Digital Competence of the Hospitality and Tourism Students in Baguio Central University

Jessica Mae P. Tomillas[1] , Dhannalyn G. Gorospe[2], Djania Grace C. Nidoy[3], Shantel B. Dimot[4], and Reygielyn L. Quidim[5]

[1,2,3,4,5]Student, College of Hospitality and Tourism Management, Baguio Central University

Abstract— This study investigates the digital competency skills of Hospitality and Tourism Management (CHTM) students at Baguio Central University in the Philippines. Research used a quantitative descriptive research design, the study surveyed 50 students across various year levels, assessing their proficiency in five key areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. The findings reveal that while students generally demonstrate a "Good" level of digital competency, with strengths in information and data literacy, communication, safety and content creation, they face significant challenges in problem-solving. The most serious challenge identified was preserving sensitive data and contents highlighting the need for greater emphasis on data privacy and security education. The research also suggests that students struggle to keep up with rapidly evolving digital technologies, indicating a need for ongoing training and access to resources. The research concludes with recommendations for enhancing digital competency skills among CHTM students, including incorporating practical problem-solving activities, offering workshops on digital content creation, and emphasizing data security in the curriculum. The findings provide valuable insights for educators and institutions seeking to prepare students for the increasingly digital demands of the hospitality and tourism industry.

Keywords— Skills, Challenges, Competency.

I. INTRODUCTION

Progress of digital technology is growing fast, and this has improved several areas including the hospitality and tourism industries. In the modern business environment, thanks to the increasing use of digital techniques in business activities, students of hospitality and tourism are expected to develop digital abilities that are very important. The hospitality and tourism industry, as well as operation, customer engagement and marketing activities, requires the implementation of digital technologies and the respective related skills on the use of the internet, communication and sharing of information digitally, which is what digital competences entail. There are concerns that digital skills have turned out to be a basic and essential check for several organizations. A recent study of Legarde, (2023) showed that adoption of digital technologies like mobile phones and the internet has become universal in different universities wherein it made it the need to focus on embedding the skills as part of their curriculum. As Digital Technology continues to evolve and become part of every people's daily routine, it is important for students to develop their digital competence in order to grow in the digital world.

There is no question that Hospitality Management is engaging therefore, recently graduated students are attracted to this and being interested. For the hospitality and travel industry, it is well known that the term 'digital

competence' represents a vast number of skills such as marketing processes, customer relationship management data management, and operational management using electronic tools or also known as e-service. With the technology approach in hospitality and Tourism industry has become a necessity of joining for competitive advantage and enhancing the satisfaction of the customers. According to Bastos, et al. 2024 students studying hospitality and tourism are not prepared to take their first role in any job opportunity offered by the industry. Therefore, so many businesses and recruiters are looking to recruit these multi-skilled students, but in return, it becomes challenging since the students are expected to be multi-skilled with all the varied skills required in the industrial world. Students need to be able to use different applications and digital tools, also doing research and learning activities online, to be successful in both their academic and personal lives. Students need to have strong digital skills for the student to stay up with the fast and unpredicted digital scene, as technology is continuing to advance at an ever-increasing rate (Legarde, 2023)

The primary obstacles are the factors over the still-limited access to new and better tools and resources in the complex digital domain. Many institutions, with many situated in the developing world, do not equip their learners with the appropriate requisite tools as a result, the practicing as well as the acquisition of the digital skills become limited to a majority of the learners. However, research shows that, even though digital skills have gained importance among many people, there is still a big difference between the skills the students have and the skills that are needed in the market. It has been observed by Commey et al. (2021) that a considerable number of students undertaking studies in hospitality and tourism are not proficient in using the technological tools and skills effectively in the industry. The dilemma emanates from the baseline curricula and programs that are in place which however do not help in coping with the rapid technological changes

Digital skills degrees foster flexibility, which is a vital aspect in a digital environment that is evolving all the time. Students develop the confidence to take on new digital challenges and the problem-solving skills that make them more adaptable in the industry and valuable resources for their peers. A continuous learning perspective is also instilled by getting a digital skills qualification. Continuous learning is essential in a digital world that is changing quickly. Professionals with digital skills are better able to adopt new technology and stay up to date.

