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The Role of Digital Content Design in the Formation of Visual-Communicative Creativity in Grade V Students

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Abstract
This study aims to describe the role of designing digital content in the form of posters in the formation of visual-communicative creativity through reading literacy learning. The research uses a qualitative approach with case study methods to deeply understand the process of forming students' creativity. The research subjects included 1 class V teacher, 25 class V students, and the principal. Data was collected through participatory observation, in-depth interviews, and documentation studies of students' digital poster work. Data analysis used the interactive model Miles, Huberman, and Saldaña with stages of data condensation, data presentation, and conclusion drawn. The validity of the data is maintained through triangulation of sources and methods as well as member checking. The findings show that designing digital posters plays a significant role in developing visual-communicative creativity through four mechanisms: reading literacy stimulates imagination, transforming ideas into visuals fosters divergent thinking, the use of Canva facilitates creative expression, and presentations strengthen visual communication. The creativity developed includes fluency, flexibility, originality, and elaboration, although challenges remain in digital infrastructure and varying levels of students' digital literacy. The study integrates creativity theory, visual communication, and digital literacy in elementary learning under the Independent Curriculum.
Keywords: *Visual-communicative creativity, Digital posters, Elementary schools*

Abstrak
Penelitian ini bertujuan untuk mendeskripsikan peran perancangan konten digital dalam bentuk poster dalam pembentukan kreativitas visual-komunikatif melalui pembelajaran literasi membaca. Penelitian ini menggunakan pendekatan kualitatif dengan metode studi kasus untuk memahami secara mendalam proses pembentukan kreativitas siswa. Subjek penelitian meliputi 1 guru kelas V, 25 siswa kelas V, dan kepala sekolah. Data dikumpulkan melalui observasi partisipatif, wawancara mendalam, dan studi dokumentasi karya poster digital siswa. Analisis data menggunakan model interaktif Miles, Huberman, dan Saldaña dengan tahapan kondensasi data, penyajian data, dan penarikan kesimpulan. Validitas data dijaga melalui triangulasi sumber dan metode serta pengecekan anggota. Hasil penelitian menunjukkan bahwa perancangan poster digital memainkan peran penting dalam mengembangkan kreativitas visual-komunikatif melalui empat mekanisme: literasi membaca merangsang imajinasi, transformasi ide menjadi visual mendorong pemikiran divergen, penggunaan Canva memfasilitasi ekspresi kreatif, dan presentasi memperkuat komunikasi visual. Kreativitas yang dikembangkan mencakup kelancaran, fleksibilitas, orisinalitas, dan elaborasi, meskipun tantangan tetap ada dalam infrastruktur digital dan berbagai tingkat literasi digital siswa. Studi ini mengintegrasikan teori kreativitas, komunikasi visual, dan literasi digital dalam pembelajaran dasar di bawah Kurikulum Independen.
Kata kunci: Kreativitas visual-komunikatif, Poster digital, Sekolah dasar

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INTRODUCTION

Creativity is an essential competency that must be developed in 21st century education because the world of work and future life requires individuals who are able to generate original ideas and innovative solutions to various complex problems (Thornhill-Miller et al., 2023). The Partnership for 21st Century Learning places creativity as one of the four main skills along with critical thinking, communication, and collaboration that need to be instilled since elementary education (Battelle for Kids, 2019). Guilford (1967) defines creativity through four main components, namely fluency, flexibility, originality, and elaboration which are important theoretical frameworks in measuring and developing individual creative abilities. Torrance (1974) developed an instrument for measuring figural creativity that showed that visual creativity can be stimulated and developed through activities that involve the systematic processing of visual elements.

Visual communication is the ability to convey messages and meanings through visual elements such as images, colors, typography, and composition (Dondis, 1973). Arnheim (1969) argued that all thinking is perceptual and visual thinking activity is an important foundation in human cognitive processes. The integration of creativity and visual communication results in the concept of visual-communicative creativity which refers to the ability to produce visual representations that are original and effective in conveying messages to the audience (Lester, 2020). This ability is becoming increasingly relevant in the digital era where information is dominated by visual content and individuals are required not only to be able to consume but also produce meaningful visual content.

