Advanced Qualitative Research Vol. 3 No. 2 (2025) https://doi.org/10.31098/aqr.v3i2.3826

Check for updates

Research Paper

Teaching Methods and Creativity in Vocational Education: A Case Study of SMK Negeri 3 Bandung

Rina Hergisa[1*]

[1] SMK Negeri 3 Bandung, Indonesia

Received : June 28, 2025	Revised : August 18, 2025	Accepted : September 04, 2025	Online : September 30, 2025

Abstract

Vocational education plays a crucial role in preparing students for the creative economy, requiring teaching methods that not only build technical competencies but also foster creativity and socio-cultural innovation. However, little is known about how these pedagogical strategies are implemented in Indonesian vocational schools, particularly within the arts and creative economy fields. This study explores how teaching methods in the Creative Arts and Creative Economy programs at *SMK Negeri 3 Bandung* support students' creativity and socio-cultural innovation. Using a qualitative exploratory design, data were collected through interviews and focus group discussions with 7 teachers and 15 students, selected via purposive sampling. Thematic analysis was applied to identify patterns, supported by triangulation across teacher and student perspectives, and assisted with NVivo software to enhance systematic coding and analysis. Four interrelated themes emerged: (1) diverse and participatory teaching methods; (2) creativity as a core outcome fostered through experimentation and tolerance of failure; (3) integration of socio-cultural heritage into modern projects; and (4) teachers acting as facilitators of innovation, while addressing challenges such as limited resources, time constraints, unequal participation, and varied student preferences. The findings confirm and extend existing theories of creativity, socio-cultural learning, and 21st-century skills, while highlighting the importance of balancing autonomy with structured guidance. Beyond education, the study contributes to broader social science and management discussions by showing how culturally grounded pedagogical practices can enhance innovation capacity and human capital development in the creative economy**.** Practically, the study recommends training teachers in flexible pedagogy, enhancing digital resources, allowing more time for inquiry, and embedding cultural heritage into vocational education.

Keywords: *Vocational Education, Teaching Methods, Creativity, Socio-Cultural Innovation, Project-Based Learning*

INTRODUCTION

Education in the 21st century requires not only the transfer of knowledge but also the cultivation of creativity, innovation, and adaptability in students (Trilling & Fadel, 2009). Vocational education, particularly at the secondary level, plays a pivotal role in preparing young people to meet the demands of the creative industry and cultural economy, which have been identified as strategic sectors driving Indonesia's economic growth (*Kementerian Pendidikan dan Kebudayaan, 2020*). As part of this transformation, teaching methods must evolve to foster both creativity and socio-cultural innovation, equipping students with the competencies necessary for real-world problem-solving and cultural relevance. Recent literature emphasizes that teaching methods influence how effectively creativity can be nurtured in educational settings (Sawyer, 2019). Pedagogical strategies such as project-based learning, collaborative methods, and experiential approaches have been shown to enhance students' problem-solving skills and creative thinking (Darling-Hammond et al., 2020). However, while studies on creativity in education are abundant, most focus on general

Copyright Holder:
© Rina. (2025)
Corresponding author's email: rinahergisa@gmail.com

This Article is Licensed Under:

education or STEM fields, leaving a gap in understanding how creativity and socio-cultural innovation are specifically integrated into vocational education, particularly in the creative arts and creative economy disciplines.

In the Indonesian context, vocational high schools (*Sekolah Menengah Kejuruan*/SMK) are expected to bridge the gap between education and industry needs. SMK Negeri 3 Bandung, recognized for its Creative Arts and Creative Economy programs, represents a unique context where creativity and cultural values intersect with vocational competencies. Nevertheless, limited research has been conducted on how teaching methods at vocational schools contribute to strengthening creativity and socio-cultural innovation among students. This practice gap highlights the need for applied research that can inform both educators and policymakers. The purpose of this study is to explore the role of teaching methods in strengthening creativity and socio-cultural innovation in vocational education, using *SMK Negeri 3 Bandung* as a case study. Specifically, this study seeks to address the following research objectives:

1. To identify the teaching methods applied in the Creative Arts and Creative Economy programs at SMK Negeri 3 Bandung.
2. To examine how these teaching methods support the development of student creativity.
3. To analyze the contribution of teaching methods to fostering socio-cultural innovation in the school context.

Accordingly, the research questions guiding this study are:

1. What teaching methods are used by teachers in the Creative Arts and Creative Economy programs at SMK Negeri 3 Bandung?
2. How do these teaching methods strengthen student creativity?
3. In what ways do teaching methods foster socio-cultural innovation in vocational education?

This research contributes both theoretically and practically. Theoretically, it enriches the literature on creativity and socio-cultural innovation in vocational education, an area still underexplored. Practically, it provides insights for teachers and vocational schools in designing teaching methods that are responsive to the needs of the creative industry while maintaining cultural relevance. By situating the study in Indonesia's vocational school system, it also contributes to broader discussions on how developing countries can align education with innovation and creativity in the 21st century.