The article examines how university students in the northwest region of China assess their own digital abilities. Students expressed a clear comprehension of several vital skills such as information and data literacy, communication, collaboration, security, and problem solving. It was quite surprising to learn that digital content creation was indicated to be the least explored area by them. The study also examined how personal characteristics affect people's opinions regarding their level of digital skills. It showed vertical differences and distinctions across gender, grade level, urban, rural residing students and differences in digital abilities because of prior training. The advent of the epidemic has accelerated the penetration of multimedia technology in education over and above what would have traditionally been the waning rate. It is therefore essential for us to access the current digital skill level of the student. This paper not only examines students' self-perception of their digital skills but also explores the differences in these skills according to various education systems. This will help in future in analyzing students who are of different nationalities or education systems. It further offers useful reference points

for the teachers and school strategies. It assists in the formulation of effective training and education approaches. (Zhao, et al. 2021)

Specifically, this aims to ascertain the impact of educational technology tools on digital information literacy of chosen Dominican schools in the Philippines. Studies show the different strengths and areas of improvement with respect to digital and information skills. It concluded that both Saint Louis and La Cité Dominican have a High Level of digital and information skills wherein the strengths of both buildings are privacy, courtesy and technology friendly. In other words, the weaknesses should be responsiveness, independence and knowledge of contents (Borromeo, et al., 2023).

A study by Bagon, et al. 2023) at Cebu Roosevelt Memorial Colleges, Bogo City, Cebu 2021-2022 Outcome in Hospitality and Tourism Determine competent skills as to be their five (5) weapons upon graduation. This may play a vital role in maintaining the skills level for students. Instructors of students studying Hospitality and Tourism Management may need to take additional steps to further develop the capacity for students to show improved modes of personal agency. Meaning that the authorities that students so commonly can get, can be achieved in a much broader.
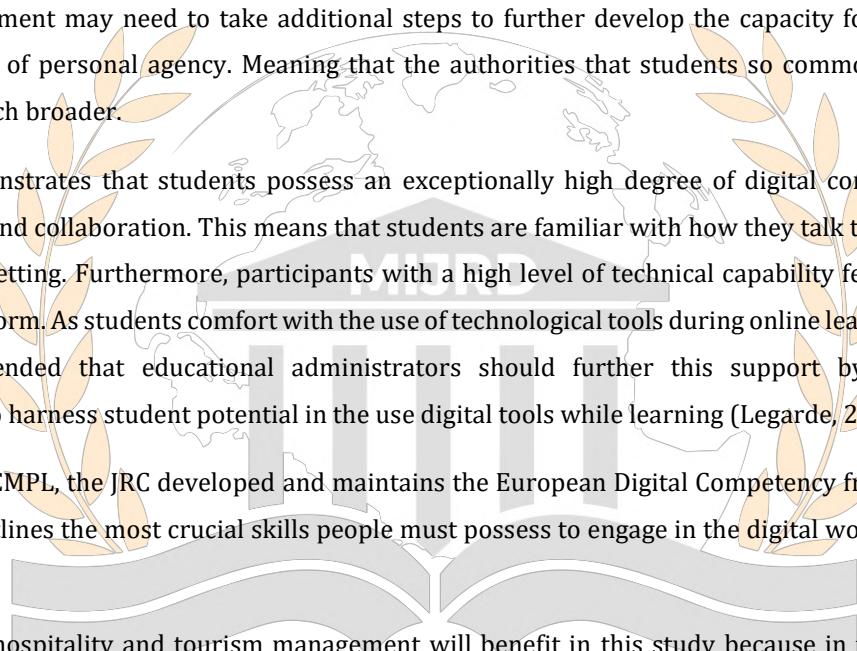
This study demonstrates that students possess an exceptionally high degree of digital competence regarding communication and collaboration. This means that students are familiar with how they talk to other people in an online learning setting. Furthermore, participants with a high level of technical capability felt technology use is accepted as the norm. As students comfort with the use of technological tools during online learning is very crucial, it was recommended that educational administrators should further this support by provision of ICT infrastructures to harness student potential in the use digital tools while learning (Legarde, 2023).

On behalf of DG EMPL, the JRC developed and maintains the European Digital Competency framework known as "DigComp". It outlines the most crucial skills people must possess to engage in the digital world (United Nations, 2020)

The students of hospitality and tourism management will benefit in this study because in today's modern era, technologies are rapidly evolving including different digital applications. Students are essential to have digital competency knowledge. It will give many advantages for students that extend well beyond the classroom including preparing them for the demands of modern work, will enhance their employability, adaptability, heightened productivity, improved communication and career advancement.

There is a need for more research exploring how digital competency intersects with the hospitality and tourism industry. As the world becomes more digital and focuses on sustainability, the way we work is changing rapidly. Traditional job roles are evolving which in turn affects the daily tasks and responsibilities of employees.

