

Teaching Contemporary Issues in Social Awareness and Performance Through TPCK (Teachers' Technological, Pedagogical, Content Knowledge)

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Abstract— The main purpose of this study is to investigate the effects of teachers' technological, pedagogical, content knowledge (TPCK) on students' social awareness and performance in learning contemporary issues. Specifically, it sought to determine the level of TPCK's in various aspects, including dynamic interrelationship, contextual relevance, focus on learning outcomes, emphasis on active learning, and collaboration. The study also assessed the level of the students' social awareness in terms of empathy, social responsibility, media influence, and interpersonal skills as well as their performance in formative and summative written outputs. Additionally, the study also aimed to examine the significant effects of TPCK (Technological, Pedagogical, Content Knowledge) on the students social awareness. Lastly, the study also aimed to identify the significant difference of TPCK (Technological, Pedagogical, content knowledge) on students' performance. This study employed a one-group quasi-experimental design and descriptive survey, and utilized three sets of questionnaires to gather data on students' perceptions of TPCK, their social awareness, and their formative and summative test performance. The study focused on 83 purposively chosen grade ten students from Caigdal National High School, Unisan, Quezon, during the 2024-2025 school year, covering topics such as gender and sex concepts, sexual orientation and identity, and gender roles. The results from the formative and summative scores were also used to determine the impact of TPCK-based lessons on students' social awareness and performance. The researcher also used statistical treatment to analyze the data of the study particularly mean and standard deviation to measure the level of TPCK (Technological, Pedagogical, Content Knowledge) and social awareness. Multiple linear regression was also used to estimate the effect of TPCK on Social awareness and lastly, independent samples t-test was used to identify the differences on the students' performance in formative and summative test. The findings revealed that the teacher demonstrated a very high level of TPCK, significantly contributing to student engagement, knowledge sharing, and collaborative learning. Learners exhibited a very high level of social awareness, recognizing the importance of empathy, social responsibility, media influence, and interpersonal skills. Teachers demonstrated a very high level of Technological Pedagogical Content Knowledge (TPCK) across various aspects, including dynamic interrelationships, contextual relevance, focus on learning outcomes, emphasis on active learning, and collaboration. Moreover, learners demonstrated a very high level of social awareness across various dimensions, including empathy, social responsibility, media influence, and interpersonal skills. The results also showed that students scored higher in summative tests compared to formative tests, highlighting the significant improvement in performance due to teachers' used of TPCK-based lessons. Additionally, the study revealed that TPCK has significant effects on students' social awareness and has significant difference on students' performance. Therefore, hypotheses were

rejected. Based on the findings of the study, the following conclusions were drawn: teachers' Technological, Pedagogical, and Content Knowledge (TPCK) significantly influences students' social awareness, resulting in the rejection of the null hypothesis. This suggests that TPCK plays a vital role in enhancing students' comprehension of modern societal issues by effectively integrating technology into education, fostering active engagement and critical thinking. Furthermore, teachers' Technological, Pedagogical, and Content Knowledge (TPCK) has significant difference on students' performance, leading to the rejection of the null hypothesis. This suggests that students achieved higher scores in summative assessments compared to formative tests, demonstrating a significant improvement in learning outcomes due to TPCK-based teaching approaches. By combining technology with effective instructional methods and in-depth subject expertise, educators foster dynamic and interactive learning environments that enhance understanding and knowledge retention. Based on the findings and conclusions, the study recommended to implement more project-based learning activities and interdisciplinary projects to improve interpersonal skills and make learning more relevant. Integrate Social and Emotional Learning (SEL) programs that will focus on empathy, social responsibility, and other aspects of social awareness since it can provide a more holistic approach to student development, and encourage community service projects. The researcher also recommended to have comprehensive workshops and mentorship programs for teachers on effective TPCK integration into assessment strategies to enhance student learning outcomes. And lastly, recommended to use related research to explore the nuanced effects of TPCK-based lessons and supplementary approaches on the social awareness of the students.

Keywords— Technological, pedagogical, content knowledge, social awareness, performance.

I. INTRODUCTION

The rapid advancements in technology and the increasing complexity of social issues have significantly reshaped the educational landscape. To effectively prepare students for the challenges and opportunities of the 21st century, educators must adapt their teaching practices to incorporate contemporary issues into their curricula.

The expansion of digital tools and resources such as social media, online databases, and virtual reality has transformed how information is accessed and disseminated. While the rise of online learning platforms and remote education has made education more accessible and flexible. This proved that

technology had a great impact on making education easy and convenient.

