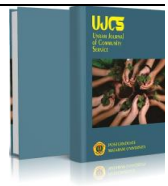
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Teacher Creativity in Learning: Inspiring, Moving, and Changing Students' Futures

Herman Samuel Wattimena[1], John Rafafy Batlolona[1*], Noke Kesaulya[1], Gazali Rachman[1], Edy Janter Latumahina[1]

[1] Faculty of Teacher Training and Education, Pattimura University, Ambon, Indonesia

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Corresponding Author:
Rafafy Batlolona
john.batlolona@lecturer.unpatti.ac.id

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Abstract: This Community Service (PkM) activity aims to improve teachers' understanding and capacity in developing learning creativity through innovative learning strategies oriented towards developing student potential. The activity was carried out on July 9–12, 2026 at SMA Negeri 20 West Seram (Elpaputih) involving 20 teachers from SD Negeri 1 Elpaputih, SMP Negeri 1 Elpaputih, SMP Negeri 2 Elpaputih, and SMA Negeri 20 West Seram. The implementation of the activity included a pre-test, material delivery, questions and answers and discussions, development of creative learning designs, presentations, and a post-test. The evaluation results showed an increase in all indicators of learning creativity. The increase was especially visible in the ability of teachers to develop creative learning media and apply creative learning to develop student potential, which increased from the neutral category to strongly agree. Improvements were also found in the ability to generate ideas, use varied learning strategies, encourage students to express ideas, and create a learning environment that supports exploration. Thus, the PkM activity contributed positively to strengthening teachers' capacity in designing and implementing more creative, innovative, and active learning.

Keywords: Creative Learning; Learning Innovation; Pedagogical Competence; Teacher Creativity; Teacher Professional Development.

Introduction

The 21st century is marked by rapid technological developments and significant changes in various aspects of life, including politics, social, education and economics (Chalkiadaki, 2018). These changes occur dynamically, requiring individuals to be able to face various new situations and challenges that are often difficult to predict. In line with these conditions, various policy reports and educational research findings emphasize the importance of the education system in equipping students with relevant skills to face the demands of the 21st century. Several studies emphasize the importance of developing creativity, problem-solving, critical thinking, communication, collaboration, and metacognition in the educational process (Wang & Kokotsaki, 2018). One of the skills that is of concern in this discussion is creative thinking, because this ability is an important part of the competencies that individuals need to face the demands of life and learning in the 21st century (Lucas, Claxton, & Spencer, 2013; Leasa & Batlolona, 2024). Creativity is the first step towards innovation(West, 2002), which focuses on idea creation (Rank et al., 2004). For example, a study from Akaki et al. (2026)Studies show that the use of AI in the creative process does not always enhance human creativity. AI can help broaden perspectives, generate inspiration, increase the usability of ideas, and support the idea selection process. However, excessive reliance on AI can reduce human involvement in independent idea generation and potentially hinder certain aspects of creativity. Therefore, AI is more appropriately positioned as a tool to support creativity, not as a substitute for human creativity. The creative process still requires active human involvement, especially in generating, evaluating, developing, and determining final ideas. Human-AI collaboration needs to be designed in such a way that technology expands human

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thinking capabilities while maintaining human autonomy, creativity, and the role of the primary decision-maker.

Human creativity is rooted in the activity of the brain's cortical networks, which play a role in generating, processing, and evaluating ideas. Verbalizing internal thought processes during design tasks can leverage semantic network dynamics to explore, assess, and monitor creative thinking processes (Scott-Barrett et al., 2023). A previously known idea cannot be fully categorized as a result of creativity if it is only mechanically reproduced or copied without involving the creative thinking process. Conversely, a solution that has an element of novelty but does not provide benefits or value in solving a problem also has limited creative relevance because its application has the potential to be an ineffective use of resources. Thus, novelty or originality and usefulness or value are two complementary aspects in forming the overall construct of creativity (Stein & Stein, 1953;Guilford, 1957)

Creativity plays a crucial role in improving student achievement and contributes directly and indirectly to improving the quality of education. The diversity of student abilities and characteristics requires teachers to employ creative learning approaches, both in method selection, time management, and material presentation. This approach is necessary to enhance learning motivation, maintain the quality of the learning process, and achieve optimal learning outcomes. While creativity can be applied by teachers in the learning process, the ability to become a competent teacher does not develop instantly. Developing creativity and implementing innovative learning methods requires a continuous process through adequate experience, skills, and knowledge (Leasa et al., 2021). The educational qualifications that a person has are not necessarily sufficient to develop optimal teaching competencies, so experience and continuous professional development are required (Tamsah et al., 2021). One common approach is through training. However, training needs to be designed and managed appropriately to achieve maximum results. Training that emphasizes real-world experience and practice is more likely to improve teacher quality and support the development of creativity in teaching (Thomas & Cheese, 2005). Thus, teaching creativity is an important component that supports the success of the learning process (Dehaan, 2009).