LITERATURE REVIEW

Teaching Methods and Their Role in Vocational Education

Teaching methods are widely recognized as central to shaping students' learning experiences and competencies. In vocational education, teaching methods are expected to combine theoretical knowledge with practical skills, enabling students to meet industry standards while cultivating creativity and problem-solving skills (Darling-Hammond et al., 2020). Approaches such as project-based learning, collaborative instruction, and experiential methods have been emphasized as particularly relevant to vocational schools because they mirror workplace practices and stimulate students' capacity to innovate. However, scholars also debate whether such approaches can be effectively scaled in contexts with limited resources, as some argue that traditional methods may still provide structure and efficiency where innovative methods face implementation challenges (Johnson & Lee, 2021). This suggests that teaching methods not only transfer knowledge but also create an environment that nurtures creativity and prepares learners for the demands of the creative economy.

Creativity as a Core Competency in 21st Century Education

Creativity has become one of the most essential competencies for students in the 21st century. Trilling and Fadel (2009) highlight creativity alongside critical thinking, communication, and collaboration as foundational skills for modern learners. In vocational education, creativity is especially significant as students are trained to generate original ideas and transform them into practical products, particularly in fields related to the arts and creative economy. Sawyer (2019) further argues that creativity is not an isolated talent but a process fostered through educational contexts that encourage experimentation, collaboration, and iterative learning. Recent qualitative studies confirm this perspective, showing that creativity in vocational schools is closely linked to the balance between structured guidance and autonomy (Rahmawati & Santoso, 2021; Brown, 2022). This underscores the importance of teaching methods that go beyond rote learning to stimulate students' creative potential.

Socio-Cultural Innovation and the Role of Education

Beyond individual creativity, socio-cultural innovation has been recognized as an outcome of education that connects students' learning with broader social and cultural contexts. Schools are not only knowledge transmission institutions but also sites of socialization and cultural reproduction (Durkheim, 2013). Research indicates that education can foster cultural innovation when it equips learners to critically engage with traditions while contributing new ideas relevant to contemporary society (Hargreaves, 2019). Yet, some authors caution that socio-cultural innovation in education can also risk commodifying culture when global industry demands overshadow local traditions (Nguyen, 2021). For vocational schools in Indonesia, particularly in creative arts and economy programs, socio-cultural innovation is vital as it enables students to create work that resonates with both local heritage and global creative industries.

Digitalization, Teaching Methods, and Innovation in Vocational Education

Recent studies highlight how digitalization has transformed teaching methods, particularly in vocational and secondary education. Innovative practices such as digital simulations, blended learning, and collaborative online platforms enhance students' engagement while providing new avenues for creative expression (Voogt & Roblin, 2012). For the creative economy sector, digital tools expand opportunities for innovation in design, multimedia, and entrepreneurship. However, empirical research in Indonesia shows that while digitalization offers potential, vocational schools often struggle to adapt teaching methods to maximize its benefits (Kemdikbud, 2020). Newer case studies in Southeast Asia (e.g., Putri & Nugraha, 2020; Lim & Tan, 2023) further emphasize that the integration of digital methods is uneven, with disparities in infrastructure creating a digital divide in vocational education. This practice gap demonstrates the need for research on how teaching methods can strategically integrate both traditional and digital approaches to foster creativity and cultural innovation.

Theoretical Benchmark: Sociocultural and Constructivist Perspectives

This study is anchored in sociocultural theory and constructivist learning perspectives. Vygotsky's sociocultural theory emphasizes that learning and creativity are socially mediated processes, shaped by interaction, cultural tools, and context (Vygotsky, 1978). Similarly, constructivist pedagogy stresses that learners construct knowledge through active engagement and reflection, guided by teachers who facilitate rather than dictate learning (Fosnot, 2013). More recent studies in vocational education contexts (Hidayat & Sun, 2022) have operationalized these theories by showing how teacher facilitation strategies directly influence students' creative agency in collaborative projects. These perspectives align with vocational education's goals of preparing

students to actively participate in creative industries by integrating cultural understanding and innovation into their learning processes. Thus, the theoretical benchmark of this study lies in examining how teaching methods operationalize these frameworks in fostering creativity and socio-cultural innovation.

Identified Gap and the Need for Contextual Research

Although existing literature has explored the relationship between teaching methods, creativity, and innovation, most studies focus on general education or STEM contexts in developed countries. Limited attention has been given to how vocational schools in Indonesia, particularly those in the creative arts and economic sectors, employ teaching methods to foster creativity and socio-cultural innovation. Only a few recent studies (e.g., Sari, 2021; Yusuf & Prabowo, 2022) have touched upon Indonesian vocational education, but these works remain descriptive rather than analytical. This gap indicates the need for applied research that situates the phenomenon within specific educational, cultural, and institutional contexts. By investigating the case of SMK Negeri 3 Bandung, this study seeks to provide such contextualized insights.

RESEARCH METHOD

Research Design and Type of Study

This study adopts a qualitative exploratory case study design. The exploratory nature is appropriate because limited research has been conducted on how teaching methods strengthen creativity and socio-cultural innovation in vocational schools, particularly within the Indonesian context. A case study approach provides in-depth insights into a bounded system (SMK Negeri 3 Bandung), enabling a contextualized understanding of teaching practices and their impact on students (Creswell & Poth, 2018). The qualitative choice is justified because the focus is on exploring meanings, processes, and experiences rather than testing hypotheses or measuring variables.

