

Analysis of the Situation of Continuous Professional Development Models for Teachers Based on 21st-Century Skills in Lebak District



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ABSTRACT: Continuing Professional Development (CPD) program. This program has been a government policy since 2013. PKB is to foster professional teachers on the basis of teacher performance profiles supported by the results of self-evaluation. The purpose of this research is to develop, validate and implement a 21st century skills-based continuing professional development model for certified junior high school teachers in Lebak Regency. The first stage was carried out in 2023 by conducting data mapping using the exploratory method with the aim of knowing the level of depth regarding professional development for post-certification teachers. After obtaining the data from the mapping, the model development draft was prepared. The conclusion of this analysis is that 21st century continuing professional development is an urgent need in education. 21st century skills, such as critical thinking, creativity, collaboration and technological capabilities, are at the core of preparing individuals to face the changing demands of the times. However, there are a number of challenges faced by junior high school teachers in Lebak district in their efforts to develop their profession in a sustainable manner. These challenges include financial limitations, geographical and distance issues, limited time available, lack of skilled human resources, and policy issues and views that are less supportive towards the development of 21st century skills. Therefore, there is a need for strong support from local governments and educational institutions to overcome these challenges and ensure that teachers have equal access and necessary support in continuing professional development.

KEYWORDS: Situation analysis, Continuing Professional Development, 21st Century Skills

INTRODUCTION

The results of the teacher competency assessment in 2019 showed unsatisfactory results as the average competency score for teachers in Indonesia only reached a score of 57 out of a perfect score of 100 (1). The education issues in Indonesia are not only seen through the PISA scores and UKG results but also due to the ongoing Covid-19 pandemic in the country since March 2020. The World Bank's report also states that the closure of schools for four months from March 24 to the end of July 2020 resulted in a loss of 11 points in PISA reading scores and a decrease in individual income by USD 249 per year in the future (2). In reality, as of the end of 2021, schools still cannot be fully reopened, and learning activities are being conducted in a hybrid manner. This means that Indonesia will face even greater losses in terms of human resource quality.

The Ministry of Education and Culture's Policy Research Center conducted a study in 2020 to formulate recommendations for improving the quality of learning. Student assessments of their teachers regarding learning adaptation provide information that the majority of teachers do not adjust their teaching according to class conditions or student needs. Only 20% of teachers modify the teaching structure for difficult topics. This can be attributed to two possibilities: either teachers do not master the subject matter and appropriate pedagogical methods or they are unwilling to expend more effort to help their students understand the topics being studied.

Another issue that students face is a lack of feedback from their teachers, whether it's feedback on students' strengths or areas that need improvement (3). Teachers who provide feedback to students range from 30% to 55%. Ideally, teachers are educational professionals with the responsibility of imparting knowledge in formal educational institutions, creating lesson plans, conducting the teaching process, assessing learning outcomes, and enhancing their training and guidance as professionals (4). Therefore, teacher professionalism is a crucial and highly needed factor to ensure that teachers can perform their core duties effectively and improve the quality of their human resources (5). This underscores the importance of continuous and sustainable efforts to enhance the quality of teacher education. Based on the description above, policy stakeholders need to take steps to develop a sustainable professional development model for teachers based on 21st-century skills, including Creativity Thinking and Innovation, Critical Thinking and

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Problem Solving, Communication, and Collaboration. These skills should be developed constructively, meaning they should be based on the problems that teachers themselves encounter.

Critical thinking skills encompass the ability to access, analyze, and synthesize learnable information, which can be trained and mastered (6). Critical thinking skills also encompass other skills such as communication and information skills, as well as the ability to examine, analyze, interpret, and evaluate evidence (7). In the era of digital literacy, where information is abundant, teachers need to be able to select relevant sources and information, find quality sources, and assess sources for objectivity, reliability, and timeliness.

