

The Effectiveness of Visual-Fragmented Line QR Code Media on Vocational High School Students' Use of Figurative Language and Imagery in Poetry Writing

Risna Dewi Anin^{1*}, Syamsul Anwar², Leli Triana³

¹Universitas Pancasakti Tegal

²Universitas Pancasakti Tegal

³Universitas Pancasakti Tegal

dewirisna455@gmail.com¹, syamsulanwar590@gmail.com², lelitriana99@gmail.com³

Abstract

Underdeveloped poetry-writing skills among tenth-grade vocational students—characterized by unvaried imagery and weak application of literary devices—prompted this research. Utilizing a nonequivalent control group quasi-experimental design, the study examined the impact of Visual-Fragmented Line QR Code media on two groups of 18 students each. Pretest and posttest measures were analyzed quantitatively using a paired samples *t*-test, yielding a two-tailed *p*-value of < 0.001 . This result underscores a statistically significant performance boost after the treatment. Specifically, the experimental class showed a sharp rise in figurative language and imagery evaluation, escalating from an initial average of 57.83 to 87.67, with an N-Gain index of 72.50% ("medium

effectiveness"). In conclusion, the Visual-Fragment Line QR Code medium serves as a highly successful tool for expanding students' creative expression in poetry.

Keywords: Writing Poetry; QR Code visual-fragmented Line;

1 INTRODUCTION

The mandatory subject of Indonesian Language plays a crucial role in honing the oral and written communication skills of students at the primary and secondary levels (Putri in Marlina et al., 2026). Within its scope, four interconnected language skills exist: listening, reading, speaking, and writing. Writing stands out as a productive aspect because it requires complex information management, moving from the planning process to the evaluation stage (Musfiroh in Ramadhanti et al., 2022). Mastering this skill is by no means impossible, yet it demands considerable effort. Consistent and continuous practice is required to trigger creative thinking so that students become accustomed to expressing meaningful ideas.

Poetry writing represents one of the tangible forms of literary writing skills. As an art form, poetry is known for its beautiful and meaning-rich language (Kosasih in Ramadhani, 2023). This genre of literature is also characterized by concise language, the harmony of rhyme and rhythm, and agility in word selection capable of evoking imagination (Waluyo in Hukubun et al., 2025). Therefore, poetry writing is strongly influenced by personal expressions stemming from memorable or inspiring experiences. However, reality in the field shows that students' poetry writing ability remains low. According to Aulia et al. (2025), this barrier stems from students' limited vocabulary, low reading interest, and ineffective teaching approaches by teachers. This challenge is further compounded because the integration of digital technology in schools has not been managed positively, leading students to become passive due to being accustomed to instant conveniences.

Observations in classes X Pemasaran 1 and X Pemasaran 2 at SMK Muhammadiyah 1 Pemalang revealed that poetry writing instruction is still dominated by conventional approaches. Consequently, students struggle to express their inner thoughts in the form of literary works. Obstacles that frequently arise during the learning process include creative blocks, student passivity in processing imagination, and a lack of confidence in exploring aesthetic diction. This problem is exacerbated by the lack of variety in instructional media, making the classroom atmosphere feel monotonous. As a result, the poems produced by students tend to be uniform, lack stylistic variety (figures of speech), and are still dominated by generic word choices. This phenomenon underscores the need to improve students' abilities to explore imagery and apply figures of speech through the use of more innovative digital-based learning media.

The success of a learning process is inseparable from the teacher's role in applying the right models or media. For vocational high school (SMK) students, the use of learning media is crucial to prevent boredom and overcome difficulties in understanding the material. Poetry itself is a medium-difficulty topic that demands students write aesthetically. Therefore, the QR Code Visual-Fragmented Line media serves as a digital solution to help students generate creative works. Through this digital-based medium, students can scan barcode graphics linked to visual images relevant to their emotional conditions or personal experiences. Furthermore, the presence of incomplete poetry lines (fragmented Line) beneath the images plays a strategic role as a stimulus to spark students' initial ideas and concepts in poetry writing.

