



CORRELATING TEACHERS' DIGITAL ATTITUDES AND KNOWLEDGE TRANSFER IN THE INTERMEDIATE LEVEL

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ABSTRACT

This study aimed to determine the level of teachers' digital attitudes and knowledge transfer of 187 randomly selected public elementary school teachers in the intermediate level in the District of Sapián for S.Y. 2023-2024. Significant related foreign and local literatures about digital attitudes and knowledge transfer were cited. Descriptive-correlational research design was utilized. A validated and reliability tested researcher-made questionnaire was used to gather the data needed. Statistics IBM 28 program was used to analyse and interpret data using frequency count, percentage, mean, t-test, analysis of variance and Pearson r. The findings of the study revealed that the levels of both teachers' digital attitudes in terms of perceived influence, control and response; and knowledge transfer in terms of explicit, implicit and tacit were very high. Significant differences were found on teachers' digital attitudes when they were grouped according to their sex, but age and number of ICT trainings attended were insignificant. Significant differences were found on teachers' knowledge transfer when they were grouped according to sex, however insignificant difference existed in terms of age and number of ICT trainings attended. The level of teachers' digital attitudes and the level of knowledge transfer of teachers were significantly related. It implies that there is a relationship between teacher's digital attitudes and on how they transfer knowledge pupils, peers and significant others.

Keywords: *Teachers' digital attitudes, knowledge transfer, descriptive-correlational quantitative study in the intermediate level*

1. Introduction

Within the setting of the digital age, investigation on the importance of multimedia within the teaching-learning process has pulled in a part of consideration in later years. Information and Communication Technology (ICT), innovative tools and applications, multimedia integration in instruction, and instructive headway have had major effects on the scholarly world. In Europe, Organization for Economic Cooperation & Development (OECD) distributions have recognized a number of nations (e.g. Poland, Ireland, Belgium, and Germany) where ICT utilization in schools remains underneath the OECD normal. This may be particularly clarified by the truth that instructors are considered "key people" in implementing IT in educating and learning. Within the wrangle about integration of data and communication innovation in schools, teachers' convictions and demeanors towards ICT in instructing and learning are still considered central criteria for effective execution. In this setting, a 2013 study by the Worldwide Affiliation for Instructive Accomplishment (IEA) gave an understanding of teachers' convictions about ICT and found that recognitions of the instructive benefits of innovation are distinctive in each nation. In general, the results displayed in this ponder raise extra questions that need to be answered to

precisely survey the relationship between ICT usage in schools and compare ICT utilization. The investigation appears that for the three (3) nations, the biggest extent of ICT devotees and a generally small number of skeptics communicating restriction are in Germany. In any case, it appears that at the time of information collection, instructive policymakers and teacher trainers in Germany were not however able to interpret the potential of ICT in learning and teaching into instructive practice (Eickelmann & Vennemann, 2017).

Information could be a complex substance since it works both within the setting of teachers' proficient activities and within the school setting. In any case, there are a few ways to demonstrate how it is conveyed. The transfer of information can be accomplished by teacher administration through learning intuitively with understudies within the classroom. Educating could be a handle of information exchange, seen as the movement of knowledge through particular channels from one person to another, in this case from teacher to student, the transmission of information between teachers and students may be a corresponding handle. In this setting, it implies the development of information from teacher to student and vice versa, through teaching and other implies such as workshops, training workshops, dialogs, or project-based work (Warren, 2021).

In the Philippines, the changing instruction framework has pushed teachers to adjust to the modern digital age, a space where innovation rules each perspective of teaching. The way teachers communicate with students, give teaching materials, and evaluate student learning results have changed essentially. In such circumstances, technology-enabled learning devices should be utilized efficiently by teachers and students at all levels, from primary and secondary to higher instruction. On the one hand, online education and digital learning have become the unused propensity of teachers and students in conducting classroom activities. On the other hand, teachers are constrained to prepare themselves with suitable information and approximately advanced teaching aptitudes, which are troublesome for them (Sanchez, 2021).