Problem-solving skills include other skills such as identification and the ability to search, select, evaluate, organize, and consider various alternatives and interpret information (8). One must be capable of seeking various solutions from different perspectives to solve complex problems. Problem-solving requires teamwork, effective and creative collaboration between teachers and students, the use of technology, and the handling of vast amounts of information. It involves defining and understanding the elements of the core issue, identifying information sources, and the necessary strategies to address the problem (9). Problem-solving cannot be separated from critical thinking skills because critical thinking skills are fundamental in problem-solving. Teachers must also be able to apply the right tools and techniques effectively and efficiently to solve problems (10).

Good communication skills are also highly valuable in the workplace and daily life. Communication skills include the ability to convey thoughts clearly and persuasively, both verbally and in writing, the ability to express opinions clearly, issue clear instructions, and motivate others through effective speaking (11). Collaboration and teamwork can be developed through experiences within schools, between schools, and outside of schools (12). Teachers can work collaboratively on authentic project-based tasks and develop their skills through peer tutoring in groups. Effective communication and collaboration skills, coupled with technology and social media skills, enable collaboration with international groups (13).

Research related to sustainable professional development has also been conducted by (14), who found that this professional development can increase active participation in professional development activities. This finding is supported by research conducted by (15), which suggests that the sustainable professional development of teachers through academic publications still needs improvement and attention, both at the individual (teacher) and institutional levels, especially in research-based academic publications. This statement aligns with research conducted by (16), which indicates that professional development programs can improve the competency test scores of teachers (UKG) that have not met the minimum competency standards and serve as a platform for educators to develop themselves and become better. Research related to the development of Sustainable Professional Development (SPD) for teachers based on 21st-century skills is a topic based on a synthesis of previous quantitative and qualitative research. However, specific variables connecting SPD with 21st-century skills development were not found in various reputable scientific articles, making this research unique.

Therefore, this SPD model will expedite the professional development process of teachers through all dimensions of 21st-century skills at each stage that culminates in the production of classroom action research papers conducted by teachers. This research was conducted in Lebak District with social studies geography teachers focusing on the development of the Geopark Bayah Dome, which is one of the development missions of the region in Lebak District, with the aim of obtaining an overview of the needs and efforts to develop sustainable professionalism based on 21st-century skills in Lebak District.

METHODOLOGY

This research was conducted to generate comprehensive data mapping on (1) sustainable professional development for certified teachers in the Junior High School environment that has been ongoing and (2) the professional development needs of Junior High School teachers in Lebak District. The research method used was exploratory, which involved direct fieldwork. Exploratory research was intended to uncover the depth of sustainable professional development for post-certification teachers in the Junior High School environment in Lebak District. To aid in data collection, audio recording equipment was used during interviews. This was done to minimize any potentially missed information. The data source for this study was Junior High Schools that had certified teachers. The events examined generally included aspects of teacher behavior, school principals, and other social aspects related to teacher professionalism development. Data processing was carried out using the interactive model analysis technique (Miles and Huberman, 1984), which includes components such as (1) data collection, (2) data reduction, (3) data presentation, and (4) drawing conclusions. Data analysis was conducted continuously from the beginning of data collection to the verification process, which spanned from the start of the research until its conclusion.

RESULT AND DISCUSSION

a. The Condition of 21st Century Professional Development

21st-century skills encompass a set of crucial abilities required to meet the demands and challenges of the present era. These skills encompass various aspects such as critical thinking, creativity, effective communication, collaboration, technological proficiency, digital literacy, problem-solving abilities, as well as adaptability and lifelong learning skills. Based on key findings in

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the analysis of 21st-century skills, several important aspects for a deeper understanding were identified. Understanding 21st-century skills, as expressed by an informant, is fundamental for broader access to the job market and expanding one's experiences and knowledge:

"The most fundamental skill is the one that can potentially provide access to the job market, making it broader for one's experience and knowledge."