Various experiences have shown that applying creativity in learning offers numerous benefits. However, its implementation in the field still faces various obstacles, primarily due to limited resources to support the learning process (Maor et al., 2025). Student creativity is a crucial competency that is increasingly receiving attention in education systems across many countries. Unlike traditional learning approaches that emphasize memorization, creativity-based learning provides students with the opportunity to develop independent thinking skills, actively participate in the learning process, and freely express ideas and concepts. Through this approach, students not only gain knowledge but also have the opportunity to develop their creative potential, which can support their readiness to become innovative individuals and professionals in the future (Horng et al., 2005). Further studies fromSyawaludin et al. (2024)reported that fluency had the highest proportion at 28.3%, followed by flexibility at 26.3% and elaboration at 25.8%, while originality showed the lowest proportion at 19.6%. This pattern indicates that prospective teachers are relatively more capable of generating and developing ideas in compiling student worksheets, but still experience limitations in generating truly new and unique ideas. This condition indicates the need to strengthen learning experiences that encourage prospective teachers to develop creativity, especially in the aspect of originality in designing HOTS-oriented science student worksheets.

Creativity in the thinking and learning process is increasingly seen as an important skill that needs to be developed continuously throughout a child's education process (Prentice, 2000; Dobbins, 2009)The importance of developing creativity is based on two main considerations. First, characteristics related to creativity are increasingly considered essential qualities for facing the demands of 21st-century society. The ability to think flexibly, adapt to change, and generate original ideas is becoming increasingly important in facing the ever-evolving dynamics of life and the world of work (Gube & Lajoie, 2020). Second, developing creativity can create a more positive and enjoyable learning experience for students. This approach provides greater space for recognizing students' talents, potential, and strengths beyond academic aspects, allowing creativity development to be more proportionally integrated into the overall school curriculum (Clarke & Basilio, 2018; Maker, 2026)

Creativity in learning is a crucial aspect in supporting self-actualization and optimizing individual potential. Creativity can be understood as a person's ability to produce or create something new and useful (Stumpf, 1995). In the process of knowledge development, creativity plays a role in encouraging divergent thinking, thus enabling the emergence of various new and innovative ideas (Yoruk & Runco, 2014). In the educational context, developing creativity can be achieved through the application of appropriate learning models. Creativity in teaching is reflected in teachers' ability to design and implement innovative and effective learning strategies, and to go beyond simply

transferring knowledge by encouraging motivation and inspiring students. The role of teacher creativity is becoming increasingly important because teachers not only act as transmitters of material but also as designers of learning experiences. Teachers who possess creativity are able to utilize the processes of imagination, expression, and conceptualization to generate ideas that can be applied in learning activities (Adams, 2016). This perspective broadens the meaning of creativity from merely an individual characteristic to become part of a teacher's professional competence. Thus, creativity is not merely seen as an innate talent, but as a competence that can be developed through pedagogical experience, learning practices, and professional reflection. In the literature, teacher creativity encompasses cognitive and non-cognitive dimensions demonstrated through a number of characteristics, including originality, flexibility, fluency in generating ideas, elaboration, motivation, attitude, and creative personality (Alfan et al., 2026). However, these various aspects are often discussed descriptively and separately, so their relationship to a more comprehensive pedagogical competency framework is not always explicitly explained. This condition tends to position creativity as a supporting attribute in the planning and implementation of learning, rather than as an integral part of teachers' pedagogical competencies. Meanwhile, indicators such as originality, flexibility, fluency in generating ideas, and elaboration specifically represent the cognitive dimension of the creative thinking process (Almeida et al., 2008).

Although teacher creativity plays a crucial role in creating meaningful learning, its application in teaching practices still faces various limitations. Teachers are not always able to develop creative, varied teaching methods that provide sufficient space for students to explore ideas, express ideas, solve problems, and generate original solutions. This situation indicates that there is still a gap between teachers' understanding of the importance of creativity and its application in teaching. Although creativity is increasingly viewed as an important competency in education, the implementation of creative teaching practices by teachers still faces various obstacles, particularly related to individual factors, the school environment, and the educational context that does not fully support the development of creative teaching (Yang et al., 2025). These limitations can be influenced by various factors, including teachers' beliefs and attitudes towards creativity, pedagogical knowledge and experience, and the support of the school environment and education system (Yan et al., 2021). This situation is crucial because teachers hold a strategic position in creating learning experiences that enable students to develop their creativity. When learning doesn't provide adequate opportunities for students to explore various possibilities, generate diverse ideas, and develop solutions independently, students' opportunities to develop creative thinking skills are also limited.