Digital literacy is a key competency in the Independent Curriculum which emphasizes the development of the Pancasila Student Profile with a Creative dimension as one of the main focuses (Ministry of Education and Culture, 2022). The Creative Dimension in the Pancasila Student Profile for Phase C includes the ability to generate original ideas, produce original works and actions, and flexibility to think in finding alternative solutions (BSKAP, 2022). The European Commission's DigComp 3.0 framework (2024) identifies digital content creation as one of the essential areas of digital competence that includes the ability to creatively develop, integrate and reprocess digital content. However, research by Ibda et al. (2023) found that the digital literacy competence of elementary school teachers in Indonesia is still low, especially in the aspects of media literacy and technology literacy, so the implementation of digital-based learning faces significant challenges. In this context, reading literacy learning in elementary schools emerges as a strategic entry point for bridging textual comprehension and digital creative expression, since literacy activities provide the ideational substrate from which students can develop visual representations of their understanding.

Reading literacy learning in elementary school often still focuses on textual comprehension without providing space for students to express their comprehension visually (Suggate & Lenhard, 2022). In fact, research shows that mental imagery ability is positively correlated with reading and visualization performance can strengthen reading comprehension (Clark et al., 1984). The Dual Coding Theory from Sadoski and Paivio (2001) explains that reading involves verbal and imaginal systems simultaneously so that activities that connect the two systems can improve the quality of learning. Níkleva and Rodríguez-Muñoz (2022) prove that visual literacy programs improve reading comprehension with a significant correlation to student creativity.

Designing digital posters offers great potential as a learning activity that integrates reading literacy and visual creativity. Research by Harsono et al. (2019) shows the effectiveness of posters as a learning medium with a significant difference in learning outcomes between the experimental and control groups. Design apps like Canva provide a user-friendly platform for elementary school students to express ideas visually without requiring high technical skills (Kaffah et al., 2023). However, research on how digital

poster design activities can shape students' visual-communicative creativity in the context of reading literacy learning in Indonesian elementary schools is still very limited.

The research gap arises because previous studies have discussed visual creativity and digital literacy separately without integrating the two in the context of reading literacy learning in elementary schools. Scherbakova et al.'s (2024) research on the creativity of elementary school students focuses on measurement without digital design-based learning intervention. Wang et al. (2024) examine the impact of technology on creativity but is not specific to the context of digital literacy and posters. Kárpáti and Simon (2022) found that visual communication skills of elementary school students develop in the produce domain but less in the response domain, demonstrating the need for an approach that integrates production and reflection in creative learning. The novelty of this research lies in the integration of Guilford's theory of creativity, Dondis's visual communication, and Vygotsky's constructivism in a literacy learning framework based on digital poster design that focuses on the formation of visual-communicative creativity of elementary school students.

This study aims to describe the role of designing digital content in the form of posters in the formation of visual-communicative creativity in grade V students through reading literacy learning at SD Negeri 2 Pagutan Manyaran Wonogiri. The significance of the research arises because the findings can provide a theoretical and practical basis for the development of a literacy learning model that integrates visual creativity and digital literacy in accordance with the demands of the Independent Curriculum and the Pancasila Student Profile. The research also provides recommendations for the implementation of digital design-based learning that can be adopted by elementary school teachers in developing students' visual-communicative creativity.

METHOD

The research uses a qualitative approach because the research aims to deeply understand the phenomenon of the formation of students' visual-communicative creativity in the natural context of learning in the classroom (Creswell & Poth, 2018). The research chose the case study method because it allows for an empirical investigation of contemporary phenomena in real-life contexts with clear boundaries between phenomena and contexts (Yin, 2018). The single-case study design was chosen because the research focuses on one specific case, namely literacy learning based on digital poster design in grade V of SD Negeri Pagutan Manyaran Wonogiri with multiple units of analysis including the learning process, teacher-student interaction, student creative process, and digital poster products.

The research took place at Pagutan State Elementary School located in Manyaran District, Wonogiri Regency, Central Java Province. The selection of locations is carried out purposively with the consideration that the school has implemented the Independent Curriculum, has computer or tablet facilities for learning, grade V teachers have the initiative in integrating digital technology, and are willing to participate in research. The research subjects included 1 class V teacher who had more than five years of teaching experience and actively integrated technology in learning, 25 grade V students who participated in literacy learning based on digital poster design, and school principals as supporting informants about school policies and support for digital-based learning.

The study collected data from September to November 2025 through three main techniques. Participatory observation was carried out on 12 literacy learning sessions based on digital poster design with a total duration of 24 hours to observe the learning process, teacher-student interaction, and students' creative process in designing posters. In-depth interviews were conducted with grade V teachers for 60-90 minutes using a semi-structured interview guide, with 10 students selected purposively based on variations in abilities and outputs for 20-30 minutes with a child-friendly approach, and

with the principal for 45-60 minutes. A documentation study was carried out on the Teaching Module RPP, the work of 75 student digital posters from three learning cycles, a journal of student reflection, and visual documentation of the learning process. All interviews were recorded with permission and transcribed verbatim.