This finding underscores the importance of developing these skills from an early age to prepare individuals for the complexities of modern society. Second, our findings indicate that 21st-century skills play a crucial role in shaping the future of individuals and society, as articulated by an informant:

"Because we also create questions that apply HOTS, it's easy. So from low-level thinking to high-order thinking, which is critical thinking."

These skills are not only required for personal success but also for contributing to social and economic progress. Therefore, education and training that focus on developing 21st-century skills become highly important. Critical thinking skills serve as the cornerstone for developing problem-solving, analytical, and evaluative abilities, which are essential for adaptation and contribution in an ever-changing environment. Finally, collaboration received special attention in our findings. Strong collaboration skills are an integral element in achieving common goals and addressing complex challenges that cannot be solved individually. In an educational context, collaboration is not just about working together in teams but also about understanding individual roles in creating added value for the group.

In the context of learning 21st-century skills, we also identified several factors that can hinder the learning process. First, we found that the difficulty in implementing student-centered approaches can be a major obstacle, as expressed by an informant:

"But this, I apologize if what I observed is that our schools actually have this weakness when teachers are teaching, we discuss issues in the class first before leaving. The teacher explains this and that, so very few students, not even one, want to ask."

An education system that is still rooted in conventional teaching methods often impedes the development of 21st-century skills due to the lack of space for students' initiative, creativity, and problem-solving. Additionally, we found that a lack of self-confidence in learning is a significant inhibiting factor. Lack of self-confidence can hinder students' ability to take risks, actively participate in discussions, and develop the social skills necessary for effective collaboration.

Another hindering factor in learning is inadequate facilities and infrastructure, as proved to be a hindrance. Inadequate infrastructure, including physical facilities and access to technology, can obstruct students' access to learning that is relevant to 21st-century skills, as expressed by informants:

"Technology is crucial, especially IT, and wifi access."

"We have wifi here, but if you don't pay, it's not available."

Finally, our findings indicate that one of the key inhibiting factors is the view that learning 21st-century skills is merely a task to fulfill. Understanding these inhibiting factors is important for designing more effective educational strategies to promote 21st-century skills. By addressing these barriers, we can create a more conducive learning environment for the development of skills relevant to the future.

b. Development of 21st Century Teacher Professionalism

The development of 21st-century teacher leadership is an urgent need in enhancing modern education. Developing 21st-century teacher leadership is a crucial step in preparing educators to meet the challenges and demands of modern learning. Here are some key aspects to consider in the development of 21st-century teacher leadership: Training Process: The teacher training process should be updated to reflect the latest developments in education and technology. Teachers should be equipped with the knowledge and skills necessary to teach and facilitate 21st-century learning. Training should involve a teacher-centered approach, allowing them to become lifelong learners.

Assessment Process: Teacher assessments should reflect the skills and competencies relevant to 21st-century learning. This includes a teacher's ability to support the development of 21st-century skills in students, such as critical thinking, creativity, and collaboration. Learning Process: Teachers should be role models in implementing student-centered learning approaches in the classroom. They should understand how to facilitate active learning, encourage discussions, and provide opportunities for students to develop their 21st-century skills.

Skills: Teacher skill development should encompass both technical and pedagogical aspects. Teachers should be proficient in the use of educational technology, but they should also possess strong communication, classroom management, and problem-solving skills. Through attention to training, assessment, creativity, the learning process, and skill development, teachers can become effective agents of change in shaping a generation ready to face 21st-century challenges.

c. Challenges in the Development of 21st Century Professionalism

Challenges in the Development of 21st Century Professionalism in the Implementation of Sustainable Professional

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Development (SPD): Budget Constraints: One of the major challenges in the development of 21st-century professionalism is the budget constraints allocated for SPD. Developing quality training programs requires sufficient resources, including funds for hiring qualified facilitators, developing training materials, and facilitating learning activities. Budget limitations can hinder efforts to provide relevant and effective training to educators.