Hence, the reason of this study was to determine the digital attitudes and transfer of knowledge among teachers in the intermediate level particularly in the District of Sapián. Find if there is no significant difference in the level of teachers' digital attitudes and knowledge transfer when grouped according to age, sex and number of ICT trainings attended and to correlate teacher's digital attitudes and knowledge transfer. Thus, this study was undertaken. The conceptual framework of the study was anchored on the different theories concerning the key factors in the teachers' digital attitudes in terms of perceived influence, control, and response, and knowledge transfer in terms of explicit, implicit, and tacit.

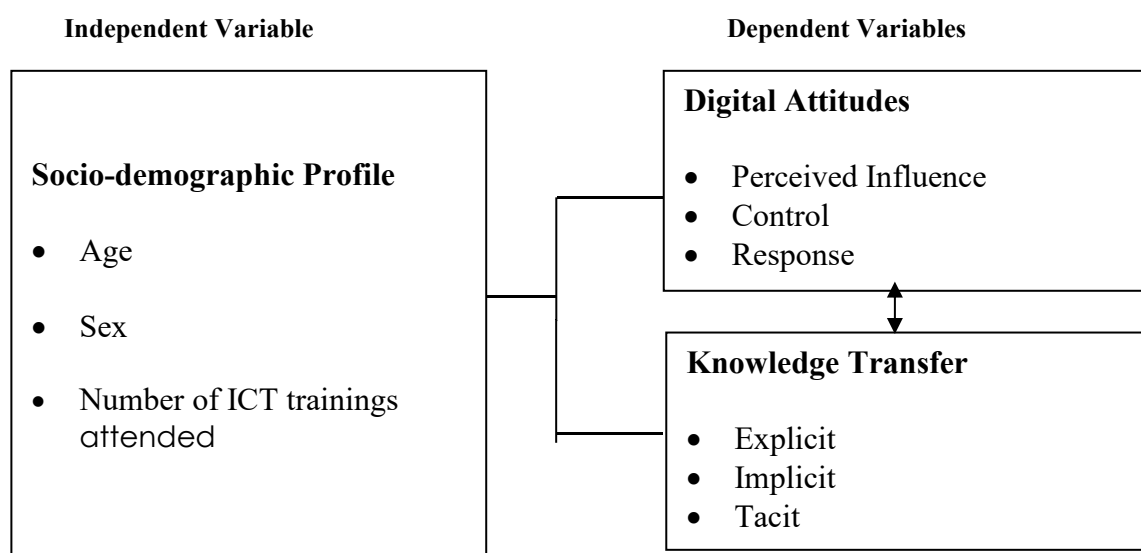


Figure 1. Schematic diagram showing the framework of the study

2. Method

The researcher used a descriptive-correlational investigation plan. The descriptive research design was used in investigating the level of teachers' digital attitudes and the level of knowledge transfer in the intermediate level and socio-demographic profiles of the respondents. Also, it was used to investigate the differences in the

teachers' digital attitudes and knowledge transfer when grouped accordingly. In addition, the researcher used the correlation technique to find out the relationship between the level of teachers' digital attitudes and knowledge transfer in the intermediate level. The descriptive-correlational method was found appropriate for this study since it described the level of teachers' digital attitudes, level of knowledge transfer, and determined the differences and the relationship between and among the variables.

The respondents of the study were the 187 out of 224 randomly selected public elementary teachers in the District of Sopian for the school year 2023-2024. The total population of the respondents were determined through the list provided by the office of Schools District Planning Coordinator. The proportional sampling was used to determine the appropriate sample for each school. A simple random sampling ensures that each member of the population is in a position to be chosen during the entire phase of the selection process. Primary instrument in the data gathering was the researcher-made survey questionnaire with three (3) parts. Frequency count, percentage, mean, t-test, One-way Anova, and Pearson product moment correlation coefficient were the statistical tools used to analyze and interpret the gathered data.

3. Results and Discussion

Level of Teachers' Digital Attitudes as a whole

Data reveal that the level of teachers' digital attitudes in the District of Sopian as a whole had a grand mean of 4.38 with a verbal interpretation of "very high" which means that the teachers' digital attitudes in the District of Sopian exceeded the expectations. It demonstrated exceptionally well all the time. It supports the findings of the study of Novkovic Cvetkovic et al. (2022) states that instructors and teachers regularly utilize ICT in educating.

Table 2.

Level of teachers' digital attitudes as a whole.