Data analysis used the interactive model of Miles, Huberman, and Saldaña (2020) with three components that took place simultaneously. Data condensation is done by selecting, focusing, and simplifying data through initial coding, focus coding, and thematic category development. Data presentation is carried out by compiling information in the form of matrices, diagrams, and descriptive narratives to facilitate analysis. Drawing conclusions is carried out by looking for the meaning of the patterns that appear, recording regularity, and verifying the findings. The analysis takes place iteratively with a constant comparison method to ensure consistency and depth of interpretation.

The validity of the data is maintained according to the criteria of Lincoln and Guba (1985). Credibility was maintained through intensive field involvement for three months, triangulation of sources by comparing data from teachers, students, and principals, triangulation of methods by comparing observation, interview, and documentation data, and member checking by confirming findings to participants. Transferability is maintained through detailed and in-depth context descriptions so that readers can assess the appropriateness of the findings to their context. Dependability is maintained through trail audits that record the entire research process from data collection to analysis. Confirmability is maintained through the researcher's reflective record and supporting evidence documentation of each finding. The research has obtained permission from the school and obtained informed consent from all participants, ensuring identity confidentiality through the use of initials.

RESULTS AND DISCUSSION

This study aims to understand the role of designing digital content in the form of posters in the formation of visual-communicative creativity of grade V students of SD Negeri Pagutan Manyaran Wonogiri. Analysis of observation, interview, and documentation data found four main themes that describe the process of forming students' visual-communicative creativity. The themes include the transformation of literacy understanding into visual representation, the development of creativity components through digital poster design, the role of scaffolding in facilitating creative expression, and learning implementation challenges and strategies. Participatory observation conducted across six learning sessions recorded students' active engagement during reading literacy activities, their exploratory use of Canva features, and peer-to-peer dialogues while constructing posters. Documentation analysis of 25 student posters, lesson plans, teacher reflection notes, and student worksheets revealed a consistent progression from textual summaries toward visually coherent compositions that integrated typography, color, imagery, and layout to communicate the core message of the reading texts. This section explains each theme by linking the findings to the theoretical frameworks of creativity, visual communication, and digital literacy.

Transformation of Literacy Understanding into Visual Representation

Learning begins with reading literacy activities which are a stimulus for students' creative processes. Teachers present reading texts with themes relevant to students' lives such as the environment, health, and local culture. Observations show that students are actively reading the text by taking notes and marking important passages. This reading process does not stop at textual comprehension but continues with a discussion of how the content of the reading can be visualized in the form of posters. This is in accordance with the Dual Coding Theory which explains that activities that connect

verbal and imaginal systems strengthen the understanding and retention of information (Sadoski & Paivio, 2001).

The teacher of grade V, Mrs. SW, explained the learning approach applied. "*I always start by reading together and then discussing the content of the reading. After the children understood the content of the text, I invited them to think about how the message in the reading could be conveyed through pictures and colors. It trains them to think from word to visual."* This approach reflects the principles of visual thinking from Arnheim (1969) which emphasizes that visual perception is a cognitive activity that is not separate from the thought process. The transformation from text to visual requires students to not only understand the literal meaning but also identify the essence of the message to be communicated visually.

Students demonstrate the ability to transform reading comprehension into meaningful visual concepts. The AN student revealed his experience, "*When I read the story about protecting the river, I immediately imagined a clean river and a dirty river. Then I thought about how to make people want to take care of the river through posters."* This mental imagery process is in line with the findings of Clark et al. (1984) that visualization helps students build a stronger mental representation of the text being read. The DP student added, "I like that the reading has a connection with daily life because it is easier to imagine the picture." Familiar context facilitates the process of cognitive transformation from verbal to visual.

Analysis of students' digital poster documentation shows variations in the way students represent reading comprehension. Some students choose a literal approach by describing the scene or object mentioned in the text. Others use a symbolic approach by using visual metaphors to convey the main message. This variation reflects the difference in cognitive style and the level of abstraction of students' thinking according to cognitive development in the concrete operational phase towards the formal operational phase (Piaget, 1973). Teachers provide an appreciation of both approaches while encouraging students to experiment with more complex visual representations.