Training Costs: Effective implementation of SPD requires expenses, including training, accommodation, and transportation costs for participants who may need to travel to attend training. These costs can be a hindrance, especially in remote areas or for educators with financial limitations. Technology Infrastructure: In the era of 21st-century education, the use of educational technology is crucial. However, adequate technology infrastructure and maintenance require a significant budget. Inability to provide devices, internet access, and adequate technical support can hinder the development of technology-focused SPD.

Monitoring and Evaluation of SPD: The Department of Education is also responsible for monitoring and evaluating SPD programs. Resource limitations in terms of budget and personnel can hinder their ability to monitor SPD programs effectively. Understanding these constraints is important to ensure the smooth implementation of 21st-century professionalism development and curriculum changes. Based on the analysis conducted, it can be concluded that the development of sustainable professionalism in the 21st century needs to be implemented while considering various factors, including an understanding of 21st-century skills, barriers to learning, and challenges in the process of sustainable professionalism development in the 21st century.

Furthermore, this research also conducted a questionnaire analysis distributed to 202 teachers in Lebak District regarding Sustainable Professional Development conducted by junior high school teachers in Lebak District

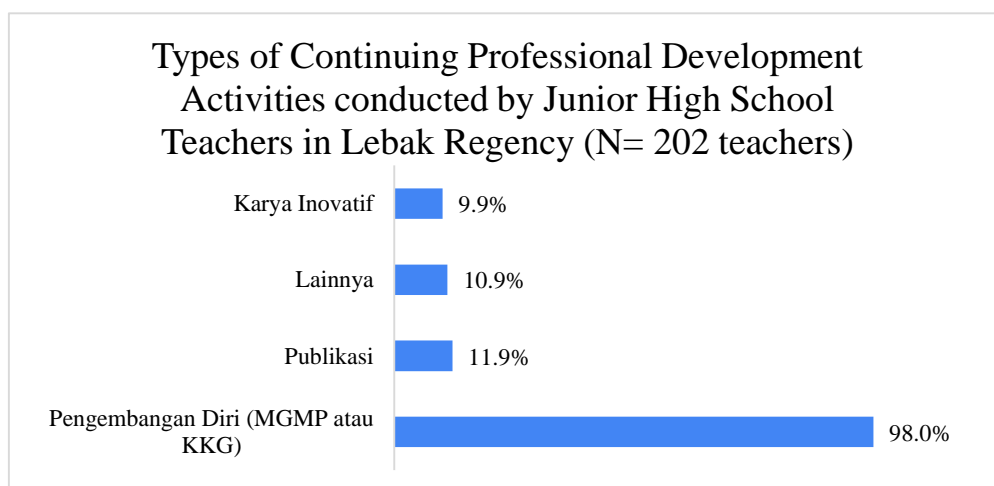


Figure 1: Types of Continuing Professional Development Activities

Continuing professional development is a very important aspect of education and other professional sectors. In an ever-changing and evolving era, professionals need to constantly update and improve their skills and knowledge to remain relevant and effective in their work. There are various types of continuing professional development activities available, ranging from training, online courses, seminars, to participation in professional communities. These activities are designed to provide a deeper understanding, improve practical skills and enable professionals to keep abreast of the latest developments in their field. With continuous professional development, individuals can maintain the quality of their performance and take proactive steps in achieving long-term success in their careers.

Based on Figure 1, the data results show that junior high school teachers in Lebak Regency are actively involved in various types of continuing professional development activities. Some of them, around 9.9%, are involved in innovative work, creating new and innovative learning approaches and tools. There are also around 11.9% of teachers involved in publications, contributing by writing articles or papers on education. In addition, around 10.9% of teachers are involved in "other" activities, which include various self-development activities outside of the options provided. However, the most striking is the participation in Self-Development (MGMP or KKG), which involves 98% of teachers. This shows that MGMP or KKG plays a very important role in the continuous professional development of junior high school teachers in Lebak district, as a place for collaboration, exchange of experiences, and improvement of knowledge in an effort to provide the best educational experience for students. In this context, it is necessary to continue supporting these types of activities to ensure continuous improvement in the quality of teaching in the region. It is important for relevant parties, including local governments and education institutions, to support these types of

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continuing professional development activities so that teachers can continue to improve the quality of their teaching and provide greater benefits for students.