Components	Mean	Verbal Interpretation
Perceived Influence	4.54	Very High
Response	4.38	Very High
Control	4.22	Very High
Grand Mean	4.38	Very High

NOTE: Components are presented from highest to lowest.

Once all the 187 respondents were grouped as a whole, Table 2 reveals that the grand mean of 4.38 showed that perceived influence had a mean score of 4.54, response had a mean score of 4.38, and control had a mean score of 4.22, all of the three indicators verbally interpreted as "very high" signifies that the condition of the statement exceeded expectations. It demonstrated exceptional attitudes towards digital teaching well all the time. It implies that they established very high level of connection and involvement among the three (3) of them. Teachers have positive attitudes towards digital teaching. They are well-equipped with knowledge and skills, and they have very high level of perceived influence, strong control, and positive response towards digital teaching. It is parallel to the findings of Galarada & Alpuerto (2022) which found out that teachers' levels of digital skills were very high and their attitudes were generally positive towards digital teaching. Teacher preparedness for digital teaching was also very high.

Level of Teachers' Knowledge Transfer in the Intermediate Level as a whole

The level of knowledge transfer in the intermediate level as a whole with a grand mean of 4.44 and a verbal interpretation of "very high" is shown in Table 3. This means that the knowledge transfer of teachers in the intermediate level in the District of Sopian is manifested in a highly remarkable manner.

Table 3.

Level of knowledge transfer in the intermediate level of teachers as a whole.

Components	Mean	Verbal Interpretation
Tacit	4.47	Very High
Explicit	4.44	Very High
Implicit	4.40	Very High
Grand Mean	4.44	Very High

NOTE: Components are presented from highest to lowest.

Once all the 187 respondents were grouped as a whole, Table 3 discloses that the grand mean of 4.44 showed that tacit had a mean score of 4.47 with verbal interpretation of “very high”, explicit had a mean score of 4.44 with verbal interpretation of “very high”, and implicit had a mean score of 4.40 with verbal interpretation of “very high”. It implies that the teachers have established excellent level of connection among the three (3) aspects of knowledge transfer. It conveys that the teachers are capable for transmitting knowledge exceptionally well all the time to the learners and peers. They have an obligation to confer the information or knowledge that they transfer to the learners. It can be said that the teachers in school are the transmitter of knowledge to learners in terms of shared knowledge, hands on experience, and personal wisdom and insight. According to Wright (2023) teachers are mindful of transmitting information within the classroom and within the teaching-learning process, so instructors are considered information transmitters. Their part and obligation is to have information that they must confer to learners. In expansion, the teaching-learning process moreover refers to the transmission of information from educator to learner. In the teaching-learning process, the teacher plays the main role of a transmitter of knowledge. When imparting knowledge, teachers must take on many responsibilities for the teaching-learning process to be successful.

Difference in the Level of Teachers' Digital Attitudes in the District of Sopian when grouped According to Selected Profiles To aid the presentation, analysis and interpretation of data for problem statements no. 3 and 4, the data on the socio-demographic profiles of the respondents were displayed below.

Table 4.
Socio-demographic profile of the respondents.

Personal Profile	Frequency	Percent
Sex		
Male	19	10
Female	168	90
Total	187	100
Age		
30 years old and below	26	14
31 – 40 years old	58	31
41 – 50 years old	62	33
51 years old and above	41	22
Total	187	100
Number of ICT Training Attended		
None	46	25
1 - 2	82	44
3 - 4	37	20
5 and above	22	12
Total	187	100

Sex. Data present that majority of the respondents or 168 (89.6%) were females and the remaining number of 19 (10.2%) were males. Age. Most of the respondents or 62 (33.2%) were 41 – 50 years old, 58 (31.0%) were 31 – 40 years old, 41 (21.9%) were 51 years old and above, and the remaining 26 (13.9%) were 30 years old and below. Number of ICT trainings attended. Data present that 82 (43.9%) of the respondents attended 1-2 ICT trainings, 46 (24.8%) did not attend ICT trainings, 37 (19.8%) attended 3-4 ICT trainings, and 22 (11.8%) attended 5 and above ICT trainings. The differences in the level of teachers' digital attitudes and some variables such as sex, age, and number of ICT trainings attended with their significant values, t/F values, and corresponding probability are shown in Table 5.