Development of Creativity Components through Digital Poster Design

The activity of designing digital posters develops four components of creativity as conceptualized by Guilford (1967). The fluency component or fluency of producing ideas is seen when students are asked to brainstorm about the poster concept before starting to design. Observations noted that the average student was able to come up with 4-6 concept ideas within 10 minutes. The RK student explained, *"The teacher told me to write down all the ideas first, don't make them right away. It was difficult at first, but over time a lot of ideas came out on their own."* This strategy is in accordance with the recommendation to separate the phases of divergent thinking and convergent thinking in the creative process (Guilford, 1967).

The flexibility component or flexibility of thinking develops when students try different design approaches. Analysis of the work showed that in three learning cycles, students showed increased variation in the use of layouts, color combinations, and typography styles. Mother SW observes this development, "*In the beginning children tend to imitate existing templates. But after I gave them the challenge to make something different from their friends, they started exploring on their own. Some use cartoon styles, some are minimalist, some are full of illustrations."* Giving this challenge creates conditions that encourage students to step out of their comfort zone and try alternative approaches.

The originality component of an idea is the most challenging but also the most developed. FH students showed originality by creating posters about saving water using the metaphor "*water as the blood of the earth*" that is not found in any visual references. *"I think water is like blood in our bodies. If the water runs out, the earth dies like a person who runs out of blood. So I drew the earth with blood vessels filled with water,"* explained

FH. This concept shows the ability to make creative connections between different domains of knowledge, an important characteristic of creative thinking (Amabile, 1996). Scherbakova et al. (2024) emphasize that originality, not utility, is a key indicator of creativity in elementary school students.

The elaboration component or the ability to detail develops along with the improvement of students' technical skills in using design applications. Comparisons of the first and third cycle's works show significant improvements in the richness of visual detail, purposeful use of decorative elements, and subtlety of color transitions. The MR student revealed, "Now I am more thorough. In the past, I just pasted the image, now I adjust the position so that it is good, give the shadow so that it looks lively, choose a font that matches the theme." This development is in accordance with the principle of deliberate practice where repeated exercises with feedback improve performance quality (Ericsson, 2020).

The Role of Scaffolding in Facilitating Creative Expression

The use of the Canva app as a design tool provides technical scaffolding that facilitates students' creative expression. The platform provides templates, visual elements, and editing features that can be accessed without the need for advanced graphic design skills. This is in accordance with the concept of scaffolding by Vygotsky (1978) which emphasizes the importance of structured help to help learners achieve performance levels that cannot be achieved independently. Kaffah et al. (2023) confirmed that Canva makes it easy to create posters and improve the quality of learning in educational contexts.

Ms. SW explained the scaffolding strategy implemented, "I invite the children to explore Canva gradually. First introduce the template, then how to replace the image and text, and then how to create it from scratch. The important thing is that they are not afraid to try because in Canva there is an undo button." The undo feature is important because it reduces students' anxiety about mistakes and encourages experimentation. The LN student revealed, "I like Canva because if you get it wrong, just undo. So I decided to experiment with different colors and textures." A safe environment to fail is an important condition for the development of creativity (Amabile, 1996).

Social scaffolding through collaboration and peer feedback also plays an important role in developing students' creativity. Teachers organize a work-sharing session where students present posters and receive feedback from classmates. This process develops visual communication skills while providing a new perspective for the improvement of the work. BW students expressed the benefits of this session, "When friends give comments, I know which ones are good and which ones need to be improved. Sometimes there are ideas from friends that haven't thought of it." This social interaction is in accordance with Vygotsky's (1978) view that cognitive development occurs through social and cultural mediation.

Teachers also provide scaffolding content on basic visual communication principles. The introduction of visual elements such as color contrast, visual hierarchy, and compositional balance helps students make more purposeful design decisions. "After Mrs. Guru explained about the contrasting colors, I understood why my previous poster was difficult to read. Now I always make sure the writing and background are contrasted," explained the TN student. The understanding of this design principle improves the communicative quality of student posters in accordance with the visual literacy theory of Dondis (1973) which emphasizes the importance of understanding the grammar of visual communication.

Learning Implementation Challenges and Strategies

The implementation of digital poster design-based literacy learning faces several significant challenges. The limitations of digital infrastructure are a major challenge

because not all students have access to adequate devices and internet connections at home. The principal, Mr. HT, explained, "We have 10 tablets for 25 students so we have to take turns. The internet connection is also sometimes unstable, especially when it rains." This challenge is consistent with the findings of Ibda et al. (2023) on infrastructure barriers in the implementation of digital learning in Indonesian elementary schools.