In modern times, technology had increase the complexity of social issues where it used to promote global interconnectedness by seeking answers on some social issues like climate change, poverty, and gender equality. With the integration of such social issues in the curricula, like incorporating real-world issues on lessons developed the students understanding and respecting diverse viewpoints which important for addressing complex issues.

In contrast, the majority of traditional pedagogical technologies were highly specialized, such as using a chalkboard or a pen or pencil for writing. However, these methods have become obsolete and ineffective in recent years, serving only to waste time; for stability (pencils and chalkboards have not changed a great deal over time); and transparency of function (the inner workings of the pencil is simple and directly related to their function) (Bakhtiyar, 2021).

Also, it's worth thinking about the links between teaching and technology. Some social and institutional environments do little to facilitate teachers' adoption of the use of technology at work. Teachers still lack (or do not utilize) the requisite knowledge and experience to use digital technologies on teaching and learning. When many of them completed their degrees, the availability of educational technology was in great contrast to its availability today. Accordingly, it is understandable that they do not regard themselves as adequately trained for the effective use of technology in classrooms, and tend to underestimate its importance and relevance in teaching and learning processes. Acquiring a new knowledge base and skill set can be no easy task, especially when that issue is time-consuming activity and should be fitted into an already busy schedule. At the same time, chances are great that this knowledge will not be applied unless teachers are shown how to apply technology in ways that are congruent with their pedagogical technology. Also, teachers have frequently been given inadequate preparation to do this job. The majority of the methods of professional development programs for teachers tend to advocate a generic model of technology practices integration, whereas teachers work in varied teaching and learning environments.

Integrating content, pedagogy with technology factors are the three building blocks in the practice of teaching with technology. There is a noticeable variance in the amount and quality of integration of instructional technology and its integration across the three components. They are quite different in the manner in which they manifest across different context settings. To emphasize technology is to understand technology as an enabler for students. It makes it possible to design things differently. When they cannot, they usually will, with their friends cooperate within their digital models. With some exposure, so to say, we widen the chances for these new learning experiences.

1.1 Statement of the Problem

Problem/s which were addressed by the research

This study aimed to find out the effects of teachers' technological, pedagogical, and content knowledge (TPCK) on student social awareness and performance in learning contemporary issues.

Specifically, it sought to answer the following questions:

1. What is the level of TPCK (Teachers' Technological, Pedagogical Content Knowledge) on learning contemporary issues in terms of:
 - 1.1 dynamic interrelationship;
 - 1.2 contextual relevance;
 - 1.3 focus on learning outcomes
 - 1.4 emphasis on active learning; and
 - 1.5 collaboration?
2. To what extent do learners perceive their level of social awareness in terms of:
 - 2.1 empathy;
 - 2.2 social responsibility
 - 2.3 media influence; and
 - 2.4 interpersonal skills?
3. What is the level of students' performance in written output in terms of:
 - 3.1 formative; and
 - 3.2 summative test?
4. Is there a significant effect on teachers' TPCK (Technological, Pedagogical, Content Knowledge) based lessons on the student's social awareness in learning contemporary issues?
5. Is there a significant difference in teachers' TPCK (Technological, Pedagogical, Content Knowledge) based lessons to the student's performance in learning contemporary issues?

II. METHODOLOGY

This study employed a one-group quasi-experimental design and descriptive survey, and utilized three sets of questionnaires to gather data on students' perceptions of TPCK, their social awareness, and their formative and summative test performance. The study focused on 83 purposively chosen grade ten students from Caigdal National High School, Unisan, Quezon, during the 2024-2025 school year, covering topics such as gender and sex concepts, sexual orientation and identity, and gender roles. The results from the formative and summative scores were also used to determine the impact of TPCK-based lessons on students' social awareness and performance. The researcher also used statistical treatment to analyze the data of the study particularly mean and standard deviation to measure the level of TPCK (Technological, Pedagogical, Content Knowledge) and social awareness. Multiple linear regression was also used to estimate the effect of TPCK on Social awareness and lastly, independent samples t-test was used to identify the differences on the students' performance in formative and summative test.

III. RESULTS AND DISCUSSION

This chapter presents, analyzes, and interprets the data collected, highlighting a significant effect on teachers TPCK based lesson on students social awareness and performance. *Level of Teachers Pedagogical Content Knowledge*

Teachers' Pedagogical Content Knowledge (TPCK), also known as Technological Pedagogical Content Knowledge (TPCK), is a framework that describes the essential knowledge teachers need to effectively integrate technology into their teaching. In This study (TPCK) includes variables such as dynamic interrelationship, contextual relevance, focus on learning outcomes, emphasis on active learning and collaboration was treated statistically in by mean and standard deviation.