Based on these results, it means that, in the process of continuing professional development, junior high school teachers in Lebak Regency certainly have challenges to face. As can be seen in Figure 2 below:

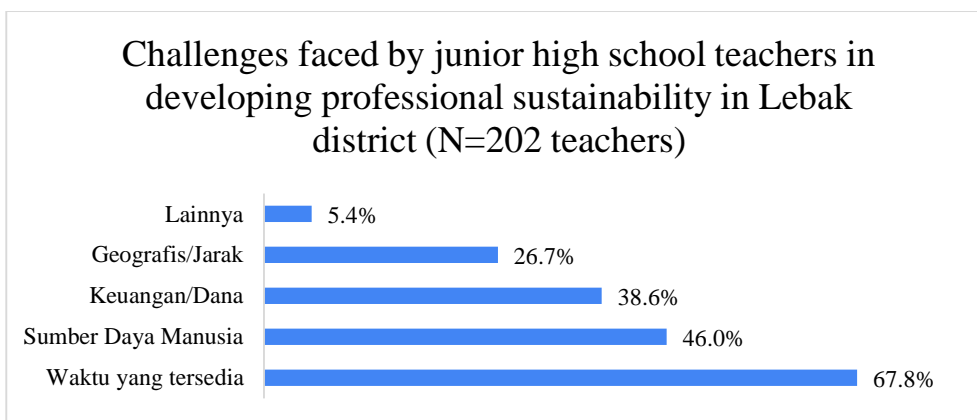


Figure 2: Challenges faced by junior high school teachers in developing a sustainable profession in Lebak Regency

Figure 2 reveals that the challenges faced by junior secondary school teachers in Lebak district in developing a sustainable profession vary widely, as reflected in the following data. A total of 5.4% of teachers face challenges that fall under the category of "other," which could include issues such as school policies or personal issues that affect their professional development. Geographical or distance challenges (26.7%) are a significant issue, especially for teachers in remote or isolated areas, where access to training and support resources can be difficult. Lack of finances or funds (38.6%) is a major barrier preventing teachers from attending training and other development programs, especially if local governments or education institutions do not provide enough budget. Human resource issues (46%) are also an important factor, with a lack of teachers or facilitators skilled in professional development. In addition, available time (67.8%) was the biggest challenge, indicating that many teachers feel limited by their busy schedules and teaching demands, making it difficult to set aside time for self-development. Understanding these challenges is important in designing effective solutions to support continuous professional development for teachers in Lebak district.

CONCLUSIONS

The conclusion of this analysis is that the development of 21st century skills is a must in education. Skills such as critical thinking, creativity, collaboration and adaptation are essential to deal with the demands of modern times. However, there are a number of challenges in developing these skills, including constraints in learning approaches, students' lack of confidence, inadequate technological infrastructure, and the view that learning 21st century skills is only a formal obligation. On the other hand, teachers in Lebak district are actively involved in various continuing professional development activities, especially through MGMP or KKG. However, they also face challenges such as budget limitations, training costs, inadequate facilities, limited human resources and time constraints. To overcome these challenges and ensure effective 21st century skills development, strong support from local governments and education institutions is needed. Thus, teachers can continuously improve the quality of their teaching and provide greater benefits for students in Lebak district