The variety of students' digital literacy skills is also a challenge because some students are used to using technology while others still need intensive guidance. Mrs. SW revealed her strategy, "I group students with different abilities so that those who are already proficient can help their friends. This also trains cooperation and responsibility." This peer tutoring strategy is effective because it creates a Zone of Proximal Development where more proficient students play the role of More Knowledgeable Other (Vygotsky, 1978). Observations show that interaction between students with different abilities increases the speed of mastering technical skills while strengthening social bonds.

Another challenge is balancing creative freedom and achieving learning goals. Teachers need to ensure that design activities do not deviate from the essence of reading literacy which is the foundation of learning. Ibu SW explained her approach, "I always associate posters with the content of the reading. Upon completion of the design, students must explain how the poster conveys the message of the text read. This ensures they don't just play with pictures but stay focused on reading comprehension." This strategy reflects the principle of *constructive alignment* where learning activities are aligned with goals and assessments (Biggs & Tang, 2011).

Despite the challenges, teachers and students see the positive impact of this learning. Mr. HT expressed his support, "*I see a positive change in the spirit of student learning. They are more enthusiastic because learning is not monotonous. We also display the posters at school so that students feel proud of their work."* Recognition and celebration of students' work is a form of reinforcement that strengthens intrinsic motivation and creative confidence (Amabile, 1996). YS students revealed, "*I prefer to read because after reading I can make a good poster. If my poster is on display, it feels good and I want to make something even better."*

The synthesis of findings shows that designing digital posters plays a role in the formation of visual-communicative creativity through integrated mechanisms. The process starts with reading literacy texts that stimulate imagination and conceptual understanding. The transformation of verbal comprehension into visual concepts enables divergent thinking skills and creative connections between domains. The use of design applications provides technical scaffolding that lowers the barrier of entry for creative expression. Social interaction through collaboration and peer feedback enriches perspectives and improves the quality of work. Presentation of works develops visual communication skills and strengthens intrinsic motivation through recognition and appreciation.

These findings confirm the relevance of the integration of Guilford's theory of creativity, Dondis's visual communication, and Vygotsky's social constructivism in understanding the formation of visual and communicative creativity of elementary school students. The four components of Guilford's creativity-*fluency, flexibility, originality,* and elaboration develop through structured poster design activities with proper scaffolding. Dondis' principles of visual literacy about visual elements and composition become learning content that improves the communicative quality of student posters. The concept of ZPD and Vygotsky scaffolding is manifested in technical, social, and pedagogical support that facilitates students to achieve a higher level of creative performance. This study provides empirical evidence that literacy learning integrated with digital design can be an effective vehicle to develop visual-communicative creativity in accordance with the demands of the Pancasila Student Profile with the Creative dimension.

CONCLUSION

This study explains that designing digital content in the form of posters plays a significant role in the formation of visual-communicative creativity of grade V students of SD Negeri 2 Pagutan Manyaran Wonogiri through reading literacy learning. Researchers found that the process of forming creativity takes place through four main mechanisms that are integrated with each other. First, literacy text reading activities are a stimulus that activates students' imagination and conceptual understanding. Second, the transformation of verbal comprehension into visual representation develops divergent thinking skills and the four components of Guilford's creativity are fluency, flexibility, originality, and elaboration. Third, the use of Canva's application as a design tool provides technical scaffolding that facilitates creative expression by lowering technical barriers. Fourth, social interaction through collaboration and presentation of works strengthens students' visual communication skills and intrinsic motivation.

The research also found that implementation faces challenges in the form of limited digital infrastructure, variations in students' digital literacy skills, and the need to balance creative freedom with the achievement of literacy learning goals. Effective strategies to overcome these challenges include the alternating use of devices with good time management, grouping students with different abilities for peer tutoring, and the application of structured reflection that links poster work to the content of the reading.

Theoretically, this research contributes an integrative framework that links Guilford's theory of creativity, Dondis's visual communication, and Vygotsky's social constructivism to explain how visual-communicative creativity is formed in Indonesian primary education, thereby extending creativity theory into the digital literacy domain. Practically, the findings offer concrete mechanisms and strategies that elementary school teachers can adopt to design digital poster-based literacy learning, strengthen students' fluency, flexibility, originality, and elaboration, and support the achievement of the Creative dimension of the Pancasila Student Profile within the Independent Curriculum.

Based on the findings of the study, the researcher recommends the development of digital poster design-based literacy learning modules that can be widely used by teachers, teacher training on the integration of literacy and digital literacy in creative learning, the provision of adequate digital infrastructure in elementary schools, and follow-up research to assess the long-term influence of digital design-based learning on the development of students' creativity with longitudinal design.

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