Table 1 present the teachers level of Technological Pedagogical Content Knowledge (TPCK) in terms of dynamic interrelationships, table include mean, standard deviation and remarks.

The weighted mean of 4.40 and the standard deviation of 0.62 indicates a very high level of Technological Pedagogical Content Knowledge (TPCK) among teachers in terms of dynamic interrelationships. This means that teachers strongly recognize the importance of integrating technology with pedagogy and content to enhance teaching and learning, particularly when addressing contemporary issue.

However, the variation in responses emphasize that while most teachers are confident in their TPCK skills, some may require additional training or resources to further strengthen their ability to integrate technology effectively.

TABLE 1. Level of Teachers Technological Pedagogical Content Knowledge (TPCK) based Lesson in terms of Dynamic Interrelationship

STATEMENT	MEAN	SD	REMARKS
1. Integration if technology, pedagogy, and content knowledge is crucial for understanding and addressing complex contemporary issues.	4.47	0.55	Strongly Agree
2. Strong connection between my ability to utilize technology effectively and my capacity to learn about and engage with contemporary issues.	4.18	0.67	Agree
3. Ability to critically analyze information and construct knowledge is significantly influenced by my understanding of how technology can be integrated into the learning process.	4.40	0.62	Strongly Agree
4. Recognize the importance of continuously developing my Technological, Pedagogical, Content Knowledge (TPCK) skills to effectively navigate and learn about the rapidly evolving landscape of contemporary issues.	4.45	0.67	Strongly Agree
5. Teaching and learning contemporary issues require deep understanding of how technology can enhance pedagogical approaches and content delivery.	4.49	0.57	Strongly Agree
Weighted Mean	4.40		
SD	0.62		
Verbal Interpretation	Very High		

The findings emphasize the importance of continuous professional development to ensure all teachers are equipped with the necessary skills to navigate the evolving educational landscape successfully. However, the variation in responses emphasize that while most teachers are confident in their TPCK skills, some may require additional training or resources to further strengthen their ability to integrate technology effectively. The findings emphasize the

importance of continuous professional development to ensure all teachers are equipped with the necessary skills to navigate the evolving educational landscape successfully.

Graham et al. (2017) emphasize the importance of recognizing the dynamic interrelationships in teacher education, highlighting that effective technology integration requires flexibility in using various tools and a deep understanding of content and pedagogy. Chaudhary et al. (2024) recommend best practices such as aligning technology with pedagogical goals, providing ongoing professional development for educators, and ensuring accessibility and inclusivity for all students. These strategies collectively enhance the effectiveness of technology integration in education.

Table 2 present the teachers level of Technological Pedagogical Content Knowledge (TPCK) in terms of contextual Relevance, table includes mean, standard deviation, and remarks.

TABLE 2. Level of Teachers Technological Pedagogical Content Knowledge based Lesson in terms of Contextual Relevance

STATEMENT	MEAN	SD	REMARKS
1. Teacher's knowledge of using technology is important for him/her to teach contemporary issues relevant to our society today.	4.57	0.63	Strongly Agree
2. Teacher's use of technology to teach contemporary issues in a way that is relevant to our culture and environment.	4.29	0.69	Strongly Agree
3. Teacher's use of technology helps us see the connection of contemporary issues in our daily lives.	4.40	0.60	Strongly Agree
4. Teacher's use technology in order to see solutions in addressing contemporary issues.	4.46	0.59	Strongly Agree
5. Teacher's use of technology to see connection of contemporary issues in life, community, and the world around me.	4.42	0.57	Strongly Agree
Weighted Mean	4.43		
SD	0.62		
Verbal Interpretation	Very High		

The weighted mean is 4.43 and the standard deviation of 0.62 indicates a very high level of Technological Pedagogical Content Knowledge (TPCK) among teachers in terms of contextual relevance. This means that teachers effectively utilized technology in a way that it is relevant to their student's culture and environment. They viewed technology as an essential tool for helping students understand the connection between contemporary issues and their daily lives. By integrating technology into lessons, educators can present current events and modern challenges in a way that is both relatable and engaging for students. This strategy not only makes learning more relevant but also helps students understand how their education may be used in real life. Furthermore, students believe that technology-based lessons can deepen their appreciation of their own culture. This technological integration fosters a greater sense of cultural awareness and pride, as students are able to connect their learning with their personal and communal identities.