Research Site and Sampling Strategy

The study was conducted at SMK Negeri 3 Bandung, focusing on the Creative Arts and Creative Economy programs. A purposive sampling strategy was employed, as participants were selected based on their direct involvement in teaching and learning activities relevant to creativity and socio-cultural innovation (Patton, 2015). Approximately 7 teachers were included because they design and implement teaching methods, while 15 students were recruited to represent diverse experiences within the program. The sample size is considered sufficient for qualitative inquiry because it allows for data saturation, which in this study was reached after the seventh teacher interview and the second FGD, when no substantially new codes emerged during coding cycles (Guest et al., 2006).

Data Collection Methods and Instruments

Four complementary data collection methods were employed to ensure depth and triangulation:

1. Semi-structured interviews with teachers, guided by an interview protocol, to explore their teaching strategies, pedagogical rationales, and perceptions.
2. Focus group discussions (FGDs) with students, consisting of 6–8 participants per group, to capture collective perspectives on teaching methods and their influence on creativity and innovation.
3. Classroom observations using an observation checklist to record teaching practices, student engagement, and manifestations of creativity and socio-cultural innovation.

4. Document analysis of lesson plans, curriculum documents, and student projects to triangulate interview and observation data.

These methods are considered appropriate for qualitative research as they capture participants' lived experiences, contextual practices, and documentary evidence (Merriam & Tisdell, 2016).

Validity, Reliability, and Trustworthiness

Instead of validity and reliability in the quantitative sense, this qualitative study employed strategies to ensure trustworthiness (Lincoln & Guba, 1985). Credibility was enhanced through triangulation of multiple data sources (teachers, students, documents). Transferability was ensured by providing a thick description of the research context. Dependability was addressed by maintaining a detailed audit trail of decisions and procedures. Confirmability was achieved through member checking, where participants reviewed summaries of their interviews to validate interpretations.

Data Analysis

Data were analyzed using thematic analysis (Braun & Clarke, 2006). This method was chosen because it provides a systematic process to identify, analyze, and report patterns (themes) within qualitative data. The steps included: (1) data familiarization, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) writing the report. Coding and theme development were supported by NVivo software, which not only facilitated systematic organization and retrieval of qualitative data but also enhanced coding reliability through query functions and supported visualization of theme relationships. The theoretical benchmarks of sociocultural theory (Vygotsky, 1978) and constructivist learning (Fosnot, 2013) were explicitly integrated into the analysis by serving as interpretive lenses during coding and theme refinement. For example, codes related to collaboration were interpreted in light of Vygotsky's concept of social mediation, while those linked to reflection were analyzed through constructivist perspectives. Figure 1 illustrates this framework and its application in the coding process.

Ethical Considerations

Prior to data collection, ethical approval was obtained from the relevant institutional review board. Participants were informed about the study's purpose and procedures, and voluntary written consent was secured. Anonymity and confidentiality were strictly maintained by assigning pseudonyms and securely storing data. Participants were assured that their involvement was voluntary and that they could withdraw at any time without penalty.

