Analysis of TPACK Implementation: Case Study of TPACK Integration on Students' Learning Motivation in Pancasila Education at SMPN 3 Nguter Sukoharjo

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Abstract

Pancasila and Citizenship Education (PPKn) has an important role in instilling the nation's noble values to students. However, challenges in attracting students' interest in learning are often caused by monotonous and less innovative learning methods. This study aims to analyze the application of TPACK (Technological Pedagogical Content Knowledge) in PPKn learning at SMPN 3 Nguter Sukoharjo. Through the TPACK approach, teachers are expected to be able to integrate technology with creative and flexible learning methods, so that they can increase student motivation and participation. The results of the study show that the application of TPACK has great potential in increasing students' interest in learning, with the use of technology tools such as Canva and Google Forms that support material presentation and comprehension evaluation. Despite the challenges associated with lecture-based teaching habits, consistency in the implementation of TPACK, support for technology infrastructure, and teacher training are key factors in learning innovation. This research recommends the need for further development in learning methods to maximize the use of technology and improve students' understanding of Pancasila values in the context of national and state life.

Keywords: TPACK, Educational Innovation, Learning Motivation, Technology-Based Learning, Learning Strategy, Educational Policy

Introduction

Education Pancasila and Citizenship (PPKn) as a subject that aims to instill the noble values of the nation, is often faced with challenges in attracting students' interest in learning. One of the main factors underlying this low interest in learning is the lack of innovation in learning methods. PPKn learning which tends to be monotonous and less varied makes students feel bored and less motivated to be active in the teaching and learning process. Motivation theory is defined as the drive, both from internal and external factors, to achieve certain goals in order to meet needs. In the context of management, this need is related to the need for learning.(Prihartanta et al., 2015) The Application of TPACK (Technological Pedagogical Content Knowledge) in Education Pancasila and Citizenship (PPKn) should include several important aspects to ensure effective integration between technology, pedagogy, and content. Some things that can be done such as, Learning content must be designed in a way that is interesting and relevant to students. The use of interactive media, such as videos, simulations, and online learning platforms, can help create a dynamic and engaging learning experience, Teachers need to get adequate training on the use of technology in learning. TPACK is a very relevant program for teachers in today's

digital era. By understanding and implementing TPACK, teachers can create a more meaningful and relevant learning experience for students.(Pendidikan & Konseling, n.d.) TPACK-focused professional development programs can help teachers understand how to integrate technology with effective teaching methods, The selection of technology that suits the learning objectives of PPKn is essential. For example, using social media to analyze current socio-political issues can help students relate the material to real life, encouraging active student involvement in the learning process through discussions, collaborations, and technology-based projects. This is in line with the principle of constructivism that emphasizes the importance of student participation in learning, Using technology-based evaluation tools, such as online quizzes or assessment platforms, to measure student understanding more effectively. Constructivism not only sees learning as an individual's passive process of receiving information, but also as an active social process in which individuals build understanding through interaction with others and their environment.(Nasution et al., 2024) It can also provide quick and constructive feedback for students, Teachers should actively reflect on their learning practices and ask for feedback from students. This can help in identifying areas that need improvement and adapting better teaching methods, It is important to identify and address the digital divide among students.

Success The implementation of TPACK learning is highly dependent on two main factors, namely the availability of supporting school facilities and the ability of teachers to operate and utilize technology optimally(Ismail et al., 2022)Although the learning potential of TPKn based on TPACK is very large, the obstacles faced are the lack of facilities and teacher competence in utilizing technology. Although some teachers have tried, there are still many who have difficulty adapting technology to the learning process.(Ismail et al., 2022) Schools must strive to provide equal access to technology for all students, so that no one is left behind in the learning process, Integrating Pancasila values in every aspect of learning, both through the content taught and in the way of teaching. It can help students understand the relevance of the material to their daily lives, Involve parents, the community, and other parties in the learning process to create a more supportive and relevant learning environment for students.

Monotony in the teaching method of PPKn often occurs because the use of the lecture method is still dominant. In fact, the current generation of students prefers learning that is active, fun, and relevant to daily life. The lack of variety in teaching methods is also an obstacle, where students are rarely given the opportunity to discuss, create, or engage in activities that require them to think critically.

