IMPLEMENTATION OF TPACK (TECHNOLOGICAL PEDAGOGICAL AND CONTENT KNOWLEDGE) IN AN EFFORT TO INCREASE STUDENTS' LEARNING MOTIVATION IN PRIMARY SCHOOLS

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ABSTRAK

Penggabungan teknologi dalam proses pembelajaran menjadi sebuah tuntutan untuk beradaptasi dengan perkembangan zaman di era digital ini. Perkembangan teknologi dan informasi yang sangat pesat menjadikan kegiatan pembelajaran berbasis digital sangat memungkinkan untuk dilaksanakan. Oleh karena itu kompetensi guru dalam menggabungkan teknologi dengan pembelajaran harus sesuai dengan metode. Salah satu penggabungan teknologi dalam proses pembelajaran yaitu Tecnological Pedagogical Content Knowledge (TPACK). Tujuan dari penelitian ini yaitu untuk mengetahui penerapan TPACK, dampak, dan faktor penghambat dan pendukungnya. Penelitian ini menggunakan metode penelitian kualitatif deskriptif dengan menggunakan jenis penelitian studi lapangan. Teknik pengumpulan data menggunakan teknik wawancara dengan guru kelas IV. Penelitian ini dilakukan di SD 01 Pekuncen Pekalongan. Hasil dari penelitian ini yaitu bahwa TPACK sangat penting untuk guru dan calon guru di Era digital saat ini. Hasil penelitian ini yaitu bahwa guru telah menerapkan penggunaan media teknologi dalam pembelajaran. Penerapan media teknologi ini mampu meningkatkan motivasi dan hasil belajar siswa. Selain itu adanya fasilitas yang mendukung dari sekolahan membantu guru dalam menerapkan media pembelajaran berbasis teknologi kepada siswa. Hasil penelitian ini diharapkan dapat memberikan informasi dan pengetahuan untuk guru dan calon guru serta evaluasi mengenai penerapan TPACK dalam pembelajaran di era digital.

Kata Kunci: Model TPACK, Pembelajaran, Sekolah Dasar, Era digital

ABSTRACT

The incorporation of technology in the learning process is a demand to adapt to the times in this digital era. The rapid development of technology and information makes digital-based learning activities very possible to be implemented. Therefore, teacher competence in combining technology with learning must be in accordance with the method. One of the incorporation of technology in the learning process is Tecnological Pedagogical Content Knowledge (TPACK). The aim of this research is to determine the implementation of TPACK, its impact, and inhibiting and supporting factors. This research uses descriptive qualitative research methods using field study research. Data collection techniques used interview techniques with class IV teachers. This research was conducted at SD 01 Pekuncen Pekalongan.The

results of this research are that teachers have implemented the use of technological media in learning. The application of this technological media can increase student motivation and learning outcomes. Apart from that, the existence of supporting facilities from schools helps teachers in applying technology-based learning media to students. It is hoped that the results of this research can provide information and knowledge for teachers and prospective teachers as well as evaluation regarding the application of TPACK in learning in the digital era.The results of this study are expected to provide information and knowledge for teachers and prospective and teachers regarding and evaluation the application of TPACK in learning in the digital era.
***Keywords**: TPACK model, learning, Primary school, digital era*

INTRODUCTION

Incorporating technology in the learning process is a requirement to adapt to developments in this digital era. The very rapid development of technology and information makes digital-based learning activities very possible to implement. Therefore, teacher competence in combining technology with learning must be in accordance with the method. One way of combining technology in the learning process is Technological Pedagogical Content Knowledge (TPACK).

In keeping up with increasingly rapid developments, teachers must constantly upgrade various learning knowledge to suit societal developments, student characteristics, and the development of science and technology. According to Mulyasa in (Janah, 2022) Technological developments can change teachers from teachers who only deliver teaching material to teachers who serve as facilitators who can guide students to make learning easier. A teacher who uses technology in learning can make it easier to convey abstract material that is easily understood by students, Maeng in (Janah, 2022).

From this statement, the idea of new development of teaching materials and pedagogy (PCK) emerged combined with technology to become TPACK, namely technology, pedagogy and material content. Oktaviana in (Janah, 2022) TPACK is a learning framework that integrates technological knowledge, content knowledge, and pedagogical knowledge in a particular learning context.

One of the obstacles currently being experienced in schools is the implementation of the TPACK or Technological Pedagogical Content Knowledge model. Currently, it is often found that teachers are only thinking about how to

increase certification. Teachers should think about how to improve professionally. The issue of elementary school (SD) teacher competency is still a fundamental concern in the world of education. Many mechanisms have been implemented so that teacher competency can become better (Ananda et al., 2022). The existence of online learning has increasingly opened the eyes of educators to the importance of the concept of TPACK (Technological Pedagogical Content Knowledge).

