to instruction.

The technology-use orientation conducted during the first week of the semester helped students be at ease and comfortable in a hybrid learning environment. Despite using a variety of technologies, not all students are technologically adept. As a result of the sudden shift to virtual learning, students had to learn more than course content since they had to learn how to work with technology. The opportunity to practice using technology during online classes and while doing their homework or presentation gave them confidence and familiarity with different hardware and software technologies. Software technologies helped students prepare their presentations. The use of images and narrations enhanced comprehension.

Technology has enabled equitable access to learning regardless of student proficiency level. The open access to video recording lectures in asynchronous courses and the recording of zoom classes enabled students who had difficulty understanding lessons to rewind and review them.

Furthermore, open communication between professors and students and between students was made possible by various technologies used by professors and students. The availability of Zoom meetings, emails, and SMS provided more avenues for communication. As students are from different ethnicities, translation apps have overcome language barriers.

Last but not least, students were able to demonstrate their high level of learning by using various technological tools. The high order level of thinking that they displayed through creativity resulted in the production of practical activities. Activities include selecting favorite tourism destinations, applying theories to previous travel experiences, making videos about their travels, debating current tourism news, and reflecting on responsible tourism..

5. Conclusion

With the adoption of technology as part of academic instruction, employed individuals can upgrade their credentials at a convenient time and place, as well as students who live abroad. With the aid of technology, it is possible to provide a virtual classroom accessible to students throughout the world. This allows students to access their lessons wherever and whenever they choose.

In addition to offering flexibility, there is potential to significantly increase academic program revenues by reducing operational expenses and the ease of creating and offering high-quality content. Technologies can facilitate the creation of virtual classrooms and online courses as inroads into the formal education system after the academic adjustments made during the pandemic [15-17]. The experiences of delivering instruction during the pandemic will strongly influence the future of tourism education. The future will see a strong preference for hybrid and flexible learning environments.

It is highly likely that the use of multimedia technology for presentation creation such as Powerpoint and videos in student presentations will have a positive effect on their development and practice of technical competency. As evidenced by their active engagement, social networking tools such as YouTube and Kakaotalk may have a positive impact on their learning as well. The use of digital course materials such as Word, pdf, and slides, as well as short videos illustrating how the concepts are applied in practice, can significantly improve the quality of student learning.

As students employ technology for individual and group activities, soft skills such as digital proficiency, leadership, communication, social interaction, collaboration, teamwork, decision making, problem-solving, and critical thinking are developed. Tourism Education should embrace digital transformation in order to keep up with the development and changes in the industry. In the future, tourism classrooms will be equipped with technology to facilitate hybrid or flexible learning. It is possible for students to have greater flexibility in learning when a hybrid model of learning is used. There are some courses taught in person and others in a virtual environment. Those courses that are primarily hands-on and require students to engage in tour guiding, food and beverage service practice,

and guided training for reservation systems should be conducted in person. Finally, technology can offer students different options for learning, offering them options such as pacing, content, and sequence of learning, as well as location independence [18][19], enhancing the competitiveness of the program.

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