



Application of 21st Century Learning Theory to the Improvement of Elementary School Teachers' Pedagogical and Professional Competence: A Guide for Educators

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ABSTRACT

At this time, the twenty-first century is universally recognized also as era of knowledge, which serves as a cornerstone in many facets of the life hamster wheel thanks to the convenience of information availability 24/7 and the rise in direct and indirect communication between people all over the world. The skills needed in the 21st century require not only subject mastery but also the development of leadership, responsibility, problem-solving, analytical thinking, flexibility, interpersonal and cross-cultural competence, initiative, and individualism in the classroom. This PKM activity helps bridge the gap in teachers' ability to (1) think critically, (2) solve problems, (3) work together effectively, (4) be creative and innovative, and (5) be media literate in the ways that modern information and communication technologies are used. Teachers, who are in the trenches with students every day, need to be able to adapt their methods to meet the challenges of the twenty-first century classroom.

Keywords: elementary school, education, learning, pedagogy, and professional teaching.

Abstrak: Melalui Pada saat ini, abad kedua puluh satu diakui secara universal juga sebagai era pengetahuan, yang berfungsi sebagai landasan dalam banyak aspek kehidupan roda hamster berkat kemudahan ketersediaan informasi 24/7 dan peningkatan komunikasi langsung dan tidak langsung antara orang di seluruh dunia. Keterampilan yang dibutuhkan di abad 21 tidak hanya menuntut penguasaan mata pelajaran tetapi juga pengembangan kepemimpinan, tanggung jawab, pemecahan masalah, pemikiran analitis, fleksibilitas, kompetensi interpersonal dan lintas budaya, inisiatif, dan individualisme di dalam kelas. Kegiatan PKM ini membantu menjembatani kesenjangan kemampuan guru untuk (1) berpikir kritis, (2) memecahkan masalah, (3) bekerja sama secara efektif, (4) kreatif dan inovatif, dan (5) melek media dengan cara yang teknologi informasi dan komunikasi modern digunakan. Guru, yang berada di parit dengan siswa setiap hari, harus mampu menyesuaikan metode mereka untuk memenuhi tantangan kelas abad kedua puluh satu.

Kata kunci: Sekolah dasar, pendidikan, pembelajaran, pedagogi, dan pengajaran profesional.

PENDAHULUAN

All audiences recognize the 21st century for what it is: a period of knowledge that serves as a foundation in many facets of the life cycle, marked by the ubiquitous availability of information and the ever-increasing direct and indirect communication between people all over the world (Diaz et al., 2021). Skills related to learning and innovation, such as creativity critical thinking, problem solving, communication, and collaboration; Ability to adapt, initiative, and self-

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direction are some of the life and career skills that are currently being prioritized in the context of education in the 21st century. Capabilities related to the information, media, and innovation include information systems, information literacy, and information technology literacy (Rulyansah & Sholihati, 2018).

Learning today should not only result in subject-matter expertise but also in leadership, responsibility, problem-solving, analytical thinking, flexibility, interaction, action plan, self-direction, creativity, cross-cultural competence, and work that which is identical (Freitas & Almendra, 2022). The Ministerial Regulation on the Quality of Primary and Secondary Education No. 22 of 2016 sets the standards for education in Indonesia in the twenty-first century. Learning how (learning what), learning what to do (learning to do), having to learn who one is (learning to actualize one's independence and personality), and learning to live together are the four pillars of education that UNESCO has established to usher in the 21st century (Llorent et al., 2021).

Teaching children between the ages of seven and twelve, as elementary school teachers do, necessitates an adult's level of understanding of the trajectory of education in the twenty-first century. Students in elementary school are able to make steady progress from inborn tendencies and reflexes to learned routines and eventually to higher levels of intelligence, making them an ideal age group in which to instill the skills necessary for success in the 21st century classroom. They are also in the concrete pre-operational stages of cognitive development, making elementary school students effective beings and excellent imitators. As a result, educators at the primary school level shouldn't guide students down the path of falsehoods and misleading information (McCool, 2022).

The Community Service Team (PKM) conducted preliminary field observations at primary schools of relations, particularly SDN Gerongan, Maron District, Probolinggo Regency and found that teachers still needed guidance to improve pedagogic and professional competencies, especially with regard to the focus of primary school education at twenty-first century. Furthermore, educators in partner primary schools admitted that they still need guidance on the challenges of 21st century teaching such as educators in multicultural societies with multilingual skills, teaching meaning (concepts), teaching for student engagement, learning and innovation, trying to teach with a new view of abilities, learning and choice, and teaching and accountability (Stojanovic, 2021).