***Theoretical framework and Conceptual Framework***
Van Dijk's Theory
Van Deursen and Van Dijk (2010) specify the "digital value" where there is no equitable allocation of digital skills among society. Though, having internet access doesn't automatically mean that an individual is digital literacy.

Complicated concept of access blocks all research and discussion information inequality. It is intentionally used in everyday meanings without awareness that it is used in different ways and meanings. In the context of digital technology, having access to internet connection and to gadgets like computers is universal. Nevertheless, from the point of view of Van Dijk (1999), 'hurdles' or 'barriers' indicates the second of four consecutive kinds of access, on the way to the social network. Van Dijk determined four varieties of access. It includes the insufficiency of any digital experience caused by lack of interest, computer fear and unawareness of new technology which is called the Psychological Access. Dispossession of computers and network connections is determined as

Connectivism Learning Theory

According to George Siemens (2004) and Stephen Downes (2005), connectivism starts when an individual approaches digital technology to solve a problem. It comprises actions like searching for answers in google, communicating with friends through text, searching for contents in social media. Connectivism Learning Theory presumes that solving a problem and strengthening the comprehension in any topic is a result of using digital technology.
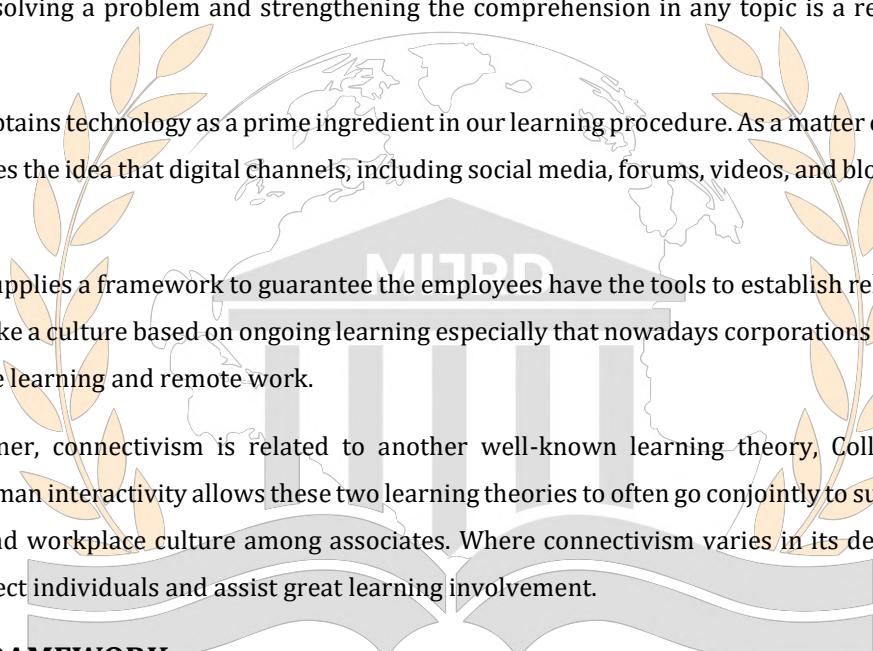
Connectivism obtains technology as a prime ingredient in our learning procedure. As a matter of fact, Connectivism Theory advocates the idea that digital channels, including social media, forums, videos, and blogs can be significant in our learning.

Connectivism supplies a framework to guarantee the employees have the tools to establish relationships with one another and make a culture based on ongoing learning especially that nowadays corporations and establishment's embrace remote learning and remote work.

In such a manner, connectivism is related to another well-known learning theory, Collaborative Learning. Highlighting human interactivity allows these two learning theories to often go conjointly to support interpersonal relationships and workplace culture among associates. Where connectivism varies in its dependence on digital devices to connect individuals and assist great learning involvement.

DIGCOMP FRAMEWORK

According to UNESCO, the teaching, learning and family communities exhibit a low general level of digital literacy. Although the access gap is still conserved for the most disadvantaged social groups, in addition to the disparities in both the skill and use of digital tools.

Digital competences mean actual efficient and effective use of various technological tools to enable individuals like students to achieve improvement in all facets of their life, based on responsibility and critical involvement in work, and society, emphasizing empowerment. (Cano, et al., 2020)

Statement of the Problem

The aim of the research is to evaluate the awareness of hospitality and tourism students regarding the different forms of media. It also seeks to examine the various aspects that explain the differences in the level of digital competence among persons. Therefore, this research addressed the question:

1. What is the level of digital competency skills of CHTM students as to?
    a. Information and Data Literacy
    b. Communication and Collaboration
    c. Digital Content Creation
    d. Safety
    e. Problem Solving
2. What is the degree of seriousness of the challenges encountered in digital competency skills of CHTM students?