Learning motivation can be interpreted as the driving force to carry out certain learning activities that comes from within oneself and also from outside the individual so as to foster enthusiasm for learning. Increasing learning motivation can be followed by increasing student learning outcomes. Teachers have a strategic role in motivating students. Therefore, the teacher's ability to motivate students also determines student learning outcomes (Andriani, in Setyawati et al., 2022).

Apart from motivation, what is needed in learning is the approach used by the teacher in the teaching and learning process. In developed countries, the integration of technology in the form of a framework is an obligation for teachers to carry out, one of which is technology-based learning, pedagogical, and content knowledge or what is often abbreviated as TPACK.

Shulman said that pedagogical knowledge must be combined with knowledge of the content or material to be taught. In PCK Theory, teachers try to adapt the teaching methods used to the characteristics of the material being used taught. By Punya & Koehler, PCK elements are added with technological knowledge so that it becomes TPACK, namely a teacher's knowledge to be able to use appropriate technology, based on an analysis of the character of the material and aspects of pedagogy, TPACK requires the existence of multiple unique interactions and compatibility between material, pedagogy and technology (Setyawati et al., 2022).

To be able to educate students who meet the demands of 21st century skills in the era of society 5.0, teachers must have good abilities in terms of using technology, mastering concepts and delivering material (Herizal et al., 2022). And you have to be a creative teacher, especially in the new curriculum, namely the independent learning curriculum. Fun, active and creative learning is the obligation of every teacher as an educator (Fitriyani et al., 2021).

The rapid development of this era requires teachers to master IT so as not to be left behind. So that at SDN 01 Pekuncen, technology has also been implemented in learning. Although there are many challenges in implementing it.

DISCUSSION

In the 21st century, there is an era of change marked by the emergence of various advances in science and technology that change life to become increasingly complex. In the 21st century, it is necessary to increase human resources (HR) which can be carried out in the education sector to strive for the development of a new civilization in an increasingly advanced order of life (Nuryani, et al in Akbar, 2021).

As stated by the fourth grade teacher at SDN 01 Pekuncen, the increasingly rapid development of the times requires teachers to master IT, especially for learning.

Implementation of TPACK in Elementary Schools

According to Koehler et al TPACK combines technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK) to create a framework that enables the effective use of technology in learning. TPACK itself is the result of the integration of PCK (Pedagogical Content Knowledge), TCK (Technological Content Knowledge), TPK (Technological Pedagogical Knowledge), and TPACK (Technological Pedagogical Content Knowledge) (Filina et al.,dalam Sari et al., 2023).

In the kindergarten component, teachers' abilities emerge in using technology and not being technologically illiterate. According to Mishra & Koehler, Pedagogical Knowledge (PK) refers to learning methods and processes which include planning, management, learning, development and evaluation. Teachers are required to have strategies to increase students' understanding by using learning models or media. In learning, teachers also need to understand students' conditions and learning styles. The Content Knowledge (CK) component indicates knowledge related to the subject matter taught to students. According to Mishra & Koehler teachers must master the material to be taught. PK component, teachers are

required to be able to guide students to learn independently, teachers plan learning, identify material, teach students to be able to monitor learning (Rahayu, 2019).

At SDN 01 Pekuncen, teachers have planned media, strategies and methods according to the material taught through the teaching modules that have been prepared. During learning, the teacher uses technological media to help the teacher explain the material to students. Even though the teacher has used media in learning, the teacher still explains orally the material being taught.

There all teachers are required to understand IT. So at SDN 01 Pekuncen once a week, on Tuesdays, teachers hold technology training to understand and master technology both for learning and purposes. The technology used by teachers in learning includes power point, video and Google forms.

In learning the teacher uses power point media, videos where the media is still operated by the teacher himself. So that students are not directly involved in using the media. Teachers have not used more interactive technological media such as interactive educational digital game media where students can be directly involved.

In learning, using technological media such as power points and digital-based videos in class IV can attract students' attention so that it can increase student motivation and learning outcomes. Because by using this media students can more quickly grasp what is being conveyed.

Apart from the technological media used, teachers also use teaching aids so that students do not get bored with what they see on the screen and make learning more interactive. For example, in learning mathematical nets the teacher shows a video and then the students also create the nets directly, there are also multiplication trees and character cards in learning Javanese. To avoid boredom, teachers do ice breaking by holding games to attract students' attention.

Before learning, the teacher has created a teaching module. In creating the teaching module, the teacher pays attention to the strategies, models and media used that have been adapted to the material and student development. And teachers must master the learning material. The method that is often used is discussion because in discussions students who cannot yet become able using the peer tutoring method.