Lauro (2022), Contemporary issues, often controversial and relevant to personal life, are topics of interest that span

various disciplines. Lessons on these issues aim to instill educational principles, shaping Filipino students into socially aware and responsible individuals within their families and communities. Additionally, exposing students to contemporary issues encourages critical thinking, reading, and writing, as well as the ability to critique, argue, synthesize, document, and conduct research.

Table 3 present the teachers level of Technological Pedagogical Content Knowledge (TPCK) in terms of focus on learning outcomes, table include mean, standard deviation, and remarks.

TABLE 3. Level of Teachers Pedagogical Content Knowledge based Lesson TPCK in terms of Focus on Learning Outcomes

STATEMENT	MEAN	SD	REMARKS
1. Affects my ability to think critically and creatively about contemporary issues	4.55	0.59	Strongly Agree
2. Important for me to gain a deeper understanding of concepts and issues through active participation	4.11	0.77	Agree
3. Important to more easily work cooperatively and creatively in addressing the challenges of challenges of contemporary issues.	4.49	0.50	Strongly Agree
4. Helps me to become more effective in using research and knowledge-sharing skills regarding contemporary issues.	4.60	0.52	Strongly Agree
5. Helps me to become more active in learning contemporary issues.	4.49	0.59	Strongly Agree
Weighted Mean	4.45		
SD	0.62		
Verbal Interpretation	Very High		

The weighted mean of 4.45 and the standard deviation of 0.62 indicates a very high level of Technological Pedagogical Content Knowledge (TPCK) among teachers in terms of focus on Learning Outcomes. This means that teachers are effectively integrate technology in teaching learning process since it help students to share knowledge among others. Teachers are confident to utilize it in the process cause students will cooperatively and creatively participating on the process.

Clayton et al. (2019) state learning outcomes as statements detailing what a learner knows, understands, and can do after completing a learning process. This emphasis has significantly influenced the focus of monitoring and regulations, the types and frequency of course and subject evaluations, and the structure of teaching and learning processes. Kalyani (2024), asserts that digital technologies, multimedia resources, and interactive platforms have revolutionized education by enhancing student engagement. These tools also foster critical thinking and problem-solving skills, transforming the learning experience.

Table 4 present the teacher Technological Pedagogical Content Knowledge (TPCK) in terms of emphasis on active learning, table include mean, standard deviation, and remarks.

The weighted mean of 4.50 and the standard deviation of 0.61 indicates a very high level of Technological Pedagogical Content Knowledge (TPCK) among teachers in terms of emphasis on active learning. The result signifies teachers' knowledge and skills in technology are crucial for enhancing student engagement in learning contemporary issues.

The use of various technologies by teacher's helps students become more active participants in class activities, fosters creativity, and encourages the sharing of information. Additionally, teachers' adept use of technology makes learning more enjoyable and accessible, further developing students' thinking, research, and creative skills. It also fosters a collaborative learning environment where students can easily share ideas and resources, enhancing their overall educational experience.

Hendy (2022) asserts that active learning has been integrated into various teaching and learning approaches, strategies, and techniques resulting from the implementation of educational theories.

TABLE 4. Level of Teachers Pedagogical Content Knowledge based Lesson TPCK in terms of Emphasis on Active Learning

STATEMENT	MEAN	SD	REMARKS
1. Teacher's knowledge and skills in technology are important for me to be more active in learning contemporary issues.	4.52	0.67	Strongly Agree
2. Teacher's use of different technologies helps me to be more active participant in class activities related to contemporary issues.	4.48	0.65	Strongly Agree
3. Teacher's use of technology gives me the opportunity to be more creative and active in finding information and sharing my learnings about contemporary issues.	4.54	0.59	Strongly Agree
4. Teachers know how to use various technologies to make active learning of contemporary issues easier and enjoyable.	4.39	0.60	Strongly Agree
5. Teacher's knowledge and skills in using technology further develop my thinking, research, and creative skills.	4.55	0.55	Strongly Agree
Weighted Mean	4.50		
SD	0.61		
Verbal Interpretation	Very High		

The relationship between philosophies and active learning is highlighted, with philosophies such as idealism, realism, humanism, existentialism, and perennialism fostering active learning. These philosophies contribute to the development of teaching methods that engage students actively in the learning process.

Table 5 present the teachers Technological Pedagogical Content Knowledge (TPCK) in terms of collaboration, table include mean, standard deviation, and remarks.