Basic assumption

The following are the basic assumptions of the study:

1. The level of digital competency skills of CHTM students is very poor
2. The challenges in digital competency encountered by CHTM students is moderate.

II. METHODOLOGY

A. Research Design

The Research design use was a quantitative which involves quantitative data, including numerical and statistical using questionnaires, interview, or observation as data gathering instruments. This research was descriptive research as it described ideas about the Digital Competence of Hospitality and Tourism Students. Descriptive aimed to accurately and systematically describe a population, situation, phenomenon (Sedlecki,2020).

B. Locale and Population of the Study

The researcher conducted their study in Baguio Central University, main campus which is located along Bonifacio Street. One of the departments that Baguio Central University accommodates is the College of Hospitality and Tourism Management, where the respondents of this study come from.

Random sampling techniques was used in this study to select a subset of individuals from this large population of students, and to ensure that each member of the group had an equal chance of being included. The respondents in this study came from random 50 students of Hospitality Management from first year to fourth year and another fifty random students from Tourism Management from first year to fourth year, with the total number of one hundred students being the respondents.

C. Data Gathering Procedure

The researcher first acquired permission from the Dean of the College of Hospitality and Tourism Management of Baguio Central University, the permit to administer the questionnaire. First and foremost, the participant consent was asked to answer the questionnaire, the data was collected by the researcher and sent for the statistical treatment to process and analyze the data.

D. Reliability and Validity of the Instrument

The study used a modified questionnaire from Zhao, et. al. Digital Competence in Higher Education: Students' Perception and Personal Factors the study it could not establish reliability and validity.

E. Data Gathering Instrument

The study was conducted among the students of College of Hospitality and Tourism Management. The sample comprises 50 students at Baguio Central University. A printed survey questionnaire was administered to find out the Digital Competency of the respondents through the said survey. The research utilizes a five-point scale questionnaire that were handed out personally during the free time of hospitality and tourism students.

F. Treatment of Data

Level of Digital Competency skill of CHTM students

In the study it used frequency count, weighted mean and rank for statistical.

Numerical Scale	Statistical Limit	Descriptive Equivalent	Symbol
5	4.21 – 5.00	Very Good	VG
4	3.41 – 4.20	Good	G
3	2.61 – 3.40	Average	A
2	1.81 – 2.60	Poor	P
1	1.00 – 1.80	Very Poor	VP

WM = TWP / N

Where:

WM = Weighted Mean

TWP = Total Weighted Points

N = Number of Respondents

Degree of Seriousness of the Challenges Encounter in Digital Competency

Skill of CHTM students

Numerical Scale	Statistical Limit	Descriptive Equivalent	Symbol
5	4.21 – 5.00	Very Much Serious	VMS
4	3.41 – 4.20	Much Serious	MS
3	2.61 – 3.40	Moderately Serious	MS
2	1.81 – 2.60	Slightly Serious	SS
1	1.00 – 1.80	Least Serious	LS

WM = TWP / N

Where:

WM = weighted mean

TWP = total weighted points

N = number of respondents

The research instruments that are used are the Likert scale. A Likert scale is a rating scale used to assess opinions that enables respondents to turn abstract ideas (e.g. Digital Competence of Hospitality and Tourism students in

Baguio Central University) into measurable observation in an easy manner (Bhandari, 2020). The research utilizes a five-point scale: very good value to (5) good value to (4) Acceptable value to (3) poor value to (2) very poor value to (1) in determining the students digital competence.

G. Ethical Considerations

Before conducting the study that entails the research, the researcher carried out the following procedures which are focused on the ethical conduct of research.

First, researchers received the written consent of the school management to the participants of the study to be able to issue the instruments for the research. The researchers also used A.I as guide.

Together with the survey instrument to be administered to the intended respondents, there were, among other things, wordings stating that the participants shall remain anonymous as provided in the Data Privacy Law, every information and data received from the participants will be treated with great care, and that filling in the survey questionnaire means that the participant has agreed to participate in this academic study. The said researcher ensured that all references were acknowledged and correctly referenced where materials were sourced outside the thesis.

III. RESULT AND DISCUSSION

This chapter will show the research methodology used in this study, research design, the subject and the source of data, researcher's instrument construction and retrieval of instrument, the statistical treatment of data the results of the study and its discussion.