In addition, the lack of technology utilization in PPKn learning is also a factor that also affects students' interest in learning. The concept of Technological Pedagogical Content Knowledge (TPACK), which integrates technology, pedagogy, and learning content, has not been fully adopted by most PPKn teachers.

The implications of students' low interest in learning PPKn are very broad. In addition to having an impact on the achievement of learning goals, this can also result in low awareness of students' awareness of the importance of Pancasila values in the life of the nation and state. Therefore, it is necessary to make various efforts to increase students' interest in learning PPKn, one of which is by innovating learning methods and the use of technology

Method

This study uses a qualitative approach with a case study design to explore in depth the implementation of TPACK in the context of educational learning Pancasila and Citizenship (PPKn) in a school. The case study was chosen because it allows for a comprehensive understanding of this complex phenomenon.

The research data was collected through in-depth interviews with PPKn teachers at SMP Negeri 3 Nguter Sukoharjo. The interview was conducted using semi-structured guidelines that included teachers' understanding of TPACK, the learning process they carried out, the obstacles they faced, and the impact of the implementation of TPACK on student learning outcomes. In addition to interviews, literature studies are also carried out

by referring to various sources such as scientific journals, books, and articles related to TPACK, PPKn learning, and case studies. This literature study aims to build a theoretical framework, identify key concepts, and compare research findings with previous research.

The data obtained from interviews and literature studies were then analyzed in a qualitative descriptive manner. The data analysis process includes interview transcription, identification of keywords and themes, grouping data based on code, and data interpretation to answer research questions. Through these stages, it is hoped that this research can provide a clear picture of the implementation of TPACK in PPKn learning, as well as its implications for learning practices.

Result and Discussion

The effect of TPACK on students' learning motivation

Technological, Pedagogical, and Content Knowledge (TPACK) has long been recognized as a comprehensive framework for integrating technology in the learning process. The TPACK approach in PPKn learning not only improves the quality of the teaching and learning process, but also is able to foster active student motivation and involvement. In addition, TPACK also plays an important role in preparing students to become competent citizens in the digital era.(*Kearifan-Lokal-Pancasila-Sejarah-Dan-Budaya-Bangsa*, n.d.) In the context of PPKn learning, the implementation of TPACK is not only limited to the use of teaching aids, but also as a attempt to design learning experiences that are relevant, engaging, and meaningful for students.(Trisiana et al., n.d.)

One of the significant impacts of the implementation of TPACK in PPKn learning is the increase in student curiosity. The use of various innovative technology media, such as simulations, interactive videos, or online learning platforms, is able to create a dynamic and interactive learning environment. This is in line with the theory of constructivist learning which emphasizes the importance of active involvement of students in the learning process. In other words, TPACK can function as a tool to stimulate students' natural curiosity, encouraging them to find out more about the material being studied. (Hikmah, 2023)

Furthermore, the use of TPACK can help students build a stronger connection between PPKn materials and real life. For example, through the use of social media, students can analyze current socio-political issues that are relevant to the material being studied. Thus, PPKn learning no longer feels abstract and boring, but becomes relevant and meaningful for students.

However, it should be acknowledged that the implementation of TPACK does not necessarily guarantee a significant increase in student learning motivation. The quality of learning content, teachers' ability to manage technology, and students' readiness to utilize technology are also very important factors.(Ucha Maulid Perdani & Sri Andayani, n.d.) If the learning content presented is not interesting and relevant, then even the use of sophisticated technology will not be able to increase student learning motivation.

The TPACK approach offers a great opportunity to increase students' interest in learning PPKn subjects. First, the quality of learning content must be considered. The material presented must be interesting, relevant, and tailored to the student's cognitive ability. Second, teachers must have adequate competence, both in the fields of technology and pedagogy. Third, students need to have sufficient access to technology and basic skills in using it. Finally, the integration of TPACK into the PPKn curriculum must be carried out systematically so that learning becomes more effective and meaningful.

TPACK Implementation in MGMP PPKn

From the results of interviews with the Subject Teacher Conference (MGMP) have not explicitly formulated long-term goals related to the implementation of TPACK, socialization and dissemination efforts related to the use of TPACK have been running quite intensively. However, until now, there has not been exist

a structured framework regarding the specific goals to be achieved through the implementation of TPACK. This raises questions regarding a clear direction in the professional development of PKN teachers. Evaluation of teacher professional development through MGMP periodically, such as regular

semi-annual meetings, shows a commitment to improve teacher competence.