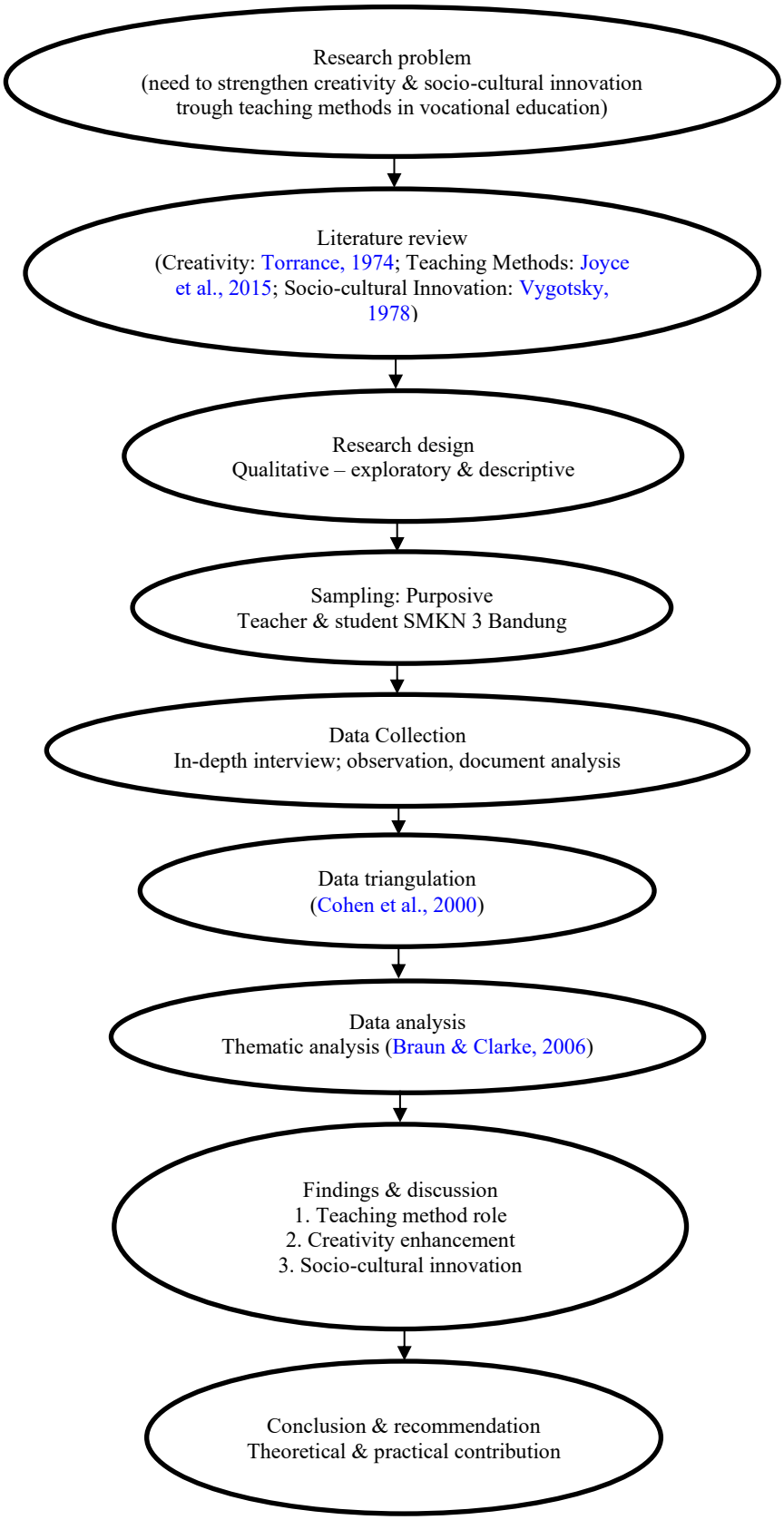

Figure 1. Theoretical Framework of Teaching Methods as Drivers of Creativity and Socio-Cultural Innovation in Vocational Education

FINDINGS AND DISCUSSION

Table 1. Demographic Profile of Respondents

Code	Role	Program	Gender	Years of Experience / Grade
T1	Teacher	Creative Arts	F	12 years
T2		Creative Arts	F	7 years
T3		Creative Economy	F	15 years
T4		Creative Economy	F	20 years
T5		Creative Arts	F	8 years
T6		Creative Economy	F	10 years
T7		Creative Arts	F	5 years
S1	Student	Creative Arts	F	Grade 11
S2		Creative Arts	M	Grade 11
S3		Creative Arts	F	Grade 11
S4		Creative Arts	M	Grade 11
S5		Creative Arts	F	Grade 12
S6		Creative Arts	F	Grade 12
S7		Creative Arts	F	Grade 12
S8		Creative Economy	F	Grade 11
S9		Creative Economy	F	Grade 11
S10		Creative Economy	F	Grade 11
S11		Creative Economy	F	Grade 11
S12		Creative Economy	F	Grade 12
S13		Creative Economy	F	Grade 12
S14		Creative Economy	M	Grade 12
S15		Creative Economy	F	Grade 12

Theme 1: Diverse Teaching Methods in Vocational Education

Teachers at *SMK Negeri 3 Bandung* consistently highlighted the importance of applying diverse teaching strategies to strengthen creativity and socio-cultural innovation. Approaches such as project-based learning, collaborative workshops, and contextual instruction were frequently

mentioned, emphasizing real-world application and experiential learning. For instance, one teacher explained,

> *"I rarely use lectures anymore. Students learn better when they create a product or project that reflects their own ideas"* (T2).

Another teacher added,

> *"My students often work in groups, and I let them decide their own project themes to build teamwork"* (T4).

Similarly, contextual relevance was highlighted:

> *"Contextual learning is important; I usually ask them to design based on real community needs"* (T6).

These reflections underscore a pedagogical shift from teacher-centered instruction toward student-centered, inquiry-driven approaches. Students' voices corroborated this perspective, reinforcing the effectiveness of these methods in making learning meaningful. One student emphasized,

> *"In group projects, I feel free to share ideas and learn from friends"* (S3),

while another stated,

> *"I learn faster when the teacher gives us real tasks, like making posters or starting a mini business"* (S8).

A senior student explained,

> *"Workshops are exciting; we get to practice and not just sit and listen"* (S15).

These narratives reflect how hands-on, collaborative, and practice-oriented tasks not only engage learners but also empower them to build critical soft skills such as teamwork, problem-solving, and communication.

The findings resonate strongly with Joyce et al. (2015), who emphasize that active and participatory learning models are central to modern pedagogy. Project-based learning, in particular, has been widely recognized for fostering deep learning by situating knowledge within authentic contexts (Thomas, 2000). Similarly, collaborative workshops echo Johnson and Johnson's (2009) cooperative learning theory, which stresses the value of structured group interaction in promoting both cognitive and social development. Contextual instruction, meanwhile, aligns with the constructivist perspective of Dewey (1938), which argues that education should connect learners to real-life experiences and societal needs.