The weighted mean of 4.44 and the standard deviation of 0.61 indicates a very high level of Technological Pedagogical Content Knowledge in terms of collaboration. This results emphasize the effectiveness of technology on student's appreciation on knowledge sharing and class ideas in learning contemporary issues. It signifies that the teacher effectively utilize and facilitated well the lesson cause the students actively participating on the discussion leading them to share information towards classmates.

Altowairiki (2012) emphasizes Vygotsky's Zone of Proximal Development, which underscores the role of social interactions in cognitive development. Learning occurs when students collaborate with more experienced individuals, resulting in a product that reflects their collective knowledge and concepts.

TABLE 5. Level of Teachers Pedagogical Content Knowledge based Lesson TPCCK in terms of in terms collaboration

STATEMENT	MEAN	SD	REMARKS
1. Teacher's use technology for us to collaborate and easily understand the contemporary issues.	4.58	0.52	Strongly Agree
2. Technology helps us collaborate more effectively in researching, sharing ideas, and creating projects related to contemporary issues.	4.42	0.57	Strongly Agree
3. Teacher's use of technology is important to appreciate the ideas and contributions of each of us in learning contemporary issues.	4.34	0.69	Strongly Agree
4. The technology used in the lesson helped us share ideas and information.	4.36	0.60	Strongly Agree
5. The use of technology gives us the opportunity to exchange knowledge and experiences with other students about contemporary issues.	4.48	0.63	Strongly Agree
Weighted Mean	4.44		
SD	0.61		
Verbal Interpretation	Very High		

Learners Level of Social Awareness

Social awareness is the ability to understand and respond appropriately to the emotions, needs, and perspectives of others in various social and cultural contexts. In this study learners' level of social awareness include variables such as empathy, social responsibility, media influence and interpersonal skill was treated statistically using mean and standard deviation.

Table 6 present the extent of learners perceives level of social awareness in terms of empathy, the table include the mean, standard deviation and the remarks.

TABLE 6. Extent of Learners Perceived Level on Social Awareness in terms of Empathy

STATEMENT	MEAN	SD	REMARKS
1. I understand the feelings and experiences of others.	4.46	0.65	Strongly Agree
2. I believe I have compassion for people in need.	4.42	0.59	Strongly Agree
3. I can see things from the perspective of others.	4.18	0.73	Agree
4. I believe I can interact with others with understanding and respect.	4.58	0.54	Strongly Agree
5. It is important to understand the feelings and experiences of others to become a good person.	4.63	0.51	Strongly Agree
Weighted Mean	4.45		
SD	0.63		
Verbal Interpretation	Very High		

The findings in the table indicate that learners demonstrate a very high level of social awareness in terms of empathy, as reflected in the weighted mean of 4.45 and the standard deviation of 0.63. This means that students strongly recognize the importance of understanding, respecting, and responding to the emotions and experiences of others. The variation in responses, particularly in perspective-taking, show that while most students have well-developed empathetic skills, some may need further encouragement in developing deeper understanding of others' viewpoints. The result emphasizes the importance of continuing to nurture empathy through educational programs, social interactions, and experiential

learning to ensure that learners develop a well-rounded ability to understand, respect, and support others in different life situations.

Empathy, the ability to understand and share the feelings of others, is linked to increased helping behaviour, reduced prejudice, and greater civic engagement (Eisenberg & Morris, 2023). It plays a crucial role in interpersonal and societal interactions by facilitating the sharing of experiences, needs, and desires, thereby promoting pro-social behaviour (Riess, 2017).

Table 7 present the extent of learners perceives level of social awareness in terms of social responsibility, the table include the mean, standard deviation, and the remarks.

The findings in the table indicate that learners demonstrate a very high level of social awareness in terms of social responsibility, as reflected in the weighted mean 4.52 and standard deviation of 0.55. This signifies that students have a strong sense of social responsibility and civic duty.

Students emphasize the importance of helping others, protecting the environment, and actively participating in community-beneficial activities. Additionally, they highlight the value of using one's abilities and talents to contribute positively to society.