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REFERENCES

- 1) Kemendikbud. Merdeka Belajar. 2020.
- 2) Bose P. Tantangan Pendidik di Era Disrupsi. Arsip Publ IIm Biro Adm Akad [Internet]. 2020; Available from: <http://research-report.umm.ac.id/index.php/API-BAA/article/view/3397>
- 3) Anggraini S, Siswanto J, Sukamto. Analisis Dampak Pemberian Reward And Punishment Bagi Siswa SD Negeri Kaliwuru Semarang. J Mimb PGSD Undiksha. 2019;7(3):221–9.
- 4) Jones K. Collaboration, creativity and capital in professional learning contexts. Prof Dev Educ [Internet]. 2017;43(1):1–5. Available from: <http://dx.doi.org/10.1080/19415257.2017.1254371>
- 5) Griffin P, McGaw B, Care E. Assessment and teaching of 21st century skills. Vol. 9789400723, Assessment and teaching

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- of 21st century skills. 2012. 1–345 p.
- 6) Wahyu W, Maulana W, Fitriyah MR, Zulkardi Z, Sari N. PERAN ETIKA PROFESI GURU MATEMATIKA DALAM MENGAHADAPI TANTANGAN ABAD 21 [Internet]. Vol. 5, PHI: jurnal pendidikan matematika. Universitas Batanghari Jambi; 2021. p. 156. Available from: <http://phi.unbari.ac.id/index.php/phi/article/download/151/102>
 - 7) Naufal A. PENGEMBANGAN E-BOOK MATEMATIKA UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS SISWA PADA MATERI PERSAMAAN GARIS LURUS [Internet]. Vol. 11, MATHEdunesa. State University of Surabaya; 2022. p. 378–89. Available from: <https://ejournal.unesa.ac.id/index.php/mathedunesa/article/download/45416/38848>
 - 8) Boholano H. Smart social networking: 21st Century teaching and learning skills. *Res Pedagog.* 2017;7(2):21–9.
 - 9) Paramitha ST, Anggara LE. Revitalisasi Pendidikan Jasmani untuk Anak Usia Dini melalui Penerapan Model Bermain Edukatif Berbasis Alam. *J Pendidik Jasm Dan Olahraga.* 2018;
 - 10) Fernández FR, Cortina LO, Lull C, Soriano ME. Legal case studies based on humor adapted to a virtual learning environment. *Conf Proc CIVAE 2020*, 2020, ISBN 978-84-09-22970-3, págs 154-159. 2020;154–9.
 - 11) Suwardana H. Revolusi Jurnal 4.0 Berbasis Revolusi Mental. *J JATI UNIK* [Internet]. 2018;1(2):109–18. Available from: <https://core.ac.uk/download/pdf/235152255.pdf>
 - 12) Wicaksono SR, Setiawan R. Collaborative Project Based Learning Implementation During Covid-19 Outbreak [Internet]. Vol. 7, *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan.* Pascasarjana Universitas Negeri Malang; 2022. p. 61. Available from: <http://journal.um.ac.id/index.php/jptpp/article/download/15189/6623>
 - 13) Handayani W. PENGEMBANGAN MULTI-STRATEGI PEMBELAJARANUNTUK MENINGKATKANKETERAMPILAN KOMUNIKASI SAINSPADA MAHASISWA CALON GURU FISIKA. 2020.
 - 14) Suryanto H, Sutarum. PENGEMBANGAN PROFESI BERKELANJUTAN BAGI GURU DENGAN PEMBELAJARAN RAMAH ANAK. *Pakdemas J Pengabd Kpd Masy.* 2022;2(1):163–8.
 - 15) Rahyasih Y, Hartini N, Indonesia UP, Barat J, Barat J, Kelas PT, et al. Pengembangan Keprofesional Berkelanjutan : Sebuah Analisis Kebutuhan Pelatihan Karya Tulis Ilmiah bagi Guru. *J Penelit Pendidik.* 2020;20(April):136–44.
 - 16) Maiza Z, Nurhafizah N. Pengembangan Keprofesional Berkelanjutan dalam Meningkatkan Profesionalisme Guru Pendidikan Anak Usia Dini. *J Obs J Pendidik Anak Usia Dini.* 2019;3(2):356.



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