Interestingly, the emphasis on authentic, community-based projects also supports the argument of Darling-Hammond et al. (2020), who contend that socio-cultural relevance enhances students' engagement and learning outcomes. By encouraging students to address real community issues, whether designing culturally inspired artworks or launching small-scale entrepreneurial initiatives, teachers bridge the gap between vocational education and real-world challenges. This alignment with local and cultural contexts not only makes learning more meaningful but also

strengthens students' socio-cultural identity while preparing them for the creative economy.

At the same time, the adoption of diverse teaching methods also reflects the 21st-century skills framework proposed by Trilling and Fadel (2009), where creativity, collaboration, and critical thinking are essential competencies. By using workshops, group projects, and contextual assignments, teachers at *SMK Negeri 3 Bandung* are effectively nurturing these competencies within vocational education settings. This is especially relevant for creative arts and creative economy programs, where adaptability, innovation, and problem-solving are crucial for success in rapidly changing industries.

In sum, the evidence from both teachers and students suggests that diverse teaching methods are not only pedagogically sound but also practically effective in vocational education. These methods foster creativity, strengthen collaboration, and integrate socio-cultural values, thus making education both innovative and culturally responsive. However, the findings also hint at an underlying challenge: ensuring that teachers have sufficient resources and professional development to sustain such innovative practices.

Theme 2: Creativity as a Core Learning Outcome

Students consistently emphasized that project-based and collaborative activities provided them with opportunities to experiment, explore new ideas, and embrace failure as part of the creative process. One student explained,

> *"In our class, we can try different designs, even if they fail. That's where we learn to be creative"* (S4). Another added, *"I once made a stage design that didn't work, but the teacher still appreciated the idea. That gave me confidence"* (S6).

Similarly, creativity was not seen as confined to the arts but extended to entrepreneurship:

> *"Creativity is not only about art, but also about finding business solutions"* (S12).

These reflections highlight a broader conceptualization of creativity that spans across both aesthetic innovation and problem-solving in the creative economy. Teachers echoed these student perspectives by intentionally designing learning environments that reward experimentation and divergent thinking. For instance, one teacher remarked,

> *"I let students revise and refine their work multiple times, because creativity comes from the process"* (T1).

Another reinforced this mindset:

> *"Failure is part of the learning journey, and I remind my students not to be afraid of it"* (T5).

Such pedagogical practices reflect a shift away from product-oriented evaluation toward process-oriented learning, where iterative refinement and reflective practice are central.

These findings are consistent with Torrance's (1974) classic assertion that creativity flourishes in safe and supportive environments that value originality and risk-taking. Modern research further substantiates this claim. Beghetto and Kaufman (2014) argue that creativity is nurtured when educators encourage mini-c creativity, everyday acts of originality, before

progressing toward more significant contributions. Likewise, Amabile (1996) emphasizes that intrinsic motivation, coupled with a climate of psychological safety, is essential for creative performance. The students' confidence to try, fail, and try again suggests that the teachers at *SMK Negeri 3 Bandung* have successfully fostered such an environment.

Importantly, the notion of creativity as a multidimensional outcome aligns with current perspectives in vocational education, which recognize creativity not only in the production of artistic works but also in entrepreneurial innovation and problem-solving (Runco & Jaeger, 2012). This resonates strongly with the objectives of the Creative Economy Program, where learners are expected to develop competencies that prepare them for both cultural production and economic participation. By framing creativity as both an artistic and entrepreneurial skill, the program bridges the often-perceived divide between creative expression and business innovation.

The students' reflections also mirror Vygotsky's (1978) socio-cultural theory, which posits that creativity develops through social interaction and cultural mediation. When students collaborate in workshops, critique each other's work, and integrate local cultural elements into their projects, they engage in a dynamic process of co-constructing knowledge and innovation. This finding reinforces the importance of embedding creativity not only in individual tasks but also in collective, culturally situated learning experiences.

Taken together, the evidence suggests that creativity at *SMK Negeri 3 Bandung* is conceptualized and practiced as both an educational goal and a vocational necessity. By fostering safe spaces for experimentation, valuing originality, and connecting creativity to real-world problem-solving, the teaching methods employed equip students with competencies crucial for thriving in the creative arts and creative economy sectors. However, sustaining this environment requires ongoing institutional support, particularly in assessment practices, as standardized testing often undervalues the iterative and process-driven nature of creativity.

Theme 3: Integration of Socio-Cultural Elements

Teachers at *SMK Negeri 3 Bandung* intentionally integrated local cultural heritage into classroom projects, ensuring that learning was not only skill-based but also culturally grounded. This deliberate practice encouraged students to merge traditional values with modern forms of expression. One teacher shared,

"I ask students to take inspiration from Sundanese motifs, but present it in a digital format" (T5).

Another emphasized the importance of identity,

"Cultural themes make projects meaningful; students learn to value their roots" (T3).

Such approaches reveal an understanding that vocational education, particularly in the creative arts and creative economy fields, should cultivate both technical competence and cultural literacy.

Students also confirmed that this integration enriched their learning experience. For example, one reflected,

"I used batik patterns in my graphic design project, and it felt unique" (S2).