TABLE 7. Extent of learners perceived level on Social Awareness in terms of Social Responsibility

STATEMENT	MEAN	SD	REMARKS
1. I have a responsibility to my fellow human beings and to society.	4.45	0.55	Strongly Agree
2. It is important to help those in need in our community.	4.54	0.53	Strongly Agree
3. I have duty to protect the environment.	4.52	0.57	Strongly Agree
4. It is important to participate in activities that benefit society.	4.51	0.55	Strongly Agree
5. I can use my abilities and talents to help others.	4.59	0.54	Strongly Agree
Weighted Mean	4.52		
SD	0.55		
Verbal Interpretation	Very High		

Eryilmaz (2013) define social responsibility as the ability to understand the world, empathize with others, and act justly and sustainably. This concept shapes individuals' attitudes and behaviors, aligning with social studies courses' goals to foster belonging, commitment, participation, and satisfaction among students. By integrating these principles, social studies education not only imparts knowledge about societal structures and historical contexts but also encourages students to become active, informed citizens. This holistic approach helps students develop a sense of identity and community, promoting empathy and respect for diverse perspectives. Ultimately, it prepares them to contribute positively to society, reinforcing the importance of civic responsibility and social cohesion (Eryilmaz, 2022).

Table 8 present the extent of learners perceives level of social awareness in terms of media influence, the table include mean, standard deviation, and the remarks.

TABLE 8. Extent of Learners Perceived Level on Social Awareness in terms of Media Influence

STATEMENT	MEAN	SD	REMARKS
1. I have the ability to analyze and identify biases and manipulations in the media.	4.35	0.72	Strongly Agree
2. I have a responsibility to be a discerning consumer of information from the media	4.53	0.63	Strongly Agree
3. It is important to use media responsibly and selectively.	4.37	0.62	Strongly Agree
4. It is important to critique the information I get from the media.	4.42	0.59	Strongly Agree
5. The media does not influence my perspective on the world.	4.48	0.63	Strongly Agree
Weighted Mean	4.43		
SD	0.64		
Verbal Interpretation	Very High		

The findings in the table indicate that learners demonstrates a very high level of social awareness in terms of media influence, as reflected in the weighted mean of 4.43 and the standard deviation of 0.64. This means that students are consistently recognize the importance of analyzing media for biases, being discerning consumers, using media responsibly, critiquing information, and maintaining an independent perspective and confirms a strong collective commitment to responsible media consumption.

TABLE 9. Extent of Learners Perceived Level on Social Awareness in terms of Interpersonal Skills

STATEMENT	MEAN	SD	REMARKS
1. I am good at communicating and interacting with others.	4.39	0.62	Strongly Agree
2. I can listen and understand what others are saying.	4.40	0.58	Strongly Agree
3. I can express my ideas and opinions clearly and respectfully.	4.40	0.60	Strongly Agree
4. I resolve conflicts and disagreements peacefully.	4.35	0.61	Strongly Agree
5. Interpersonal skills are important for building good relationships with others.	4.53	0.55	Strongly Agree
Weighted Mean	4.41		
SD	0.59		
Verbal Interpretation	Very High		

Table 9 present the extent of learners perceives level of social awareness in terms of interpersonal skills, the table include the mean, standard deviation, and the remarks.

The findings in the table indicate that learners demonstrates a very high social awareness in terms of interpersonal skills, as reflected in the weighted mean 4.41 and the standard deviation of 0.59. The results signify that students feel confident in their ability to communicate, listen, express ideas, resolve conflicts, and recognize the importance of interpersonal skills. It also reflects a strong collective belief in the importance and effectiveness of interpersonal skills in building good relationships.

Interpersonal skills are vital for productive teamwork, as they enable students to exchange ideas, offer constructive criticism, and engage in meaningful discussions, which are crucial for critical thinking and deep learning (Geske & Ozola, 2016). Additionally, these skills help children build strong relationships with teachers and peers, creating support systems that enhance motivation and participation in educational

activities (Weaver & Qi, 2021). Fostering interpersonal skills is essential for students' academic, social, and emotional success, especially as education increasingly emphasizes group projects and peer learning.

Table 10 present the level of student performance in written output in terms of formative test., the table include the score frequency and percentage as well as the verbal interpretation.

Majority of Students Scored in the good range (21-30), a significant 80.72% (67 out of 83 students), indicating that most students have a solid but not exceptional grasp of the test content. Only 8.43% (7 students) performed at a very satisfactory level, which means that only a small percentage of students demonstrated strong mastery of the subject matter, while 10.84% (9 students) got satisfactory level, indicating that some students may struggle with comprehension or application of concepts. No Students Scored in outstanding (41-50) and did not meet expectations (1-10) level.

