DIGITAL COMPETENCE AND ATTITUDES TOWARDS THE USE OF MULTIMEDIA AMONG TEACHERS

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Abstract: This study aimed to determine which domain of digital competence best influences attitudes towards the use of multimedia among teachers. This study utilized the non-experimental quantitative research design using descriptive technique involving teachers in Sarangani District, Davao Occidental Division, Philippines. The study was conducted on the second semester of school year 2021-2022. Research instruments on digital competence and attitudes towards the use of multimedia among teachers were used as source of data. Using mean, pearson-r, and regression as statistical tool to treat the data, the study showed the following results: level of digital competence is high, the level of attitudes towards the use of multimedia among teachers is high, there is a significant relationship between digital competence and attitudes towards the use of multimedia among teachers, and information processing is the domain of digital competence best influences attitudes towards the use of multimedia among teachers

Keywords: Digital Competence, Attitudes Towards the Use of Multimedia Among Teachers, Educational Management, Quantitative Research

1. Introduction

The success of students in school depends largely in their academic behavior. The more students exert effort to advance academically, the better they can prepare for the tasks they will have at hand. When students are not inclined to perform academic works, the bigger chances that they will have difficulty to master the competency or worst, they will not acquire essential skills. Teachers are deemed to help students acquire desirable academic behavior to maximize learning opportunities (Basow, Codos & Martin, 2013).

In today's learning situation, digital competence among the students is necessary to advance their academic behavior. It is of paramount importance when the digital competence is among the skills students. With this skill, students can easily navigate lessons and develop mastery of the competencies taught by teachers. Digital competence is essential for learning and for students for active participation in society. For school education, as important as understanding the competence itself is knowing how to help develop it. Students who are building digital literacy skills also advance in their academics (Castan˜o-Mun˜oz, Kreijns, Kalz & Punie, 2017).

The educational learning landscape has dramatically changed over the years. As a manifestation, various changes have been implemented to consistently offer relevant education that addresses the growing needs of the learners. However, as the world is facing an unprecedented global health crisis brought by the pandemic, the education sector responds effectively through various innovations. This is innovations are breakthroughs designed to continue education amidst the health crisis and make it accessible to all students. One of these modalities is online learning which offers remote education right at the comfort of the home of the students (Borrachero, Brígido, Mellado, Costillo & Mellado, 2014).

Meanwhile, teachers have indispensable roles in delivering meaningful learning may it be in face-to-face or virtual and synchronous or asynchronous. In the case of students in the online learning modality, teachers must exhibit a

high range of expertise in terms of their technological knowledge including their attitudes towards the use of multimedia. With teachers who are tech-savvy and proficient in multimedia skills, the students will be more likely to develop mastery of the competencies taught by the teacher (Antecol, Eren & Ozbeklik, 2015).

Research Objectives

This study aims to find out which domain of digital competence best influences the attitudes towards the use of multimedia among teachers. Specifically, this study sought to answer the following objectives:

1. To describe the level of digital competence of students in terms of:
   1.1. information processing;
   1.2. communication;
   1.3. content creation;
   1.4. safety, and
   1.5. problem-solving.
2. To describe the level of attitudes towards the use of multimedia among teachers in terms of:
   2.1. perceived usefulness;
   2.2. perceived ease of use;
   2.3. attitude towards use, and
   2.4. intention to use.
3. To determine the significant relationship between digital competence and attitudes towards the use of multimedia among teachers.
4. To determine which domains of digital competence best influences attitudes towards the use of multimedia among teachers.

Hypothesis

The following hypothesis will be treated at 0.05 level of significance.

1. There is no significant relationship between digital competence and attitudes towards the use of multimedia among teachers.
2. No domains of digital competence best influences attitudes towards the use of multimedia among teachers.

2. Methods

This study used a correlational approach to conduct non-experimental quantitative research. A major portion of quantitative educational research is non-experimental because many critical factors of interest are uncontrollable. Because non-experimental research is such an important strategy for many researchers, it is necessary to establish a classification system for non-experimental methods that is both highly descriptive of what we do and allows us to communicate effectively in an interdisciplinary research context. Correlational research designs determine the type and extent of a relationship between two naturally occurring variables.

3. Results

Level of Digital Competence

Presented in Table 1 is the level of digital competence with an overall mean of 3.87 with a descriptive equivalent of high, indicating that all enumerated indicators were oftentimes manifested. The overall mean was the results obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator as appended in this study.

The indicator *content creation* obtained the highest mean of 4.01 with a descriptive rating of *high*. As presented in the appended table, the mean ratings of the following items under this indicator were as follows: produce simple digital content (e.g. text, tables, images, audio files) in at least one format using digital tools, make basic editing to content produced by others to the content I or others have produced, modify simple functions of software and

applications as changing default settings, use several programming languages. I know how to design, create and modify databases with a computer tool.

Safety obtained a mean score of 3.94 or high. As depicted in the appended table 1, the high level of this indicator suggested that students: take basic steps to protect my devices (e.g. using anti-viruses and passwords), different passwords to access equipment, devices and digital services and I modify them on a periodic basis, understand the health risks associated with the use of digital technology (e.g., risk of addiction), take basic measures and actions to save energy, and have an informed stance on the impact of digital technologies on everyday life and the environment.