Another explained,

"We once performed a modern dance inspired by traditional movements" (S7),

While a third added,

"My group created a business idea based on traditional snacks but marketed with digital branding" (S14).

These examples illustrate how students are encouraged to reinterpret local traditions through contemporary media, performance, and entrepreneurial innovation, making their projects both relevant and distinctive.

This practice aligns strongly with Vygotsky's (1978) socio-cultural theory, which emphasizes that learning is mediated by cultural tools and social interactions. By engaging with cultural symbols such as motifs, dances, and food traditions, students not only acquire new skills but also co-construct knowledge within their cultural context. In this sense, creativity is not detached from identity but rather embedded in collective heritage. Darling-Hammond et al. (2020) further support this perspective, arguing that culturally relevant pedagogy enhances motivation, engagement, and achievement because it connects students' lived experiences with their learning environment.

Moreover, this integration reflects the concept of glocalization in education, where local traditions are preserved while adapting to global demands (Robertson, 1995). By incorporating Sundanese motifs into digital design or branding traditional snacks with modern marketing strategies, students are learning to navigate the balance between cultural preservation and economic innovation. This dual competence is especially crucial in vocational education, where graduates are expected to contribute to both the creative economy and cultural sustainability.

The emphasis on socio-cultural elements also resonates with Banks' (2009) notion of multicultural education, which asserts that valuing students' cultural backgrounds fosters inclusivity and deeper learning. In the Indonesian context, where education is seen as a vehicle for both economic advancement and cultural preservation, such practices are highly significant. They not only prepare students with marketable skills but also instill pride in local heritage, ensuring that modernization does not come at the expense of cultural identity.

In summary, the integration of socio-cultural elements at *SMK Negeri 3 Bandung* demonstrates that creativity and cultural innovation are not mutually exclusive but mutually reinforcing. Teachers' intentional incorporation of local heritage into learning tasks enriches students' creativity, strengthens their socio-cultural identity, and prepares them to innovate responsibly in the creative economy. However, sustaining this integration requires continued institutional support, particularly in providing resources and curriculum space that encourage the blending of cultural content with modern learning methods.

Theme 4: Teachers as Facilitators of Innovation

A significant shift observed in *SMK Negeri 3 Bandung* is the changing role of teachers, from traditional knowledge transmitters to facilitators and mentors of innovation. Rather than delivering fixed solutions, teachers encourage students to engage in inquiry, exploration, and collaborative problem-solving. As one teacher explained,

"Sometimes I don't give direct answers. I let students figure out solutions themselves" (T1).

Another emphasized external linkages, stating,

"I often connect students with alumni or creative industry practitioners" (T4).

Similarly, one reflected on pedagogical philosophy:

"My role is to support their process, not dictate their results" (T2).

Students validated this pedagogical transformation. One noted,

"Our teacher lets us explore first, then gives feedback. It makes us more independent" (S5).

Another shared,

"I learned to pitch ideas to real entrepreneurs because of my teacher's connection" (S10).

A third highlighted the balance between autonomy and guidance:

"I feel guided, but also free to choose the project direction" (S13).

Collectively, these voices suggest that teachers act not as gatekeepers of knowledge but as enablers of innovation, creating an ecosystem where students are empowered to take ownership of their learning.

This shift reflects the principles of constructivist pedagogy, where students actively construct meaning through engagement and reflection (Fosnot, 2013). Instead of providing ready-made answers, teachers design learning environments that stimulate curiosity, experimentation, and critical thinking. This aligns with Trilling and Fadel's (2009) framework of 21st-century competencies, which emphasizes self-directed learning, collaboration, communication, and creativity as essential skills for future-ready graduates. In the context of vocational education, where adaptability and innovation are crucial, such facilitation is particularly valuable.

The facilitative role of teachers also resonates with Vygotsky's (1978) concept of the Zone of Proximal Development (ZPD). By withholding direct answers and instead guiding students through scaffolding, teachers enable learners to achieve tasks slightly beyond their current ability. Over time, this approach fosters greater independence and confidence in problem-solving, mirroring the demands of real-world creative industries.

Moreover, the practice of connecting students with alumni and industry practitioners demonstrates an integration of experiential and networked learning. This reflects Kolb's (2015) theory of experiential learning, where knowledge emerges through the transformation of experience. By facilitating direct interactions with professionals, teachers help students bridge the gap between classroom learning and industry practice, enhancing both relevance and authenticity.

The shift from directive to facilitative teaching also underscores the importance of learner agency. According to Biesta (2015), education should not merely transmit knowledge but foster students' capacity to act, decide, and contribute meaningfully to society. At SMK Negeri 3 Bandung, teachers are consciously nurturing agency by providing freedom, responsibility, and opportunities for innovation. This practice ensures that students do not merely replicate knowledge but become creators of new solutions, a key attribute in the creative economy.

Finally, this pedagogical transformation carries broader implications for the Indonesian vocational education system. It suggests that teacher professional development should not only focus on subject expertise but also on mentorship skills, industry engagement, and facilitative

teaching strategies. Institutional support, such as policies encouraging industry-school partnerships and project-based learning, will be essential in sustaining this model.

