

Improving Creative Writing Skills of the Grade-12 Students Through Web3 - Hive Blockchain Blogging

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ABSTRACT

This study determined the effectiveness of Web3 Hive Blockchain blogging in improving the creative writing skills of Grade 12 students at Ilihan Integrated School, Tabogon, Cebu, and examined students' experiences with the platform as basis for enhanced digital creative writing activities. The study employed the Sequential Exploratory Design identified in the thesis, beginning with quantitative pretest-posttest assessment and followed by a qualitative exploration of students' experiences. Forty Grade 12 students enrolled in Creative Writing completed the pretest, while 20 students who were provided Hive blogging accounts constituted the intervention group. Their writing was assessed by three evaluators using a modified Writer's Choice writing assessment rubric. The intervention lasted

12 weeks, during which participants produced 12 blog posts each. Means and standard deviations described performance and survey responses, a paired t-test tested pretest-posttest differences, and thematic analysis was used for qualitative responses. Posttest performance increased across all three competencies: imagery, diction, and figures of speech (29.78 to 31.23), language style and voice (29.55 to 30.90), and culling creative ideas from experiences (27.05 to 29.38). All differences were statistically significant ($p < .001$). Students also reported favorable attitudes toward blogging, smartphone-based access, and perceived writing improvement, while qualitative themes emphasized skill development, community connection, earning opportunities, autonomy, confidence, freedom, and enjoyment. The findings indicate that Web3 Hive Blockchain blogging can serve as an engaging digital writing environment that supports creative writing practice and informs the design of technology-integrated creative writing activities.

Keywords: *creative writing, Web3, Hive blockchain, blogging, digital writing, senior high school*

INTRODUCTION

Writing is a complex language skill because it requires learners to generate ideas, organize meaning, select appropriate language, and communicate for a particular audience. Nepomuceno (2011) described blogging as an alternative writing activity that can place writing within a more authentic communicative environment, while Zhang (2009) emphasized the potential of blogs to support reflection and English writing practice. As digital technologies increasingly shape how learners create and share texts, writing instruction has expanded beyond paper-based composition toward platforms that make publication, interaction, and feedback part of the writing process.

Blogs have been used in language classrooms because they combine writing, publishing, audience awareness, and interaction. Noytim (2010) found that learners perceived weblogs as useful for writing, vocabulary, self-expression, and social interaction. Sun (2010) likewise reported that extensive blog writing supported overall writing performance and more positive attitudes toward foreign-language writing. In classroom contexts, blogging

has also been associated with stronger awareness of audience and ownership of the writing process (McGrail & Davis, 2011) and with increased student interaction and motivation to write for peers (Sullivan & Longnecker, 2014). These findings suggest that digital publication can make writing more visible, purposeful, and socially situated.

The development of Web3 introduces an additional dimension to online writing. Web3 has been described as an evolution from a web that is primarily readable and writable toward an environment in which users can also exercise ownership over digital assets and content (Yang et al., 2023). In the present study, this environment was represented by Hive Blockchain blogging, where students could publish content, interact with other users, and encounter incentive mechanisms linked to their posts. The thesis argued that these features may extend conventional blogging by combining authentic audience, authorship, autonomy, interaction, and digital ownership within one writing environment.

Although earlier studies have examined Web 2.0 blogs and their effects on writing, learner autonomy, motivation, and interaction, the thesis identified limited evidence on the use of Web3 blockchain-based blogging for Senior High School creative writing in the Philippine context. The gap is particularly relevant because creative writing requires students not only to control language but also to develop voice, imagery, stylistic choices, and ideas grounded in experience. A platform that permits repeated publication and interaction may provide an additional space for practicing these competencies while also developing familiarity with emerging digital environments.

Accordingly, this study determined the effectiveness of Web3 Hive Blockchain blogging in improving Grade 12 students' creative writing at Ilihan Integrated School during School Year 2023-2024. It examined students' pretest and posttest performance in three competencies: using imagery, diction, and figures of speech; utilizing language style and voice to evoke emotional and intellectual responses; and culling creative ideas from experiences. It also tested pretest-posttest differences, described students' experiences and perceptions of Web3 Hive Blockchain blogging, and used the findings as basis for enhanced digital creative writing activities. The study is significant to students, language teachers, school administrators, curriculum developers, and future researchers seeking context-sensitive approaches to technology-supported writing instruction.

Literature Review

Blogging as a Pedagogy for Writing Development

Blogging provides learners with a space in which writing can be repeatedly drafted, published, read, and discussed. Nepomuceno (2011) explained that blogs can function as an alternative writing activity in tertiary ESL classes because learners write for an audience rather than only for a teacher. Noytim (2010) similarly found that students regarded weblogs as useful for developing writing, reading, vocabulary, and self-expression. Zhang (2009) further described blogs as a tool that can support reflective learning in English writing by giving students a continuing space for composition and response.