MGMP has great potential to be a facilitator in the implementation of TPACK considering sufficient access to human resources, especially PKN teachers who already have a basic understanding of TPACK.(Najri & Jambi, n.d.) Nevertheless, several challenges still need to be overcome to strengthen the implementation of TPACK. More structured support, both in terms of human resources, availability of expert resource persons, and access to various learning platforms and tools, is urgently needed. In addition, there needs to be a more in-depth study of the specific needs of PKN teachers related to the development of TPACK, so that the professional development programs offered can be more relevant and effective.

MGMP PPKn SMA Sukoharjo Regency has a strategic role in advancing education in Sukoharjo. As an agent of civilization, MGMP plays a role in shaping the character of students with noble character. As a learning agent, MGMP plays a role in improving teachers' competence in teaching PPKn. And as an agent of change, MGMP plays a role in changing the perspective of students and teachers to love the nation and state more. Thus, MGMP PPKn is expected to be able to face various educational challenges in the era of globalization. (Bramastia et al., 2022)

The application of TPACK by teachers in their learning practices

Technology, Pedagogy, and Content Knowledge (TPACK) has become an important framework in the modern world of education that will be a decisive factor in global competition in the future.(Rahmatiah et al., 2022) The application of TPACK in PPKn learning can increase learning effectiveness, material relevance, and student engagement. This case study will analyze the implementation of TPACK in a specific school, focusing on how teachers master and utilize TPACK in their learning practices.

From the results of interviews with MGMP teachers in Sukoharjo Regency, it was stated that teachers in Sukoharjo Regency schools had shown a good understanding of the TPACK concept. They are able to integrate technology in PPKn learning effectively. This can be seen from the use of various technological tools such as Canva, Google Forms, and online quizzes to present material and evaluate student understanding. In addition, teachers are also able to choose the right representation for difficult concepts, such as using analogies to explain the terms in the PPKN.

The teachers at this school show flexibility and creativity in choosing the right technology for each material. They consider the characteristics of students, learning materials, and learning objectives in choosing the appropriate learning media. For example, for materials that contain a lot of terms, teachers choose crossword puzzle media to help students understand concepts.

The Importance of Consistency of Teachers in Implementing TPACK to Continue to Develop Their Learning Practices to Encourage Student Enthusiasm (Akun & Mohamad, 2021). This is supported by several factors, such as support from schools in the form of providing technological infrastructure, teacher training, and policies that support innovation. The teachers at this school actively reflect after each lesson to improve their practice. They ask for feedback from students to know which areas need to be improved and how to improve the effectiveness of learning. This shows the teacher's commitment to continue learning and developing themselves.

Implementation of TPACK in daily learning activities

Information and communication technology (ICT) has become an integral part of human life, including in the world of education.(Dosen et al., n.d.) The integration of technology in learning, which is often associated with the Technological Pedagogical Content Knowledge (TPACK) framework, is expected to improve the quality of learning and the relevance of the material for students. This case study will analyze the practice of using technology in learning, especially in the context of certain subjects (e.g. PPKn), based on the experience of a teacher.

Based on the teacher's narrative, technology has become an inseparable part of the daily learning process. The use of technology is not only limited to certain activities, but has been integrated in the entire series of learning activities. Although the learning objectives that have been prepared are

not very specific regarding the use of technology, technology has become an effective tool to achieve broader learning goals. Flexibility in choosing technology allows teachers to tailor the use of technology to the needs and characteristics of students at each meeting.(Hendayani, 2019)

The teachers who are the subjects of this case study show a fairly good level of proficiency in using various software and hardware. Teachers' ability to choose and use the right technology tools is very important in supporting the learning process. Teachers are also able to combine the use of technology with conventional learning methods, so that learning becomes more varied and interesting.(Rahayu et al., 2023)

Teachers strive to present learning materials that are interesting and relevant to students' daily lives. The use of technology helps teachers in join learning materials with real contexts, so that students can more easily understand and remember the material. However, teachers also highlighted that the current curriculum (for example, the 2013 curriculum) does not provide enough space for teachers' creativity in designing interesting learning activities.