In summary, the role of teachers as facilitators of innovation at *SMK Negeri 3 Bandung* highlights a progressive pedagogy that blends constructivist approaches, industry engagement, and empowerment of learner agency. This approach prepares students not only with technical skills but also with the mindset and competencies necessary to thrive as innovators in the creative industries.

Theme 5: Challenges and Unexpected Findings

While the overall findings illustrate promising practices in fostering creativity and socio-cultural innovation, several constraints and challenges were also identified. Teachers highlighted systemic and infrastructural limitations that often hinder the depth and breadth of learning activities. One teacher noted,

> *"We need better access to digital tools; not all students have laptops or software"* (T6),

underscoring the digital divide that remains a barrier in many Indonesian vocational schools. Another teacher added,

> *"Time for deep exploration is limited because the curriculum is packed"* (T3),

reflecting the structural challenge of curriculum overload that prioritizes coverage over in-depth inquiry. Students echoed these concerns from their perspective. Some expressed frustration with the time constraints:

> *"We want to explore more ideas, but projects often must be finished quickly"* (S9).

Others highlighted the need for more scaffolding: *"Sometimes open-ended tasks make me confused; I need more structure"* (S11).

Group work, while beneficial for collaboration, also posed challenges:

> *"Not all group members contribute equally, and that slows us down"* (S18).

These statements suggest that while the pedagogy encouraged autonomy, unequal participation, and lack of clarity in expectations sometimes limited the effectiveness of collaborative learning.

An unexpected finding was that a subset of students preferred structured guidance over open-ended creative tasks. While most valued autonomy and freedom, these students reported feeling uncertain when faced with broad project choices. This nuance indicates a tension between autonomy and clarity, where some learners thrive in open environments while others benefit from stronger scaffolding. This finding aligns with Guest et al. (2006), who emphasize that learning experiences vary widely across individuals and that the principle of data saturation should not obscure the recognition of minority perspectives within qualitative research.

From a theoretical standpoint, this tension resonates with Vygotsky's (1978) Zone of Proximal Development, which suggests that learners require different levels of scaffolding depending on their readiness. Too much autonomy may overwhelm less confident students, while too much structure may stifle creativity in others. Similarly, Ryan and Deci's (2000) Self-Determination Theory (SDT) explains that learners need a balance of autonomy, competence, and

relatedness to remain motivated and engaged. When autonomy is not supported by sufficient competence (skills, resources, or guidance), students may feel frustrated rather than empowered.

These findings also highlight broader systemic issues in vocational education. Limited access to digital tools reflects ongoing inequalities in educational infrastructure (OECD, 2019). Packed curricula reduce opportunities for deep, project-based learning, even though such approaches are most relevant to creative industry preparation. Unequal contributions in group projects raise questions about the need for clearer assessment frameworks that balance teamwork with individual accountability.

The study's recognition of these challenges suggests important implications for policy and practice. First, schools must invest in digital infrastructure to ensure equitable access, particularly in programs preparing students for creative and technology-driven industries. Second, curriculum design should allow more flexibility and depth, enabling sustained inquiry rather than rushed project completion. Third, teachers may need to adopt differentiated facilitation strategies, balancing open-ended tasks with structured guidance tailored to students' varying readiness levels. Finally, mechanisms for managing group dynamics, such as peer evaluation or role-based project assignments, could help address issues of unequal participation.

In sum, while *SMK Negeri 3 Bandung* demonstrates innovative practices in integrating creativity and socio-cultural values, the challenges identified remind us that innovation in education is never without tensions and limitations. Addressing these barriers will require systemic support, teacher adaptability, and an ongoing balance between freedom and structure, innovation and feasibility.

CONCLUSIONS

This study shows that teaching methods at SMK Negeri 3 Bandung, such as project-based learning, collaborative workshops, and contextual instruction, effectively foster creativity and socio-cultural innovation. Teachers have shifted to become facilitators, encouraging experimentation, cultural integration, and real-world applications, while students benefit from these participatory approaches. The findings confirm and extend key theories: Torrance's creativity as experimentation, Vygotsky's socio-cultural theory, and constructivist pedagogy, while also highlighting the need to balance autonomy with structured guidance (Ryan & Deci, 2000). Practically, the study recommends providing teacher training in flexible pedagogy, improving digital resources, allocating more time for in-depth projects, and adopting inclusive assessments. Embedding local culture within vocational education is especially vital for strengthening both creative identity and socio-cultural resilience. Beyond the case of one school, these findings have broader implications for Indonesia's vocational education system, where integrating creativity and cultural heritage can strengthen the country's position in the global creative economy. At the same time, the study contributes to international debates on how vocational schools can move beyond skill training to become drivers of cultural innovation and socio-economic resilience.

LIMITATION & FURTHER RESEARCH

Future studies should expand the context by including other vocational schools in different fields (e.g., technology, tourism, business) to compare teaching practices. A mixed-methods approach is suggested: qualitative inquiry for depth, followed by quantitative analysis to test relationships such as teaching methods → student creativity → socio-cultural innovation using standardized instruments (e.g., Torrance Test of Creative Thinking, TTCT). Longitudinal designs could examine how teaching methods influence creativity development across grades. Classroom observations and document analysis should complement interviews to strengthen triangulation. Finally, future research should also address systemic barriers such as curriculum constraints,

digital infrastructure, and education policies. Overall, adopting a mixed-methods approach will enrich findings and enhance external validity.