Table 5.
Differences in the level of teachers' digital attitudes and some variables.

Socio-demographic Profile	t/F Value	Significant Value	Probability
Sex	3.429	0.002	s
Age	2.190	0.091	ns
Number of ICT trainings attended	2.646	0.061	ns

p-value > 0.05 = not significant

p-value < 0.05 = significant

As shown in Table 5, significant differences were found in the level of teachers' digital attitudes when respondents were grouped according to sex. However, no significant differences were found when respondents were grouped according to age and number of ICT trainings attended. The result implies that the teachers' digital attitudes vary in terms of their sex, while no variation exists in terms of age and number of ICT trainings attended.

The results revealed that male and female teachers had different digital attitudes. It implies that the digital attitudes of teachers can be influenced by their sex. Male teachers have positive attitudes towards digital use in teaching than female teachers since their mean scores is higher than the female. The results of the study support the findings of dela Rama et al. (2020) that gender has been identified to influence differences in attitudes toward virtual teaching, levels of technological competency, and readiness to teach online. Likewise, the results also support the findings of Alejandro (2021) which states that there are noteworthy contrasts within the level of innovation-supported teaching when respondents are grouped by gender.

Also, the result implies that the digital attitudes of teachers do not vary with age. The level of digital attitudes of young teachers is the same with those who are older teachers. This can be attributed to the idea that older teachers tried to catch up with high level of attitudes towards digitization teaching in the same manner as the young ones. The result of this study disagrees with the findings of Davidovitch & Yavich (2021) which found out that teachers of the Millennial era (ages 26-42) have more positive attitudes towards utilizing tablets as a necessary portion of the educational programs and see numerous preferences as well as fewer impediments than their Generation X colleagues (ages 43 to 65).

Thus, the result implies that the level of teachers' digital attitudes does not vary with number of ICT trainings they have. The attitudes of teachers who did not attend ICT trainings are the same with those who attended ICT trainings. Therefore, the attendance in ICT trainings was not the basis towards teachers' digital attitudes. The present study supports the findings of Alejandro (2021) that there are no critical contrasts within the level of technology-supported teaching when respondents are grouped by number of ICT training courses followed.

Difference in the Knowledge Transfer of Teachers in the District of Sopian when grouped according to Selected profiles

The distribution of different socio-demographic profile of the teachers in the level of knowledge transfer with their significant values, t/F values, and corresponding probability is shown in Table 6.

Table 6.
Differences in the knowledge transfer of teachers and some variables.

Socio-demographic Profile	t/F Value	Significant Value	Probability
Sex	2.104	0.037	s
Age	2.461	0.064	ns
Number of ICT training attended	1.735	0.161	ns

p-value > 0.05 = not significant

p-value < 0.05 = significant

The results showed that there was a significant difference in the level of knowledge transfer of teachers when they were grouped according sex, while the respondents' age and number of ICT trainings attended were found insignificant.

The result implies that the level of knowledge transfer of teachers vary or modify with their sex. It can be said that the level of knowledge transfer of teachers is influenced by their sex. Female respondents have more shareable knowledge than male teachers because they have strong personality to become more dedicated teachers to their pupils or vice versa. The result of this study supports the findings of the study of Lopez & Pereira (2021) that Spanish teachers' recent evaluations regarding the transfer of knowledge have shown that activities that could help close the gender gap in STEM areas are penalized upon evaluation.

Likewise, the result implies that the teachers' level of knowledge transfer does not vary with age. The level of knowledge transfer by young teachers is the same with that of those who are older teachers. This can be attributed to the idea that older teachers shared their experiences in the same manner as the young ones. The result of the study supports the findings of Defensor (2022) which states that teachers aged 40 and older scored "high" compared to teachers aged 20-39. In actualizing adaptable instruction and learning, the level of teacher attitude transfer is "positive" when considered generally by age. There are no critical contrasts within the level of transfer of knowledge when classified by age.