Application of TPACK in Increasing Learning Motivation

Application of TPACK in increasing learning motivation TPACK, as said by experts, namely Harrington, Driskell, Johnston, Browning, and Niess, has a focus on how knowledge about technology, pedagogy and content can be combined in learning which will make learning effective and successful in a learning context which includes how to use it. technology as a learning aid, how teachers teach teaching material using appropriate and creative models and methods, and what the substance of the material will be studied. (Prapti, 2023)

Apart from that, teachers must master the knowledge and use of technology in learning. As a teacher, it is very important to know various technologies and learning. Therefore, what is more important than knowing technology is being able to think critically in using technology by knowing when and why to use technology in the learning process. Apart from that, teachers must also master the material to be taught and how to teach it. This is the basis for being able to combine technology and learning. In this research, the teacher succeeded in improving the learning outcomes of Class IV Elementary School students. (Qodri, 2023)

Learning achievement is the main indicator for measuring student learning success, both in changing behavior and improving teaching abilities. Learning achievement also represents the transformation of student behavior which is influenced by the teaching process. This transformation is directed during the teaching process to achieve the set educational goals. This learning achievement is assessed from the level of student mastery of the subject matter obtained through experience and lessons during a certain period of time in class. After the teaching process is completed, an evaluation is carried out to measure students' learning progress and understanding of the material taught by the teacher. (Fahrina, 2023)

Supporting and Inhibiting Factors for Implementing TPACK in Elementary Schools

Supporting factors for implementing TPACK at SDN 01 Pekuncen, which were conveyed by Mrs. Dyas as a result of interviews, include adequate facilities and infrastructure with LCDs in each class. At SDN 01 Pekuncen, we also pay attention to the facilities needed by teachers for learning activities, such as laptops. Technology development training for teachers held by schools is very supportive

of developing teachers' potential in processing technology-based learning, for example training workshops on the use of Microsoft Word and Excel, Power Point, Google Forms, and others. After training, teachers are also required to make examples of what they have learned. Several wifi points are also available so that the internet can reach all classrooms.

Students who are enthusiastic about technology-based learning are also a supporting factor in

implementing learning. According to Mrs. Dyas, the inhibiting factors in implementing TPACK at SDN 01 Pekuncen include the network which is sometimes difficult because many teachers use the internet for learning and other things. Another obstacle is that there are students who are sometimes less enthusiastic because they are bored. Teachers also need a long time to prepare lessons because they have to create the media first.

CONCLUSION

The implementation of the use of technology in learning at SDN 01 Pekuncen is good. Teachers have integrated technology, pedagogy and materials. However, teachers need to improve more interactive technological media so that learning is more varied. Using technological media can attract students' interest in learning.

REFERENCES

Fitriyani, Y., Supriatna, N., & Sari, M. Z. (2021). Pengembangan Kreativitas Guru dalam Pembelajaran Kreatif pada Mata Pelajaran IPS di Sekolah Dasar. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, *7*(1), 97. https://doi.org/10.33394/jk.v7i1.3462

Janah, E. F. (2022). Konsep dan Implementasi TPACK pada Pembelajaran di Sekolah Dasar. *Kalam Cendekia: Jurnal Ilmiah Kependidikan*, *10*(2), 348. https://doi.org/10.20961/jkc.v10i2.65655

Rahayu, A. dan D. W. (2019). Analisis Komponen TPACK Guru SD sebagai Kerangka Kompetensi Guru Profesional di Abad 21. *Jurnal Basicedu*, *3*(2), 524–532.

Sari, S. M., Getsempena, B. B., & Aceh, B. (2023). Pembelajaran IPA Berbasis TPACK Upaya Peningkatan Kualitas Guru Di SDN Kuta Rentang Aceh Besar.

Journal of International Multidisciplinary Research Pembelajaran, *2*(1), 169–174.

Prapti Octavia Ningsih and others, 'Penerapan Model Project Based Learning Dengan Pendekatan Tpack Pada Pembelajaran Ipa', *Jurnal Ilmiah Pendidikan Citra Bakti*, 10.4 (2023), 707–21 <https://doi.org/10.38048/jipcb.v10i4.1904>.

Qodri Jamalulail and Siti Rochmiyati, 'Implementasi Pembelajaran Technological Pedagogical Content KnowledgeUntuk Meningkatkan Hasil Belajar Mata Pelajaran IPS Kelas IV SD', *Wacana Akademika: Majalah Ilmiah Kependidikan*, 7 (2023), 148–55 <https://jurnal.ustjogja.ac.id/index.php/wacanaakademika/article/view/14681%0Ahttps://jurnal.ustjogja.ac.id/index.php/wacanaakademika/article/download/14681/5868>.

Fahrina Hikmah and Radiansyah, 'Implementasi Model PBL Dan Pendekatan TPACK Media Interaktif Meningkatkan Kemampuan Berpikir Kritis Serta Hasil Belajar', *Jurnal Pendidikan Sosial Dan Konseling*, 1.3 (2023), 288–96 <https://jurnal.ittc.web.id/index.php/jpdsk/article/view/237%0Ahttps://jurnal.ittc.web.id/index.php/jpdsk/article/download/237/238>.