The Level of Digital Competence of the Hospitality and Tourism Student in Baguio Central University

Presented in table 1 is the knowledge of the CHTM students in terms of digital competency skills which includes the different factors such as

Information and Data Literacy, Communication and Collaboration, Digital Content Creation, Safety, Problem Solving.

Information and data literacy ranked second among the digital competency factors, which has the average weighted mean of 3.78 that is interpreted as "good." It shows that most of the students in the department of hospitality and tourism management are proficient in terms of information and data, an aspect that proves their credibility to understand, interpret, critically evaluate, and effectively communicate data in context in order to inform decisions and drive action. According to Klidas & Hanegan (2022), data literacy programs must assist people in improving their understanding of patterns and their ability to overcome obstacles as they stand up. It expresses that students can keep up in today's modern era regardless of their chosen profession because they are good in the information and data literacy aspect, and it will also help them in their chosen career someday.

Communication and collaboration ranked third among the digital competency factors, which has the average weighted mean of 3.72 and is interpreted as "good." It shows that students know most of the etiquette of a digital environment and how to use digital tools. This indicates that students possess a solid understanding of how to

effectively engage and collaborate in digital settings. Their familiarity with digital etiquette and tools is crucial for successful teamwork and communication in today's technology-driven world. According to Gouseti et al., 2020, employing digital technologies in everyday learning has been found to spark playful learning, increase motivation and engagement, and enhance pupil interest. It offers many exciting opportunities for improved communication and collaboration practices. We all know that students nowadays are more on the digital technology and are always interacting and communicating through social media and other platforms on the internet. The survey proves that students in hospitality management possess critical thinking in communicating and are collaborative in terms of digital aspects, which is good because these traits will help them achieve their careers in the near future.

Digital content creation ranked fourth among the digital competency factors, which has the average weighted mean of 3.63 and is interpreted as "good." It shows that hospitality and tourism management students are primarily engaged in making digital content such as messages, photos, videos, and other interactive materials for social media purposes. According to Murphy (2020), the technological development that has taken place includes all educational programs offered by educational institutions concerning the possibility of applying and getting benefits, especially at the higher educational level. The product is supposed to prepare qualified individuals who can manage life requirements in different times with different fields and sectors. The survey shows that regardless of the profession that the students have, they can easily adapt and explore the digital aspect because they naturally possess skills in digital content creation.

The fourth which is the safety, illustrates the average weighted mean for safety, which obtains 4.10, interpreted as "good." Item no. 6 yielded the highest weighted mean (4.26), while item no. 7 yielded the lowest (3.80). The variances in the weighted means show that, although students feel very safe in their learning environment, there is still space for development in several areas. The statistics show that students generally feel safe, but it also points up some particular areas that might call for attention. According to Hlavcheva, et. Al., (2022) it is really important for users to have safety skills when handling information on their own. These skills will help them balance and manage the negative effects of outside information particularly when it doesn't have to do with education or science.

There may inconsistencies, which could impact students' overall sense of well-being. Addressing these gaps can help create a more balanced and supportive learning atmosphere. (Novosolovo 2022) the importance of equipping learners with safety skills, especially in digital age, it allows students to critically assess and filter external information, minimizing the negative influence of misinformation or irrelevant content. Strengthening safety awareness not only protects students physically but also empowers them to navigate digital and information environments responsibly a more balanced and encouraging learning environment can be achieved by correcting any discrepancies that might affect students' general sense of wellbeing. Strengthening safety awareness not only protects students physically but also gives them the ability to responsibly navigate digital and information environments. (Novosolovo 2022) The importance of giving learners safety skills, especially in the digital age, allows them to critically assess and filter external information, minimizing the negative influence of misinformation or irrelevant content.

The fifth factor is the problem solving, shows the average weighted mean for problem solving 3.51 which is regarded as "good." With a weighted mean of 3.08, item number two had the lowest; item number five produced the highest, 3.86. The result of the data shows that, even students are confidence in their capability to manage challenges that they encounter, there are still skills that need more development and improvement, especially for circumstances involving problem-solving. Dealing with these problems helps students to become more confident and competent.

According to Lee and Lee (2024) research on courses with a focus on productive failure has indicated significant improvements in computational thinking and creative problem solving among students. It can also be useful for enhancing Hospitality and Tourism students' digital problem-solving skills.

The "Safety" factor is important in the degree of Hospitality and Tourism Management student since it will be applied while handling the guests, these will protect their personal information and will avoid cyber threats and online scams especially now that online scamming is very high especially to a person who do not have enough knowledge when it comes to digitals.

The basic assumption which states that the level of digital competency skill of the College of Hospitality and Tourism Management students is very poor is therefore related.