In response to these issues, the PKM team proposes implementing "Application of 21st Century Learning Theory to the Improvement of Elementary School Teachers' Pedagogical and Professional Competence: A Guide for Educators." These technology in the form activities will later provide teachers with helpful training in improving teacher competence with the provided materials, and they focus on the following areas: (1) teachers and global awareness; (2) holistic, contextual, and futuristic learning principles; (3) the use of innovation information and communication in 21st century learning; (4) designing and assessing 21st century learning; (5) required to teach in multi cultural schools with multilingual competence; and (6) teaching in schools where English is not the primary language (Wardana & Rulyansah, 2019b).

BAHAN DAN METODE

The service was done at SDN Gerongan, which is found at Jalan Condong-Pajajaran No.27 in the neighborhood of Gerongan in the city of Maron in the province of Probolinggo. Principally representing SDN Gerongan, the service team agreed to perform the service over the course of two days. With a title like "Application of 21st Century Learning Theory in Increasing Pedagogic and Professional Competence of Elementary School Teachers: A Guide for Educators," you can tell this is a serious PKM project. SDN Gerongan on Jalan Condong-Pajajaran No.27 in Gerongan, Maron District, Probolinggo Regency, East Java Province has been selected to host this PKM. The research team has taken the following measures:

1. planning phase. The first step before implementing the PKM is the preparation phase. A number of tasks, such as internal coordination, determining and participating in technical guidance, creating PKM instruments, developing advice circuits, coordinating with partners, deciding on training locations, etc., will be carried out at this stage.
2. The phase of implementation. Below are the steps that the support staff must take to put the technical recommendations into action.
 - a) Integration into the teaching model of the twenty-first century.
 - b) Sub-materials on the implementation or application of 21st century learning, such as teachers and global awareness, holistic, contextual, and futuristic learning principles, ICT use in 21st century learning, designing and assessing 21st century learning, teaching in culturally diverse schools with multilingual competence, and teaching to build meaning, will be presented.
 - c) Educators' participation in the creation of 21st-century pedagogical practices for use in primary schools.
 - d) Homework and practice drills Teacher-designed activities based on the covered material will be assigned as a way to gauge students' level of engagement with the presented content and gauge their potential for learning. As the assignment progresses, the service team will be there to provide guidance, answer questions, and troubleshoot any issues that may crop up.
 - e) Review and finalization of the PKM initiative. The activity concluded with teacher and service team debriefings, during which the former discussed and evaluated the effectiveness of the latter's technical guidance training.
3. Taking stock and making adjustments to plans thirdly. Teacher performance on practical exercises will be assessed by the service team. These findings will be used to demonstrate the usefulness of the information provided. The service group will also monitor the teachers' participation in these events very carefully.

HASIL DAN PEMBAHASAN

Teacher educators at SDN Gerongan keep hoping for training to help learning materials as during COVID-19 pandemic, and the service team took those hopes into account when deciding where to set up shop. Other factors the team considered included safety and health, as the COVID-19 pandemic is currently underway, and the results of an initial survey conducted at SDN Gerongan. simple because the actual process of carrying out the activity only took two days. Additionally, the support team and participants carried out activities while adhering to health protocols such as taking temperatures, wearing masks while doing activities, keeping a safe zone, getting ready antibacterial soaps, preparing hand washing soap, and soon (Rulyansah et al., 2017).

Teachers can gain 21st century skills like (1) critical thinking; (2) problem solving; (3) teamwork and coordination; (4) innovation and creativity; and (5) knowledge, communication, and technology (ICT) media literacy by participating in this PKM activity. Teachers, as those who face the challenges of education on a daily basis and interact with students directly, need to be adaptable to the requirements of the 21st century classroom (St. Louis et al., 2021; Wardana & Rulyansah, 2019a).

Permendikbud nr. 21 of 2016 outlines the 2013 Graduate Competency Standards for 21st century competency-based curriculum learning, and among these standards are those for "soft skill competencies," which are essential to the development of the 21st century skills that it outlines. "The 4C Skills" is how the Famewok Partnership for 21st Century Skills describes them. In particular, analytical thinking, talkativeness, teamwork, and inventiveness (Febriani & Widayanti, 2021). In other words, a new focus on preparing students to compete in a world that places ever

greater demands on their critical thinking and creative abilities is essential if they are to meet the challenges of the 21st century. Acquiring these "soft skills," as opposed to just "hard skills," will prove more advantageous in this situation (Khartite, 2022; Rulyansah et al., 2019).

The four principles of education are knowing, doing, being, and living with others. All of them can be applied in this 21st century skill. The term "Learning to Know" refers to the idea that education should encourage students to acquire a variety of information. Studying the material thoroughly is very important, so students should strive for it (Griffin & Delong, 2021). Students need to have high motivation to learn because there is always new information being uncovered (Rulyansah, 2022; Talosa et al., 2021).