Information Processing obtained a mean score of 3.90 or high. As depicted in the appended table 1, the high level of this indicator suggested that students: look for information online using a search engine, use advanced search strategies to find reliable information on the internet such as using web feeds, classify the information in a methodical way using folders. I backups of information or files I have stored, use some filters when searching to compare and assess the reliability of the information I find assess the validity and credibility of information using a range of criteria.

Table 1. Level of Digital Competence

Indicators	SD	Mean	Descriptive Level
Information Processing	0.430	3.90	High
Communication	0.478	3.86	High
Content Creation	0.488	4.09	High
Safety	0.525	3.94	High
Problem-Solving	0.82	3.75	High
Overall	**0.45**	**3.89**	**High**

Communication obtained a mean score of 3.86 or *high*. As depicted in the appended table, the *high* level of this indicator suggested that students: use advanced features of several communication tools (e.g. using Skype and sharing files), actively use a wide range of communication tools (e-mail, chat, SMS, instant messaging, blogs, micro-blogs, social networks) for online communication, share files and content using simple tools, use online services, and use advanced features of communication tools (e.g. video conferencing, data sharing, application sharing).

Problem-Solving obtained a mean score of 3.75 or *high*. As depicted in the appended table, the *high* level of this indicator suggested that students: solve most of the more frequent problems that arise when using digital technologies, frequently choose the right tool, device, application, software or service to solve (non-technical) problems, solve technological problems by exploring the settings and options of programs or tools, regularly

update my digital skills. I am aware of my limits and try to fill my gaps, and use digital technologies to solve (non-technical) problems.

Level of Attitudes towards the Use of Multimedia among the Teachers

Presented in Table 1 is the level of *Attitudes towards the Use of Multimedia among the Teachers* with the overall mean of 4.29 with a descriptive equivalent of *very high* indicating that all enumerated indicators were always observed. The

Table 2. Level of Attitudes towards the Use of Multimedia among Teachers

Indicators	SD	Mean	Descriptive Levels
Perceived Usefulness	0.630	4.35	Very High
Perceived Ease of Use	0.738	4.32	Very High
Attitude towards Use	0.590	4.25	Very High
Intention to Use	0.660	4.36	Very High
Overall	**0.521**	**4.31**	**Very High**

overall mean was the results obtained from the mean of the indicators for the specific items from the questionnaire intended for this particular indicator which is appended in this study. Among the enumerated indicators, *Intention to Use* obtained the highest mean of 4.36 with a descriptive level of *very high*.

As presented in the appended Table 1.2, the very high level of this indicator suggests that I tend to use multimedia materials in my class, I increase the occurrences of using multimedia materials in class, Using multimedia materials in my class to enhance students' learning interest, I use multimedia materials to provide multi-approaches on teaching.

Perceived Usefulness obtained a mean score of 4.35 with a descriptive rating of *very high*. As depicted in the appended Table 1.3, the very high rating of this indicator suggests that using the multimedia material in my class helps me to control the pedagogy, Using the multimedia material in my class enhances the teaching performance, I find the multimedia material useful in my class, Using multimedia materials makes it easier to catch individual students' needs.

Perceived Ease of Use had a mean score of 4.32 or *very high*. As illustrated in Table 1.4, the very high rating of this indicator suggests that It is easy to become skillful at using multimedia materials, I find it easy to apply the multimedia material in my class, Using multimedia materials is easy and understandable, Using multimedia materials is more flexible to teach than traditional one.

Attitude towards Use had a mean score of 4.25 or *very high*. As displayed in the appended Table 1.5, the very high rating of this indicator suggests that Using multimedia material in class is good, my using multimedia material in class is favorable, It is a positive influence for me to use multimedia material in class, I think it is valuable to use multimedia material in class.

Conclusion

With considerations on the findings of the study, conclusions are drawn in this section. The level of digital competence is high, the level of attitudes towards the use of multimedia among the teachers is high, there is a significant relationship between digital competence and attitudes towards the use of multimedia among the teachers, and information processing is the domain of digital competence best influences attitudes towards the use of multimedia among the teachers.

Recommendations

The results of this study revealed that digital competence is high. The researcher recommends that the Schools Division Office conduct a session on Learning Action Cell on the topic's information processing, communication, content creation, safety, problem-solving. More so, the LAC may put greater emphasis in developing the problem-solving ability of the students.

The study revealed that the level of attitudes towards the use of multimedia among the teachers is high. The researcher recommends that the District level may also conduct LAC on attitudes towards the use of multimedia among the teachers particularly on the topic general intention to seek needed help to help teachers increase this aspect.

This study found out that there is a significant relationship between digital competence and attitudes towards the use of multimedia among the teachers The researcher recommends that the school heads may encourage teachers to design activities that will help increase the digital competence of the students.

The study found out that information processing is the domain of digital competence best influences attitudes towards the use of multimedia among the teachers. The researcher recommends that the future researchers may conduct the same study in the other context to determine whether the results are identical to this study or different. The future researchers may also use the results of this study as basis of the future researches.

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