Degree of seriousness of the challenges encountered in digital competency skills of CHTM students

Table 2 presents the degree of seriousness of the challenges encountered by the digital competency skills of CHTM students. The results show a total average mean of 3.96 which falls under the descriptive equivalent of "much serious", which indicates that students are experiencing considerable difficulties in using digital technologies in a more efficient and effective way.

According to Minor et. al., 2024, this could be the factor to lessen their ability to engage in jeopardising their employability and the success of their business through modern tools and platforms.

Looking at the weighted mean of each competency skill shows that preserving sensitive data content ranked first and has the highest weighted mean of 4.18, which is "much serious." This implies that students are not cautious about what they share online, revealing sensitive information and making use of security measures. According to Nzeakor et al., 2022, quality or content of the awareness is the main issue not the lack of awareness itself.

"Familiarizing with digital technologies that help plan, research, and engage" falls to third with a weighted mean of 4.02 and its descriptive equivalent, "much serious."

In line with this, there is a significant need for digital skills to be acquired given that there is an increasing competitiveness in the hospitality and tourism industry, there should also be a need for fast response to the market needs and discover new trends in order to engage the market and unlock new opportunities, according to Singala et al., 2021.

Lastly, rank six is "Taking into consideration potential technical problems and troubleshooting them when creating digital assignments," which has a weighted mean of 3.76 and has a descriptive equivalent of "much serious." This

indicates that students are also facing significant challenges in using digitals in this matter and that they have to be trained, not just for the sake of their assignments but also as they enter the real world in the near future. According to Leavy et al., 2023; Truong and Diep, 2023, the integration of technology prepares well the students for the pressure of the modern workforce wherein digital competencies are valuable, not only teaching and learning process are enhanced.

Thus, graduates must acquire at least a minimum of advanced digital skills to ensure they are competitive and effective in their roles (Buhalis et al., 2024).

The integration of technology in education not only enhances the teaching and learning process but also prepares students for the demands of the modern workforce, where digital competencies are highly valued (Leavy et. al. 2023; Truong and Diep, 2023

Without sufficient training, there is a risk that digital tools will be underutilized or misapplied, leading to suboptimal learning experiences (Familoni and Onyebuchi, 2024).

The basic assumption which states that the challenges in encountered in digital competency skills of College of Hospitality and Tourism Management students is moderate is therefore regated.

The result of the study, the first table result shows that the students have a strong basis in digital competence, which are necessary for success in the hotel and tourism industry pushed by technology increasingly. Hospitality and Tourism degree of expertise could improve their employability and efficiency in different positions in the area. Overall, the Hospitality and Tourism students at Baguio Central University are most competent in factor letter D (Safety) that has an overall average of 4.10 with the descriptive equivalent of "Good" which means that students are aware of their safety when they are using digital tools. Furthermore, the students are least competent in factor letter E (Problem Solving) that has an overall average weighted mean of 3.51 with a descriptive equivalent of "Good" which means they are less competent in using fixing digital tools problems and issues.

The result in the second table shows that the highest is preserving data and content that has a weighted mean of 4.18 it indicates that the students are aware that they should exercise caution when disclosing any personal information. While the lowest is doing tasks that require them to create technological content that has a weighted mean of 3.86, indicating that the students need to learn more about using digital tools that will help them to be more adaptable when creating digital presentations.

IV. CONCLUSION AND RECOMMENDATION

Conclusions

The following shows the conclusion of the result of the study:

The result implies that the College of Hospitality and Tourism students' digital competence is not least competent but rather exhibits areas of strength and weakness. Students' digital proficiency nowadays presents a complicated scene with both areas needing development and strengths. Although many students shine in the said indicators these abilities by themselves do not ensure competency in every digital area. The path toward fully competent

digital students calls for an awareness of the shortcomings currently present, especially regarding problem-solving ability.

There are significant challenges facing the students when it comes to acquiring and applying digital skills as the result showed that the indicators are not practiced well according to its purpose.