Thus, the result implies that the knowledge transfer of teachers does not vary with number of ICT trainings attended. The knowledge transfer of teachers who attended ICT trainings is the same with the knowledge transfer of those who did not attend ICT training. This can be attributed to the fact that attendance to ICT training is not only the basis of gaining high level of knowledge transfer. The result of this study contradicts the findings of Defensor (2022) which states that teachers who participated in more than 5 ICT training courses and seminars scored "high" compared to teachers who participated in less than 5 ICT training courses and seminars. In actualizing adaptable instruction and learning, the level of teacher attitude transfer is "positive" when Information Communication Technology (ICT) training courses and seminars attended are considered. There are no critical contrasts within the level of transfer of knowledge in IT training courses and seminars attended.

Relationship between the Level of Teachers' Digital Attitudes and Level of Knowledge Transfer in the Intermediate Level

There was high to very high relationship between the digital attitudes and the knowledge transfer of the teacher-respondents because the Pearson-r value was 0.843. Table 7 shows the significant relationship. This relationship was significant because the p-value of 0.000 was less than 0.05 alpha. Therefore, the null hypothesis which states that there is no significant relationship between the level of teachers' digital attitudes and the level of knowledge transfer in the intermediate level is rejected. This means that the teachers' digital attitudes are related with their knowledge transfer.

Table 7.

Relationship between teachers' digital attitudes and their knowledge transfer.

Variables	N	Pearson-r value	Degree of Relationship	p-value	Probability
Digital Attitudes	187	0.843	High to Very High Relationship	0.000	s
Knowledge Transfer	187				

p-value < 0.05 = significant

The result implies that the digital attitudes of the teacher-respondents is either influenced or affected by their knowledge transfer. This means that, teachers' digital attitudes are related to their knowledge transfer. The more positive attitudes of teachers towards digital, the higher the knowledge transfer they have. This can be attributed to the fact that teachers with high level of attitudes towards digital in terms of perceived influence, control, and response have high shareable knowledge transfer in terms of explicit, implicit, and tacit aspects to peers, pupils and others. The result of this study justifies the study of Asbari (2019) which states that explicit knowledge sharing has a positive and significant impact on teachers' innovation capacity, both directly and through the learning organization's mediation, and knowledge sharing. Tacit knowledge has a positive and significant impact on teachers' innovation capacity through mediation of organizational learning. A study on novelty proposed a model to enhance teachers' innovation capacity through sharing tacit and explicit knowledge with organizational learning as the intermediary activity.

4. Conclusion and Implications

Based on the findings of the study, the following conclusions are drawn.

1. The teachers demonstrate a strong manifestation of digital attitudes.
2. The teachers exhibit excellence in their knowledge transfer to peers, pupils and others.
3. The sex of the elementary intermediate teachers in the District of Sopian creates variation in their digital attitudes.
4. The sex of the elementary intermediate teachers in the District of Sopian creates variation in their knowledge transfer.
5. The teachers' digital attitudes and knowledge transfer in the intermediate level in the District of Sopian are significantly related.

Teachers may maintain their positive attitude towards digital teaching. They may integrate innovation in their teaching like using computers as storage to kept students' records. They may ask support from school heads to obtain more ICT trainings attended. Teachers may motivate learners using games in computer apps in order to upgrade their knowledge in the digital world. Teachers may continue sharing their knowledge to others especially to the learners. They may promote and recognize that digital attitude can be developed overtime. They may encourage the use of real-world examples downloaded from the web for the learners to manipulate. Teachers may integrate e-learning games in teaching.

Educational authorities may have motivational trainings and seminars to female teachers to make them more optimistic towards the use of digital technology in teaching. An optimistic attitude towards digital technology in teaching may be promoted by introducing digital awareness and training programs related to the constructive role of Internet in education. It is also essential to improve the digital literacy of the teachers to build a favorable approach towards digital teaching.

Female teachers may improve and enhance their knowledge transfer particular to the learners in order for them to produce more knowledgeable learners. They may also hold enrichment and training activities to share their knowledge to their learners for the betterment of their teaching and learning process inside the classroom. It is highly encouraged that DepEd may continuously upscale its technological competencies in the application of the proposed learning action cell sessions. The school administrators may implement training sessions for teachers regarding digital technology competencies in order to provide inputs to teachers to be adapted to their teaching.

Furthermore, teachers may adapt utilization of technology as digital tools for teaching in order to transfer their knowledge competently to the learners.

Future research studies may be conducted to examine further relationship between teachers' digital attitudes and knowledge transfer in the intermediate level using wider scope of samples and inclusion of different or more variables.

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