Learning practices that provide students with opportunities to obtain feedback, develop curiosity, engage in self-regulation, and express ideas are known to support the development of student creativity (Scott-Barrett et al., 2023). Thus, limitations in teacher creativity are not only related to their professional competence but also have the potential to impact the quality of the learning experiences students receive. In the Indonesian context, teacher creativity in learning can be manifested through the ability to generate original ideas, brainstorm, demonstrate fluency and flexibility of thinking, adapt to learning needs, and select and develop appropriate learning materials (Hidayat et al., 2024). Furthermore, various empirical studies and national evaluations show that higher education practices in Indonesia still emphasize mastery of material rather than the development of higher-order thinking skills. The application of inquiry-based and project-based learning is also still limited (Fitriyah et al., 2026). Therefore, concrete efforts are needed through Community Service (PkM) activities to assist teachers in developing creative learning. Professional development efforts carried out systematically through ideation, reflection, collaboration, and learning practices can help strengthen teachers' creative competencies. Based on these conditions, this PkM activity is implemented to help teachers develop their abilities in generating creative learning ideas, designing activities that encourage creativity, and implementing more innovative learning strategies that are appropriate to student needs. Through these activities, teachers are expected to be able to create more active and meaningful learning experiences, thereby providing more space for students to develop creative thinking skills, generate original ideas, and optimize their potential.

Method

This community service activity is aimed at teachers of various subjects. The selection of teachers as the target of the activity is based on the importance of strengthening the capacity of educators in supporting a more effective learning process and in accordance with student needs. The community service activity was carried out at SMA Negeri 20 Seram Bagian Barat (Elpaputih) from July 9-12, 2026. Participants who took part in this activity came from SD Negeri 1 Elpaputih, SMP Negeri 1 Elpaputih, SMP Negeri 2 Elpaputih and SMA Negeri 20 Seram Bagian Barat. The participants who took part in this activity numbered 20 people who were representatives of the schools. The goal is that after

completing this activity they can share with their friends at school about the activities that have been carried out. Geographically, point. The location of the activity at this high school is approximately 76.96 km from Pattimura University and the journey to the location from Ambon City can be done using land transportation to Hunimua Port and continued by ship to Waipirit Port and continued by land transportation to Elpaputih Village.



Figure 1. Location of Community Service Activities at State Senior High School 20 West Seram.

As an initial step, participants were given a pretest to determine teachers' initial understanding of creativity in learning and the application of innovative learning strategies. The pretest was used to obtain an overview of participants' prior knowledge and to identify aspects that still needed reinforcement during the activity. The pretest results served as a basis for tailoring the material delivery to the participants' needs and experiences. The pretest was used as a diagnostic assessment to obtain an overview of participants' prior knowledge and to identify aspects that still needed reinforcement during the activity. In addition to its diagnostic function, pre-learning testing can help participants direct their attention to relevant information, recognize knowledge gaps, and, under certain conditions, enhance learning after the material is presented (Richland et al., 2009; Pan & Carpenter, 2023)

The next stage is the presentation of the material by the presenter. The material provided focuses on developing teacher creativity, creative learning strategies, developing innovative learning activities, and applying creativity in the learning process. The material is delivered systematically and interactively through presentations and examples relevant to teachers' learning conditions at school. The material is directed at helping teachers understand how to integrate creativity into lesson planning, learning activities, teaching materials, and assessment processes. This is important because teachers play a strategic role in creating learning experiences that provide opportunities for students to explore ideas, express ideas, solve problems, and develop creative thinking skills.

Following the presentation, the activity continued with a question-and-answer session and discussion. At this stage, participants were given the opportunity to ask questions, express opinions, share experiences, and address various obstacles faced in implementing creative learning in their respective schools. The presenters responded to and explained participants' questions and provided examples of learning strategies that can be adapted to the characteristics of the subject, students, and school conditions. This approach aligns with learning practices at various leading universities, including Harvard University, which uses questions, peer instruction, and discussion to encourage students to develop reasoning, clarify understanding, and evaluate various alternative answers. Similarly, at the University of Colorado Boulder and Stanford University, implementing peer discussions after conceptual questions can improve understanding, even when no participant in the group previously knew the correct answer (Smith et al., 2009). Thus, the question-and-answer and discussion sessions in this community service activity not only serve as a complement to the delivery of material, but also become an important part of the learning process, allowing participants to clarify any misinformation, connect the material to their experiences, and build understanding through interaction and the exchange of ideas.