Recommendations

The following recommendations are made depending on the conclusions reached from the research results:

To enhance their problem-solving skill, targeted trainings, seminars and resources that could be implemented, allowing students to build on their existing strengths while addressing the identified gaps in their competencies. Therefore, investing in targeted training, seminars and resources is essential to equip students with the tools they need not only to navigate but also to thrive in an increasingly digital world. By fostering their capabilities while addressing gaps, educational systems can better prepare students for the challenges they can encounter.
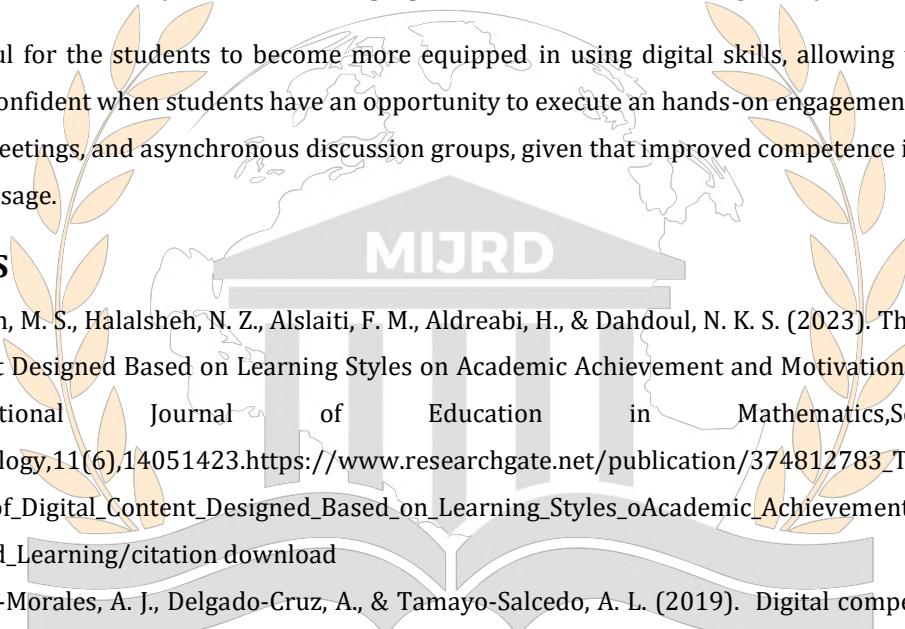
It will be helpful for the students to become more equipped in using digital skills, allowing them to be more proficient and confident when students have an opportunity to execute an hands-on engagement with technology like real-time meetings, and asynchronous discussion groups, given that improved competence is associated with greater device usage.

REFERENCES

[1] Alzboun, M. S., Halalsheh, N. Z., Alslaiti, F. M., Aldreabi, H., & Dahdoul, N. K. S. (2023). The Effect of Digital Content Designed Based on Learning Styles on Academic Achievement and Motivation towardLearning. International Journal of Education in Mathematics,Science and Technology,11(6),14051423.https://www.researchgate.net/publication/374812783_Then Effect_of_Digital_Content_Designed_Based_on_Learning_Styles_oAcademic_Achievement_and_Motivation _toward_Learning/citation download

[2] Arango-Morales, A. J., Delgado-Cruz, A., & Tamayo-Salcedo, A. L. (2019). Digital competence of tourism students: Explanatory power of professional training. European Journal of Investigation in Health, Psychology and Education, 10(1), 310-326.https://doi.org/10.3390/ejihpe10010024

[3] Althubyani, A. R. (2024). Digital competence of teachers and the factors affecting their competence level: A Nationwide Mixed-Methodsstudy. Sustainability, 16(7), 2796.https://doi.org/10.3390/su16072796

[4] Aquino, R. S., Lück, M., & Schänzel, H. A. (2018). A conceptual framework of tourism social entrepreneurship for sustainable community development. Journal of Hospitality and Tourism Management, 37, 23-32. https://doi.org/10.1016/j.jhtm.2018.09.001

[5] Bagon, P. A., Samillano, J. H., & Tinapay, A. O. (2023). Assessing the Competence and Skills of Hospitality and Tourism Management Students. ResearchGate | Find and share research. https://www.researchgate.net/publication/368476813_Assess ing_the_Competence_and_Skills_of_Hospitality_and_Tourism_Manageme nt_Students

[6] Borromeo, D., Estrella, N., & Carapas, E. (2023). Impact of educational technology tools on the digital and information literacy skills of selected dominican schools in the philippines,12(3).https://openurl.ebsco.com/EPDB%3Agcd%3A16%3A8731344/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A169844489&crl=Cache://openurl.ebsco.com/EPDB:gcd:16:8731344/detailv2'sid=ebsco:plink:scholar - Google search. (n.d.).