TABLE 10. Level of Students' Performance in Written Output in terms of Formative Test

Pre-test	Frequency	Percentage	Verbal Interpretation
41-50	0	0.00%	Outstanding
31-40	7	8.43%	Very Satisfactory
21-30	67	80.72%	Satisfactory
11-20	9	10.84%	Fairly Satisfactory
1-10	0	0.00%	Did not meet Expectations
Total	83	100.00%	
Weighted Mean		25.25	
SD		3.93	
Verbal Interpretation		Moderately High	

The weighted mean of 25.25 and the standard deviation of 3.93) This means that while most students demonstrated a fair to good understanding of the assessed concepts, they have a basic understanding of the subject matter but lack of deeper comprehension or mastery that need to improve.

According to Menendez (2019), formative assessment is a continuous, diagnostic process that monitors student progress during learning. It identifies areas where students need additional support, enabling teachers to adjust their instruction to better meet individual needs.

This approach ensures personalized guidance and enhances overall learning outcomes. This test also ensure that each student receives the guidance they need to succeed.

Table 11 present the level of student performance in written output in terms of summative test, the table include the score frequency and percentage as well as the verbal interpretation.

The data shows that the majority of students performed well on the post-test, with 54 out of 83 students (65.06%) achieving scores in the "Very satisfactory" range (31-40). Additionally, 19 students (22.89%) scored in the "Outstanding" range (41-50), indicating a high level of understanding and mastery of the material. Ten students (12.05%) scored in the "Satisfactory" range (21-30), while no students fell into the "Fairly satisfactory" (11-20) or "did not meet expectations" (1-10) level.

TABLE 11. Level of Students' Performance in Written Output in terms of Summative Test

Post-test	Frequency	Percentage	Verbal Interpretation
41-50	19	22.89%	Outstanding
31-40	54	65.06%	Very Satisfactory
21-30	10	12.05%	Satisfactory
11-20	0	0.00%	Fairly Satisfactory
1-10	0	0.00%	Did not meet Expectations
Total	83	100.00%	
Weighted Mean		35.89	
SD		5.11	
Verbal Interpretation		High	

Overall, the results reflect a strong performance by the students, with most demonstrating a very satisfactory to outstanding grasp of the content.

According to Singh (2018), summative assessments measure student knowledge or skills against established standards, providing a clear picture of their mastery and

determining if educational goals have been met. This assessments, offer a balanced approach to evaluating and supporting student learning, validating the effectiveness of instructional strategies and curriculum design.

Table 12 present the significant effect on teachers' TPCK based lessons on the student's social awareness in learning contemporary issues.

This table presents the results of a study examining the significant effects of teachers' Technological Pedagogical Content Knowledge (TPCK)-based lessons on students' social awareness in learning contemporary issues.

The analysis includes four key dimensions of students' social awareness: empathy, social responsibility, media Influence, and interpersonal skills, with various aspects of TPCK-based lessons serving as predictors.

Dynamic Interrelationship significantly influenced students' awareness of media influence ($p = 0.001$).

TABLE 12. Significant effect on teachers' TPCK based lessons on the student's social awareness in learning contemporary issues

TPCK based lesson	Student's Social Awareness	Beta	SE	95 % CI		β	p
				LL	UL		
Dynamic interrelationship		0.068	0.143	-0.217	0.353	0.068	0.637
Contextual relevance		0.243	0.160	-0.075	0.561	0.238	0.132
Focus on learning outcomes	Empathy	0.259	0.144	-0.029	0.546	0.223	0.077
Emphasis on active learning		0.047	0.163	-0.277	0.371	0.045	0.772
Collaboration		-0.220	0.153	-0.525	0.086	-0.216	0.156
Dynamic interrelationship		0.117	0.123	-0.129	0.363	0.136	0.347
Contextual relevance		0.134	0.138	-0.140	0.408	0.153	0.332
Focus on learning outcomes	Social Responsibility	0.120	0.124	-0.128	0.368	0.120	0.338
Emphasis on active learning		0.058	0.140	-0.221	0.337	0.064	0.679
Collaboration		-0.031	0.132	-0.294	0.232	-0.035	0.816
Dynamic interrelationship		0.379	0.111	0.157	0.600	0.429	0.001*
Contextual relevance		0.085	0.124	-0.161	0.331	0.094	0.494
Focus on learning outcomes	Media influence	0.088	0.112	-0.135	0.310	0.085	0.437
Emphasis on active learning		0.041	0.126	-0.210	0.293	0.045	0.744
Collaboration		0.016	0.119	-0.221	0.253	0.018	0.895
Dynamic interrelationship		0.017	0.132	-0.247	0.280	0.017	0.900
Contextual relevance		0.277	0.147	-0.017	0.570	0.276	0.064
Focus on learning outcomes	Interpersonal Skills	0.237	0.133	-0.029	0.502	0.208	0.080
Emphasis on active learning		-0.230	0.150	-0.529	0.069	-0.223	0.130
Collaboration		0.263	0.142	-0.019	0.545	0.264	0.067

Note: * $p < .05$.