Since the Covid-19 epidemic, however, face-to-face discussions (PTM) among teachers and students have given way to distance learning. First confirmed cases of Corona Virus Disease 2019 (covid-19) in Indonesia were reported on March 2, 2020. The 2019 Corona Virus Disease outbreak is caused by a large group of viruses that can infect both animals and humans. Corona viruses are known to cause a wide variety of respiratory infections in humans, from the common cold to severe diseases like Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (SARS). Newly discovered corona viruses can cause infectious diseases like covid-19, which has only recently been identified (Ramadhani & Sagita, 2022)

Before the December 2019 outbreak in Wuhan, China, this novel virus and disease were unknown. The spread of covid-19 has become a global pandemic. Covid-19 virus infection can result in a wide range of symptoms. Due to the COVID-19 pandemic, elementary school teachers, students, and parents/guardians have all noticed a shift in how lessons are delivered, with distance learning becoming increasingly common. If elementary school students are being guided by their parents through their studies, then distance learning is a viable option. Students are supposed to be able to study whenever and wherever they like thanks to the convenience of distance education. To expand access to a wide range of educational materials, educators developed the concept of distance learning.

Of course, for this to work, students need to be highly motivated, as they must be completely biased in their implementation of the Learning to do practice. Education that emphasizes doing over learning should inspire its recipients to keep working. Education alone is insufficient; what matters most is what students do with the knowledge and abilities they acquire in school. It is the goal of education to help students come to terms with who they are as individuals by giving them the tools they need to become confident in their knowledge and abilities. One's ability to meet the expectations of others and conform to the social norms and rules of a given community depends on one's awareness of one's own identity. Students should become accustomed to working together in a classroom setting (Grooms & Childs, 2021).

In order to help their students become globally competitive, educators must be familiar with the features of 21st-century learning. The 21st century is characterized by a global scale of competition. This is because of the rise of instantaneous, cross-continental communication and technological advancements (Muñoz et al., 2021). Therefore, educators, particularly at a time when distance language is learned due to the current COVID-19 pandemic, need to acquire the knowledge and skills necessary to master information and technologies in an effort to counteract the increasing prevalence of modern advancement used in the learning process (Szopiński & Bachnik, 2022).

The primary function of the educator in 21st-century education is that of a facilitator, who must be skilled in the art of preparing learning materials in line with the needs of the modern era, namely ICT-based education. Students have easy access to information they find online thanks to technology; therefore, higher order thinking skills should be incorporated into the teaching and learning process. Teachers, like their students, must transform into lifelong learners in the twenty-first century. Due to the rapid pace of modern life, both educators and students must work to keep up in the race to become information masters (Maravilla & Repuya, 2021).

Teachers, in order to meet the challenges of teaching and learning in the 21st century, need to:

1. educators need to be lifelong learners who are committed to actively engaging in ongoing professional development opportunities like online discussion boards.
2. Teachers in the twenty-first century must be technologically proficient, because technology is integral to everyday life. How can a teacher effectively deliver content and guide student learning.
3. Educators are encouraged to always look for new ways to solve problems through creativity and innovation.
4. In a learner-centered classroom, teachers are in the supportive role of a facilitator, guiding and assisting students as they learn independently through the use of a variety of learning resources rather than having them solely rely on the teacher.
5. Teachers in an environment of rapid change need to reflect on the educational activities that have already taken place in order to formulate strategies for continuing the learning experience in a new context in which students will be more engaged.

All of the aforementioned PKM activities were successfully implemented and finished on time. The educators at SDN Gerongan were overjoyed to get their hands on the materials, as they had never before received any specific advice on the 21st-century educational paradigm. During the COVID-19 epidemic, educators also had access to technical assistance for implementing distance learning in primary schools. The PKM activity gives the support service and educators at SDN Gerongan a chance to talk about the ways in which the world of elementary school education has changed, both for the better and for the worse. Teachers at SDN Gerongan can now make their own Google Forms, Google Classrooms, You Tube accounts, and other forms of digital learning media like e-videos and soon as a direct result of implementing this PKM.

KESIMPULAN DAN SARAN

The following are the findings from the service team's implementation of service activities. Teachers in the elementary school level are responsible for instructing children aged 7 to 12, so they must have a thorough understanding of the educational paradigm prevalent in the twenty-first century. This is a prime teaching age because students are still young enough to absorb the information and apply it in meaningful ways. Elementary school teachers should keep in mind that their students are in the solid pre-operational stage of cognitive development, making them excellent imitators. So, in the process of educating their students, primary school teachers shouldn't give their pupils false or misleading data. To meet the challenges of education in the twenty-first century, educators need to be adept at using technology to deliver a wide range of learning materials, as well as creative in devising engaging strategies for student engagement.

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