[7] Carlisle, S., Ivanov, S., Dijkman, C., (2021-2023). The digital skills divide: Evidence from European tourism industry.merald.com/insight/content/doi/10.1108/jtf0720200114/full/html?fbclid=IwZXh0bgNhZW0CMTEAAR5j7Z4O6OiBj8tgSZjZJVKWenZIAXxcEW5_d6XyTIxh269ZfWZEQFlSersdA_aem_LzpDvY2ymWbI0JKKnwNSA

[8] Chong, S.L., Ngoc, D. D. L. (2023) Undergraduate student's digital literacy skills in the digital world of sustainable development. In M. Koc,). T. Ozturk & M. L. Ciddi (Eds), Proceedings of ICRES 2023 International Conference on Research in Education and Science (pp. 677-700), Cappadocia, Turkiye. ISTES Organization. https://files.eric.ed.gov/fulltext/ED654959.pdf

[9] Familoni, B. T., and Onyebuchi, N. C. (2024). Augmented and virtual reality in U.S. education: a review: analyzing the impact, effectiveness, and future prospects of AR/VR tools in enhancing learning experiences. Int. J. Appl. Res. Soc. Sci. 6, 642–663. doi: 10.51594/ijarss.v6i4.1043

[10] Gouseti, A., Abbott, D., Burden, K., & Jeffrey, S. (2020). Adopting the use of a legacy digital artefact in formal educational settings: opportunities and challenges. Technology, Pedagogy and Education,29(5),613–629. https://doi.org/10.1080/1475939X.2020.1822435

[11] Hlavcheva, Y. M., Odnovolykova O., Novosolova., (2022). Safety as one of the most important components of the digital competence system in wartime conditions.https://www.researchgate.net/publication/367006536_Safety_a One_of_the_Most_Important_Components_of_the_Digital_Competece_System_in_Wartime_Conditions

[12] Johler, M. (2022). Collaboration and communication in blended learning environments. Frontiers in Education, 7. https://doi.org/10.3389/feduc.2022.980445

[13] Klidas, A. & Hanegan, K. (2022). Data Literacy in Practice: A complete guide to data literacy and making smarter decisions with data through intelligent actions. Data Literacy in Practice (pp. 1-396). https://doi.org/10.0000/9781803232355-001 Lee, D. & Lee., (2024). Productive failure-based programming course to develop computational thinking and creative problem-solving skills in a Korean Elementary School. https://infedu.vu.lt/journal/INFEDU/article/777/info

[14] Legarde, M. A. (2023, September). Beyond the screen: Investigating students' digital and technological competence,12(11-12) https://openurl.ebsco.com/EPDB%3Agcd%3A16%3A8731344/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A16984489&crl=c

[15] Leavy, A., Dick, L., Meletiou-Mavrotheris, M., Paparistodemou, E., and Stylianou, E. (2023). The prevalence and use of emerging technologies in STEAM education: a systematic review of the literature. J. Comput. Assist. Learn. 39, 1061–1082. doi: 10.1111/jcal.12806

[16] Mara, G. N., Roija, A. V., & Ventura, M. H. (2022, Apriil 4). Customer satisfaction in riders' food delivery services in Manila. Course Hero Own the study hour. https://www.coursehero.com/file/140292272/GROUP-14 CHAPTER-1-3/

[17] Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for postpandemic pedagogy. Contemporary Security Policy, 41(3), 492–505. https://doi.org/10.1080/13523260.2020.1761749

[18] Nzeakor, O., John, O., & Nwokeoma, B. (2022). Emerging trends in cybercrime awareness in Nigeria. International Journal of Cybersecurity Intelligence & Cybercrime, 5, 41–67. https://doi.org/10.52306/2578-3289.1098

[19] Oluwatosin, O. (2023). Data literacy and higher education in the 21st Century. IASSIST Quarterly.47.1029173/iq1082.https://www.researchgate.net/publication/376544870_Data_literacy_and_higher_education_in_the_21st_century

[20] Truong, T. C., and Diep, Q. B. (2023). Technological spotlights of digital transformation in tertiary education. IEEE Access 11, 40954–40966. doi: 10.1109/ACCESS.2023.3270340 United Nation. (2020, December 31). Contribution to the development of a global digital literacy skills indicator |Department of economic and social affairs. |Sustainable development. https://sdgs.un.org/partnerships/contribution-development global-digital-literacy-skills-indicator

[21] Zhao, Y., Sánchez Gómez, M. C., Pinto Llorente, A. M., & Zhao, L. (2021). Digital competence in higher education: Students' perception and personal factors. Sustainability,13(21), 12184.https://doi.org/10.3390/su132112184

[22] Zhao, Y., (2022). University teachers and students' digital competence: A case study.https://gredos.usal.es/bitstream/handle/10366/150724/PDFSC ZhaoY_TIC.pdf?isAllowed=y&sequence=1