Next, participants were guided to develop creative learning ideas and designs individually and in groups. Teachers were encouraged to design learning activities, teaching strategies, learning materials, and assessment methods that provided more space for students to generate ideas, explore various alternative solutions to problems, and actively participate in the learning process. This development was tailored to the subject matter and the characteristics of each school environment. This activity was aimed at strengthening teachers' abilities to design innovative and meaningful learning experiences. As a follow-up, several participants were given the opportunity to present the results of their developed ideas or learning designs. Presentations were conducted as a means of sharing experiences, obtaining input, and discussing the possibility of developing and implementing these designs in learning. Through this activity, teachers were expected to learn from the experiences of their colleagues and gain inspiration to implement more creative and innovative learning strategies in the classroom. The final stage wasPost-test. This test is administered after all material and discussion sessions have been completed to determine participants' level of understanding after participating in the activity. The

post-test results are used as evaluation material to assess changes in participants' understanding compared to the initial level obtained through the pre-test. Therefore, the pre-test and post-test form part of the activity evaluation, while the presentation of the material, along with the Q&A and discussion sessions, are the primary processes in strengthening participants' knowledge and understanding.

Results and Discussion

The activity began with an opening session and presentation of material by the implementing team to the PKM participants in Elpaputih Village. In this initial stage, the team introduced the objectives, stages, and series of activities to be implemented, while also providing an initial understanding of the importance of strengthening teacher creativity in creating innovative, contextual, and student-centered learning. The presentation of material was carried out interactively, providing space for participants to listen, discuss, and share experiences and problems encountered in the learning process. This activity involved teachers and local stakeholders as active partners, so that the implementation of PKM was not only oriented towards delivering material, but also directed at developing teacher competencies and strengthening the quality of sustainable learning in Elpaputih Village.



Figure 2. Presentation of Material by the Resource Person, Dr. Herman S. Wattimena, M.Si

This is crucial because it is illustrated by several international studies that show that learning in schools is still oriented towards conventional things and does not support student independence. According to a study byRashid & Qaisar (2016)revealed that learning practices in a number of schools in Pakistan still tend to be oriented towards students' ability to memorize and repeat material contained in textbooks. This condition is evident in the difficulties some students face when faced with assignments that require creativity or questions they have never encountered before. Even students with good academic abilities, attending reputable schools, and achieving satisfactory test scores are not always able to demonstrate the same performance when faced with different forms of assessment. These difficulties arise, among other things, when students are faced with creative tasks, drawings without written explanations, or problems with material they have never previously studied.(Chandio et al., 2013;Ashraf et al., 2015;Akhter & Nordin, 2022).

This phenomenon is not a problem limited to certain individuals, but is a fairly widespread challenge among Pakistani students and tends to be more pronounced in the context of government schools.(Ashraf et al., 2015). Other studies also report that creativity, as a core competency for self-awareness and problem-solving, is still not optimally developed among Chinese students, mainly due to the lack of emphasis on developing innovation in education.(Huang et al., 2025)A number of education experts and learning theorists have also questioned the extent to which the implemented curriculum provides adequate space for the development of student creativity. They emphasize that creative thinking skills need to be developed intentionally through the learning process, not simply expected to emerge as a byproduct of mastering the material.(Anwar et al., 2012;Jameel & Mohamood, 2017)In this context, teachers have a strategic position in creating learning experiences that can stimulate students' creativity while helping them discover and develop their potential. To carry out this role effectively, teachers need to understand the characteristics of creative individuals, the stages of the creative process, and the learning environment that can support the emergence of creativity. The interaction and quality of the relationship between teachers and students are also factors that contribute to the development of students' creative thinking skills.(Gurak-ozdemir, 2016).



Figure 3. Delivery of Material Related to Stages of Creativity

Another challenge related to teachers' professional readiness is their limited access to ongoing training and

professional development. As a result, their knowledge and skills do not always keep pace with the latest learning approaches and strategies. Yet, changes in the education system require teachers to continually update their competencies to implement relevant, innovative, and effective learning practices. Consequently, many teachers may continue to rely on traditional teaching methods that may be ineffective in engaging and motivating students to learn.(Ashraf et al., 2015)In Pakistani government schools, there is a lack of focus on teaching how to think, even though creative thinking plays a crucial role in understanding subjects and life.(Vokić & Aleksić, 2020). Many countries emphasize aspects of thinking and creativity in their curriculum.(Patston et al., 2021).