Several previous studies have widely examined alternative solutions to enhance students' poetry writing abilities. For instance, research conducted by Siahaan et al. (2025) entitled *"Penggunaan Media Visual (Gambar) pada Pelajaran Bahasa Indonesia dalam Meningkatkan Kemampuan Siswa dalam Menulis Puisi pada Siswa Kelas VIII SMP"* focused on using visual media (images) to successfully stimulate students' imagination. Additionally, Sağit et al. (2024), in their study titled *"A Systemic Review On The Pedagogical Use of QR Code,"* examined how QR Codes can be utilized in the educational field. Although several studies share relevance, none have specifically integrated QR Code technology with the concept of Visual-Fragmented Line to guide students in independently exploring imagery and figures of speech. Most studies still discuss these media separately without integrating them into a unified learning medium. Beyond its theoretical contributions, this study is expected to serve as a reference for teachers in selecting appropriate learning media. The application of suitable learning media can help teachers create a more engaging learning atmosphere, making students more motivated and active throughout the learning process.

Based on this background, this study was conducted to analyze the implementation of the QR Code Visual-Fragmented Line media in improving students' use of figures of speech and vivid imagery in poetry writing instruction for Grade X vocational high school students. This study aims to determine the effectiveness of using the QR Code Visual-Fragmented Line media in enhancing Grade X vocational high school students' poetry writing abilities compared to conventional learning methods. Through this research, it is hoped that an empirical overview of the implementation of the QR Code Visual-Fragmented Line media in poetry writing instruction—along with its contribution to enhancing students' writing skills—can be obtained.

2 METHODOLOGY

Sugiyono (2013), the quantitative method is frequently considered a traditional approach because of its established presence and extensive use in academic inquiry; this study utilizes said approach. Specifically, the method employed is a quasi-experiment utilizing a nonequivalent control group design. This design involves administering a pretest and a posttest to two observed study groups: the experimental group and the control group.

The population for this study comprises tenth-grade students from the Marketing Expertise Program at SMK Muhammadiyah 1 Pematang (classes X Pemasaran 1 and X Pemasaran 2). Using a purposive sampling technique, a sample of 36 students was selected and divided equally into two groups based on similar background characteristics and average pretest scores. The first group, class X Pemasaran 2 (18 students), served as the experimental group taught using the QR Code Visual-Fragmented Line media. The second group, class X Pemasaran 1 (18 students), acted as the control group, which received conventional instruction without the integration of the digital media.

The primary instrument of this study consisted of writing test results from the pretest and posttest, which were developed and evaluated using an assessment rubric created prior to the study. Additionally, Data collection was supported by distributing questionnaires, conducting observations, and analyzing documentation. Validity testing confirmed that 14 of the original 16 questionnaire items were valid. Additionally, a Cronbach's Alpha score of 0,60 verified the high reliability of the measurement tool.

The research procedure was conducted by administering the QR Code Visual-Fragmented Line instructional media treatment to the experimental group, while the control group utilized conventional instructional media. The collected research data were analyzed using IBM SPSS Statistics Version 26, involving normality tests, homogeneity tests, hypothesis testing via Independent Sample *t*-Test and Paired Sample *t*-Test, as well as an N-Gain test.

3 RESULTS

This research evaluates the efficacy of QR Code Visual-Fragmented Line when applied to tenth-grade vocational high school (SMK), specifically comparing the experimental group that received the treatment with the control group that received no media intervention. The research data were obtained through pretest and posttest scores from both the experimental and control groups after the learning process was completed. Subsequently, the data were analyzed statistically using IBM SPSS Statistics Version 26 to evaluate the learning effectiveness between the two research groups. The results of this analysis are then elaborated systematically through the presentation of research data and further supported by discussions based on relevant theories and previous research findings.