In choosing technology to support the learning process, teachers need to consider several important factors.(Ginanjar et al., n.d.) First, the technology chosen must be relevant to the learning goals to be achieved. This means that the technology must be able to help students achieve the expected competencies. Second, technology must be in accordance with the learning materials to be delivered. The right technology can make learning materials more interesting and easy to understand. Third, the technology chosen must be relevant to the students' daily lives. Thus, students can more easily connect the learning material with their own experiences. Finally, ease of use is a very important factor. Both teachers and students must be able to easily operate the chosen technology so that the learning process can run smoothly. While there are many benefits to using technology in learning, there are still some challenges that need to be overcome. One of them is the limitations of the curriculum that does not provide space for innovation. In the world of education, the curriculum can be interpreted as a structured learning design, which aims to develop knowledge, skills, attitudes, and values of students.(Baharun, 2017) The existence of the curriculum is a concrete effort to realize the educational goals of a nation. A good curriculum is a curriculum that not only follows the times, but is also able to integrate the noble values of the nation's culture. Thus, the curriculum can be an effective instrument in shaping the young generation who are intelligent, have character, and love for the homeland. (Abdul Gofur & Nursikin, n.d.)

In addition, the digital divide is also a challenge, especially for students who do not have equal access to technology. The difference in technology access ability is a big obstacle, especially for students who do not have the same facilities. If we don't make an effort to address this problem and ensure all student have the same opportunity to use technology, then the gap in the field of education will be wider. (PenKoMi et al., n.d.)

Challenges and Obstacles

The integration of Technology, Pedagogy, and Content Knowledge (TPACK) in learning has been a key focus in education reform. However, TPACK implementation is often faced with various challenges, especially at the school level. This case study will analyze the various strategies teachers use to overcome obstacles in TPACK implementation, as well as identify the support needed to improve the effectiveness of implementation.

One of the main obstacles in the implementation of TPACK is the limited access of students to technology devices. To overcome this, teachers often apply various strategies, such as lending personal devices or forming study groups that take turns using devices. This strategy shows the flexibility and creativity of teachers in overcoming existing obstacles. In order for teachers to implement TPACK effectively, they need some form of support. First, the existence of a forum to share experience and knowledge between teachers is very important. Through discussion forums or activities(PenKoMi et al., n.d.)MGMP has an important role in the professional development of teachers. In addition to providing training to school principals, MGMP is also active in finding sources of funds for activities that support improving the quality of learning. In fact, MGMP is often used as a partner by the

government in organizing training programs for teachers. (Directorate General of GTK) Second, periodic socialization regarding the development of educational technology, technology socialization aims to align the use of technology with the learning objectives that have been set in the curriculum. Teachers will be taught how to effectively integrate technology into teaching and learning activities. (Silvi Lisvian Sari et al., 2022)Thus, teachers will always be up-to-date with the latest developments in the field of educational technology. Finally, the availability of adequate technology facilities in schools is a key factor in supporting the implementation of TPACK. A stable internet network and sufficient computer equipment will make it easier for teachers to utilize various types of technology in the learning process. The implementation of TPACK has brought significant changes in the learning process. Students become more active and involved in learning activities, as well as more dependent on technological devices. However, it also poses new challenges, such as the potential for misuse of technology and a decrease in social interaction in the classroom.

Teachers who want to integrate technology in learning often face several obstacles. One of them is the lack of time. Dense workloads and dense curriculum demands make it difficult for teachers to take the time to learn new technologies and develop technology-based learning materials. In addition, many teachers feel afraid of failure. They are worried that the use of inappropriate technology will actually hinder the learning process. Another concern that often arises is student boredom. Teachers are worried that learning that relies too much on technology can make students feel bored and unmotivated.

Conclusion

The application of TPACK (Technological Pedagogical Content Knowledge) in schools shows great potential in increasing students' interest in learning Pancasila and Citizenship Education (PPKn). Teachers at the school have successfully integrated technology with creative and flexible learning methods, using tools such as Canva and Google Forms to present materials and evaluate student understanding.

Consistency in the implementation of TPACK is supported by adequate technology infrastructure, teacher training, and policies that support innovation. In addition, students' enthusiasm in using technology also contributes to the development of learning practices. Teachers actively reflect and ask for feedback from students to improve the effectiveness of learning.

However, challenges remain, especially related to the monotony of teaching methods that still often use lectures. Therefore, it is important to continue to innovate in learning methods and utilize technology optimally to attract students' interest and increase their understanding of Pancasila values in the life of the nation and state.

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