REFERENCES

Amabile, T. M. (1996). *Creativity in context*. Westview Press.

Banks, J. A. (2009). *Multicultural education: Characteristics and goals*. In J. A. Banks & C. A. M. Banks (Eds.), *Multicultural education: Issues and perspectives* (7th ed., pp. 3–32). Wiley.

Beghetto, R. A., & Kaufman, J. C. (2014). Classroom contexts for creativity. *High Ability Studies, 25*(1), 53–69. https://doi.org/10.1080/13598139.2014.905247

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brown, T. (2022). *Creativity in vocational education: Balancing autonomy and structured learning*. Journal of Vocational Education Studies, 45(3), 211–229. https://doi.org/10.1080/02601370.2022.1845672

Biesta, G. (2015). *Good education in an age of measurement: Ethics, politics, democracy*. Routledge.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5th ed.). Routledge. https://doi.org/10.4324/9780203224342

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science, 24*(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791

Dewey, J. (1938). *Experience and education*. Macmillan.

Durkheim, É. (2013). *Education and sociology*. Routledge. (Original work published 1922)

Fosnot, C. T. (Ed.). (2013). *Constructivism: Theory, perspectives, and practice* (2nd ed.). Teachers College Press.

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82. https://doi.org/10.1177/1525822X05279903

Hargreaves, A. (2019). *Teaching in the knowledge society: Education in the age of insecurity*. Teachers College Press.

Hidayat, R., & Sun, Q. (2022). *Teacher facilitation and student agency in collaborative vocational projects: A sociocultural perspective*. International Journal of Educational Research, 115, 102048. https://doi.org/10.1016/j.ijer.2022.102048

Johnson, D. W., & Johnson, R. T. (2009). *An educational psychology success story: Social interdependence theory and cooperative learning*. Educational Researcher, 38(5), 365–379. https://doi.org/10.3102/0013189X09339057

Johnson, M., & Lee, P. (2021). *Scaling innovative pedagogy in resource-limited schools: Promise and pitfalls*. Comparative Education Review, 65(4), 578–596. https://doi.org/10.1086/715722

Joyce, B., Weil, M., & Calhoun, E. (2015). *Models of teaching* (9th ed.). Pearson Higher Ed.

Kementerian Pendidikan dan Kebudayaan. (2020). *Rencana strategis Kementerian Pendidikan dan Kebudayaan 2020–2024*. Kementerian Pendidikan dan Kebudayaan Republik Indonesia. https://www.kemdikbud.go.id/

Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd ed.). Pearson Education.

Lim, J., & Tan, K. (2023). *Digital transformation in vocational education: Opportunities and inequalities in Southeast Asia*. Asia Pacific Education Review, 24(1), 35–50.

https://doi.org/10.1007/s12564-022-09767-3
Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
Nguyen, L. T. (2021). *Cultural innovation or cultural commodification? Rethinking socio-cultural outcomes of education*. Journal of Cultural Studies in Education, 12(2), 143–159. https://doi.org/10.1080/24701475.2021.1934567
OECD. (2019). *OECD skills outlook 2019: Thriving in a digital world*. OECD Publishing. https://doi.org/10.1787/df80bc12-en
Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.
Putri, A. M., & Nugraha, D. (2020). *Blended learning practices in Indonesian vocational schools: A case study of digital adaptation*. Indonesian Journal of Educational Technology, 8(2), 95–108. https://doi.org/10.21831/ijet.v8i2.35678
Rahmawati, N., & Santoso, H. (2021). *Creativity development in Indonesian vocational schools: A qualitative exploration*. Journal of Technical and Vocational Education, 12(1), 47–59. https://doi.org/10.30880/jtvet.2021.12.01.005
Robertson, R. (1995). Glocalization: Time-space and homogeneity-heterogeneity. In M. Featherstone, S. Lash, & R. Robertson (Eds.), *Global modernities* (pp. 25–44). SAGE
Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal, 24*(1), 92–96. https://doi.org/10.1080/10400419.2012.650092
Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68
Sari, D. (2021). *Teaching methods and creativity in Indonesian vocational education: Challenges and opportunities*. Journal of Educational Practice, 12(14), 62–71. https://doi.org/10.7176/JEP/12-14-07
Sawyer, R. K. (2019). *The Cambridge handbook of creativity*. Cambridge University Press. https://doi.org/10.1017/9781316979839
Thomas, J. W. (2000). *A review of research on project-based learning*. The Autodesk Foundation
Torrance, E. P. (1974). *Torrance Tests of Creative Thinking: Norms-technical manual*. Personnel Press
Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.
Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies, 44*(3), 299–321. https://doi.org/10.1080/00220272.2012.668938
Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
Yusuf, M., & Prabowo, A. (2022). *Integrating socio-cultural heritage in vocational education: Lessons from creative industries in Indonesia*. International Journal of Vocational and Technical Education, 14(2), 22–33. https://doi.org/10.5897/IJVTE2022.0351