The primary aim of this investigation is to measure how effectively of the QR Code Visual-Fragmented Line instructional media on student learning outcomes in the Indonesian Language subject at SMK Muhammadiyah 1 Pemalang. Data were gathered from the learning outcomes of the pretest and posttest administered to both the experimental and control groups upon completing the instructional process. The experimental group was given treatment using the QR Code Visual-Fragmented Line learning media, whereas the control group utilized conventional learning media. Utilizing IBM SPSS Statistics (Version 26), the gathered data underwent normality, homogeneity, and hypothesis evaluations. The outcome of these statistical tests served to identify contrasting learning results between the experimental and control cohorts. Prior to conducting hypothesis testing, the research data underwent prerequisite analysis testing, namely normality and homogeneity tests, to determine whether the data were normally distributed and homogeneous. Given that each class comprised fewer than 50 students, the Shapiro-Wilk test was applied for the normality assessment. Table 1 details the normality test outcomes for both the experimental and control groups.

Table 1. Normality Test Result

Subject	Statistic Shapiro Wilk	mean	Df sig
Experimen	0,905	57,83 0,071	18
Control	0,924	64,22 150	18

Based on Table 1, it can be observed that the significance values (p -value) for both the experimental and control groups are greater than 0.05. These results indicate that the research data for both groups are normally distributed. Consequently, the research data fulfill the prerequisites for parametric (inferential) statistical analysis in the subsequent stage. This finding demonstrates that the data distribution across both research groups is well-conditioned for hypothesis testing. Once the normality assumption was met, the analysis proceeded with a homogeneity test.

Determining equal variance between the control and experimental groups was necessary to establish baseline equivalence. For this purpose, Levene's Test was computed using IBM SPSS Statistics Version 26, the findings of which are displayed in Table 2.

Table 2. Homogeneity Result

Data	Levene Statistik	Df1	df2	sig
Learnin g outcome s	1,521	1	34	0,226

The findings in Table 2 reveal a p -value of 0,226, which is higher than 0,05, demonstrating equal variances across both study groups. Satisfying this homogeneity assumption ensured the dataset was eligible for further analysis via an Independent Samples t -test. Consequently, having fulfilled both normality and variance prerequisites, the study proceeded with hypothesis testing to determine the impact of QR Code Visual-Fragmented Verse instructional media on learning outcomes, as presented in the following table.

Table 3. *Independet Sample t-Test*

Data	T	Df	Sig. 2 tailed	mean difference
<i>Equal Variances Assumed</i>	7.199	34	< 0,001	18.778

The Independent Samples *t*-test results in Table 3 yielded a significance value (*p*-value) of < 0,001, falling below the [0,05] threshold. This confirms a statistically meaningful difference in performance between the experimental and control cohorts. Consequently, the findings indicate that utilizing QR Code Visual-Fragmented Line media substantially influences student learning outcomes in the Indonesian Language poetry writing module. Students exposed to this instructional media outperformed their peers in the control group. To further measure the magnitude of this instructional effectiveness, an N-Gain analysis was performed, the results of which are displayed in the table below.

Data	N	Minimum	Maksimum	mean
NGain Score	18	0,58	0,82	0,7251
Ngain %	18	57,89	82,14	72,50

Based on the N-Gain test results in Table 4, the mean N-Gain score obtained was 0.7251. According to Hake's classification (1999), an $g > 0.7$ score falls into the high gain category. Meanwhile, viewed from the effectiveness criteria of percentage interpretation (%), the score of 72.50%, which falls within the 56 -- 75% range, leads to the conclusion that the QR Code Visual-Fragmented Line media is moderately effective in optimizing poetry writing instruction. Therefore, the use of this media has successfully enhanced the poetry writing outcomes of tenth-grade students at SMK Muhammadiyah 1 Pemalang.

4 CONCLUSIONS

The implementation of the digital-based QR Code Visual-Fragmented Line media has proven to be significantly effective in enhancing the poetry writing learning outcomes of tenth-grade students at SMK Muhammadiyah 1 Pemalang, particularly in the application of figures of speech and vivid imagery. This media successfully overcomes conventional obstacles, such as creative blocks and vocabulary limitations, by providing two primary stimuli: visual images and fragmented poetry lines. Through this technological integration, the learning atmosphere becomes more engaging and interactive, which in turn stimulates students' active involvement in constructing ideas independently, aligning with the principles of cognitive and constructivist theories. The significant increase in the experimental group's mean score from 57.83 to 87.67, alongside an N-Gain score of 72.50%, confirms that this media falls into the moderately effective category with a high level of skill improvement.

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