This means that when teachers integrate the relationships between technology, pedagogy, and content to students become more aware of how media effect contemporary issues. Since the p-value is less than 0.05, this result is statistically significant. Other factors, such as contextual relevance and collaboration, showed moderate but non-significant effects on interpersonal skills ($p > 0.05$). This means that these teaching strategies might help develop interpersonal skills, but more

evidence is needed. For empathy and social responsibility, none of the TPCK components had significant effects ($p > 0.05$). This indicates that TPCK-based lessons alone may not strongly influence these aspects of social awareness.

The table 13 present significant difference in teachers' TPCK based Lessons to the student's performance in learning contemporary issues.

TABLE 13. Significant difference in teachers' TPCK based Lessons to the Student's Performance in Learning Contemporary Issues

I	F		S		MD	95% CI		t	df	P
	M	SD	M	SD		L	U			
P	25.25	3.93	35.89	5.11	10.64	-11.468	-9.8091	-25.516	82	0.000*

Note: * $p < .05$.

The table show that the score in summative test of the students is higher than the score in formative test given the

($M = 25.25$) for formative and (35.89) in summative test. The results emphasize that that teachers' use of TPCK-based

lessons significantly improved students' performance in learning contemporary issues. The large mean difference and strong statistical significance ($p < 0.001$) indicate that the improvement is meaningful and unlikely to be due to random variation.

This means that the higher performance scores in summative assessments, compared to formative assessments, reflect a genuine difference in how students perform under these two types of evaluations. Summative assessments, typically conducted at the end of an instructional period, may better capture students' overall mastery of the material, whereas formative assessments, which are ongoing and diagnostic, focus more on monitoring progress and identifying areas for improvement. The significant difference suggests that students tend to demonstrate their knowledge and skills more effectively in summative assessments.

IV. CONCLUSION AND RECOMMENDATIONS

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

The findings concluded that teachers' TPCK (Technological, Pedagogical, Content Knowledge) has significant effects on students' social awareness, leading to the rejection of the null hypothesis. This implies that TPCK (Technological, Pedagogical, and Content Knowledge) plays a crucial role in shaping students' understanding of contemporary issues by seamlessly incorporating technology into education to boost engagement and critical thinking. When teachers effectively integrate technological tools with strong teaching strategies and in-depth subject knowledge, they create learning environments that introduce students to diverse viewpoints, real-world problems, and essential digital literacy skills. This approach cultivates meaningful discussions, encourages students to critically assess societal problems, and equips them with the tools to actively participate in addressing modern social issues. The findings also showed that aspects of TPCK like contextual relevance and collaboration showed moderate effects on interpersonal skills and further evidence is needed to confirm their impact. Additionally, TPCK-based lessons alone may not be sufficient to significantly influence empathy and social responsibility, indicating the need for supplementary approaches to develop these aspects of social awareness.

Furthermore, TPCK (Technological, Pedagogical, Content Knowledge) has significant difference on students' performance, also resulting in the rejection of the null hypothesis. This implies that students' got higher scores in summative tests, compared to formative tests, indicating a significant improvement in performance due to integration of TPCK on teaching. By blending technology with effective teaching strategies and deep content expertise, teachers create engaging and interactive learning environments that improve comprehension and retention. This significant difference in scores highlights that students demonstrate their knowledge and skills more effectively in summative assessment.

Based on the findings and conclusion presented, the following recommendations are suggested:

The researcher recommend that schools may encourage to conduct comprehensive workshops for teachers to supplement TPCK-based lessons and strategies such student-led learning where research projects, presentations, and peer teaching reinforce knowledge.

The researcher recommend that school may integrate Social and Emotional Learning (SEL) programs on teaching such as creating inclusive environments, promoting empathy, and gender-neutral language that can provide a more holistic approach to student development towards social awareness.

The researcher may recommend that schools may establish mentorship programs where experienced teachers can support their peers in integrating TPCK into their assessment strategies. It can provide guidance, feedback, and practical tips based on their own experiences.

The researcher recommend that schools may implement more project-based learning activities like conducting interview and solving current issues through community participation that require students to work together on real-world problems, thereby improving interpersonal skills and providing more evidence of their impact.

The researcher may recommend to conduct related research to explore the nuanced effects of TPCK-based lessons and supplementary approaches on the social awareness of the students.

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