The teacher's ability to teach thinking skills is very important, because students develop these skills through directed instruction.(Rahman & Manaf, 2017)However, some teachers feel less confident or unprepared to teach science, and this can lead to the use of less engaging or more didactic learning approaches.(Norris et al., 2018;Grapin et al., 2025)Therefore, the success of developing creativity depends not only on the use of learning programs, but also on teacher readiness and competence, school support, the availability of learning resources, and the creation of a learning environment that provides space for students to explore ideas and think creatively. Therefore, teacher professional development and the provision of learning facilities that support creativity are important parts of implementing creative education in public schools.(Fazal et al., 2024).

Table 1. Comparison of Pre-Test and Post-Test Results on Teacher Creativity in Learning

Creativity Indicators in Learning	Pre-Test	Post-Test	Key Findings
Understanding the principles of creative learning	Agree	Strongly agree	Increased understanding
Designing innovative learning activities	Neutral	Agree	Increase
Implementing varied learning strategies	Agree	Strongly agree	Increase
Utilizing contextual learning resources and the surrounding environment	Neutral	Agree	Increase
Developing creative learning media	Neutral	Agree	Increase
Encourage students to generate and convey ideas	Agree	Strongly agree	Increase
Creating an engaging and student-centered learning environment	Agree	Strongly agree	Increase
Integrating local wisdom in learning activities	Neutral	Agree	Increase
Stimulate students' critical and creative thinking skills	Agree	Strongly agree	Increase
Implementing creative learning to support students' future competencies	Neutral	Strongly agree	Significant improvement

The results of the Teacher Creativity in Learning: Inspiring, Moving, and Changing Students' Future training activities were analyzed through a comparison of pre-test and post-test results. The assessment covered teachers' understanding and ability to apply creativity in learning, including the ability to generate new ideas, design innovative learning activities, use varied learning strategies, develop creative learning media, and create learning experiences that encourage students to be active and creative. In general, the pre-test results showed that teachers had a fairly good initial understanding of creativity in learning. Several indicators were in the agree category, especially in understanding the principles of creativity, designing innovative learning activities, encouraging students to generate and convey ideas, creating an interesting learning atmosphere, and stimulating students' creative thinking and problem-solving abilities. However, several aspects were still in the neutral category, especially in generating new ideas for learning, implementing varied and creative learning strategies, developing creative learning media, providing opportunities for students to explore new things, and applying creative learning to develop students' potential.

Following the training, improvements were observed across all assessed indicators. The most significant improvement was seen in teachers' ability to develop creative and engaging learning media and implement creative learning to develop student potential, rising from neutral to strongly agree. Improvements were also seen in teachers' ability to generate new ideas, implement varied learning strategies, encourage students to express their ideas, create a fun learning environment, and provide opportunities for students to explore and try new things. These findings indicate that the training contributed to strengthening teachers' understanding of the importance of creativity in the learning process. Teacher creativity is not only related to the use of different media or methods, but also encompasses teachers' ability to generate ideas, design innovative learning experiences, provide space for students to explore, and create a learning environment that encourages the emergence of

new ideas and solutions.(Leasa et al., 2021;Batlolona & Diantoro, 2023)Overall, the comparison of pre-test and post-test results indicates positive developments in teacher creativity in learning. Therefore, training can be an effort to strengthen teachers' capacity to create more innovative, engaging, active learning that is oriented toward developing student creativity.



Figure 3. The statement made by the teacher related to several things that were not yet understood.

Conclusion

Teacher creativity development training has positively contributed to strengthening teachers' understanding and capacity in designing and implementing creative learning. Improved results between pre-test and post-test indicate developments in various aspects of learning creativity, including the ability to develop ideas, design innovative learning activities, use a variety of learning strategies and media, and create learning experiences that provide space for students to explore and develop ideas. Thus, training activities can be one approach to supporting teacher professional development and strengthening learning practices that are more innovative, active, and oriented towards developing students' creative potential. Sustainability of the program through implementation and mentoring in the school environment is necessary so that the increased understanding gained during the activities can be consistently implemented in learning practices.

Based on the results of the activities, teacher creativity development programs need to be implemented sustainably and not stop at training activities. Continued mentoring in schools is necessary to help teachers implement creative learning designs directly in the learning process. Teachers also need to continue developing new ideas, using a variety of learning strategies and media, and providing students with broader opportunities to explore ideas, express their thoughts, and find alternative solutions. Furthermore, schools are expected to provide support through collaborative activities between teachers, the provision of adequate learning resources, and ongoing professional development. Follow-up evaluation is also needed to determine the consistency of creative learning implementation after training and to assess its impact on student engagement and creative thinking skills. Thus, developing teacher creativity can be part of efforts to continuously improve the quality of learning in schools.

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