Empirical studies also associate blogging with measurable or observable changes in writing. Fellner and Apple (2006) reported substantial gains in writing fluency and lexical complexity during an intensive blog-based language program. Sun (2010) found that an extensive writing approach using blogs enhanced participants' overall writing performance and autonomous monitoring. Fadilah et al. (2020) observed improvement in communicative writing dimensions such as creativity, critical thinking, voice, and commenting, showing that the value of blogs can extend beyond surface-level language practice to communicative and expressive qualities of writing.

Blogging also changes the social conditions under which students write. McGrail and Davis (2011) found that classroom bloggers became more attentive to audience, agency, ownership, and the craft of writing. Chu et al. (2012) documented the usefulness of blogs for collaborative learning, reflection, communication, and social support, while Sullivan and Longnecker (2014) found that class blogs increased interaction and that awareness of peer readership could motivate students to write better. These findings support the use of blogging when the

instructional goal includes not only correctness but also voice, audience awareness, interaction, and sustained practice.

Social Constructivism, Authentic Writing, and Learner Autonomy

The theoretical foundation of the thesis draws first on social constructivism. Vygotsky (1978) emphasized the role of social interaction in learning and development, an idea that is directly relevant to blogging because writers can receive comments, feedback, and responses from peers, teachers, and other readers. Sun and Chang (2012) showed that collaborative dialogues in blogs can support knowledge sharing, knowledge generation, reflection, and the development of writer identity. In this perspective, writing becomes a socially mediated activity rather than an isolated individual task.

Authentic writing is also central to the framework. Nunan (1999) distinguished authentic texts as products of genuine communication rather than texts created solely for language-teaching purposes. Blogging can approximate such conditions by giving students a real or perceived audience and a visible publication space. Nepomuceno (2011) noted that blogs expose learners to authentic reading texts and writing conventions, while Ducate and Lomicka (2005) described blogs as environments that support language learning through publication, interaction, and cultural exchange.

Autonomous learning further explains why blogging may sustain writing practice beyond scheduled class time. Pinkman (2005) found that a blog project encouraged learner independence and increased interest and motivation to use the target language outside the classroom. Ducate and Lomicka (2008) reported that moving from blog readers to blog writers fostered ownership, creativity, language experimentation, and self-expression. Foroutan et al. (2013) likewise found that weblogs promoted ESL learners' writing autonomy. These studies support the thesis assumption that a blogging platform can give students greater responsibility for selecting topics, managing their writing, and engaging in practice beyond teacher-directed activities.

Motivation and Digital Literacy in Technology-Supported Writing

Motivation influences the amount of effort learners invest in writing and whether they persist in demanding tasks. Self-determination theory emphasizes competence, autonomy, and relatedness as psychological needs that support self-directed motivation (Deci & Ryan, 2000). The blogging environment in the thesis contains features that correspond to these needs: students can exercise choice over later blog topics, receive responses from other users, and experience visible evidence of publication and engagement. Bruning et al. (2011) also highlighted self-efficacy and ownership as important dimensions of motivation in learning, both of which are relevant when students publish writing under their own accounts.

Previous blogging research supports the motivational potential of these affordances. Pinkman (2005) reported increased learner interest linked to interaction and feedback, while Ozkan (2011) showed that pre-service English teachers expressed both positive and negative perceptions of blogging, underscoring the importance of examining learners' actual experiences rather than assuming universal acceptance. In mobile contexts, Rashid and Howard (2023) found that blogging through smartphones could support independent writing practice, with enjoyment and perceived progress contributing to confidence and motivation. These findings are directly relevant to a Senior High School context in which students use personal smartphones to access a blogging platform.

Digital literacy provides another basis for technology-integrated writing. Gilster (1997) conceptualized digital literacy as the capacity to understand and use information presented through digital technologies and multiple formats. In Web3 environments, this competence expands to navigating decentralized platforms and understanding forms of digital ownership and participation. Yang et al. (2023) explained the transition from Web1 and Web2 toward Web3 as a shift that adds ownership to the read-and-write functions of the internet. Thus, a Web3 blogging activity can simultaneously involve creative writing practice and exposure to emerging forms of digital participation.

Web3 Hive Blockchain Blogging and the Research Gap

The literature reviewed in the thesis establishes a consistent base of evidence for conventional blogging as a writing tool, but most cited studies were conducted using Web 2.0 class blogs, learner blogs, or general weblog platforms. The present study extends this line of inquiry to Hive Blockchain blogging, a Web3 environment in which students create publicly accessible posts, interact with a distributed community, and may receive platform-based rewards. The intervention therefore combines familiar pedagogical functions of blogging with the ownership and incentive features associated with Web3.

The thesis positioned these features within a framework linking social constructivism, authentic writing, autonomous learning, motivation, and digital literacy to the use of Web3 Hive Blockchain blogging. The expected outcomes were changes in students' pretest-posttest creative writing performance and their experiences while using the platform, leading to enhanced digital creative writing activities. This framework is retained below because it represents the original conceptual logic of the study and connects the literature directly to the intervention and intended instructional output.

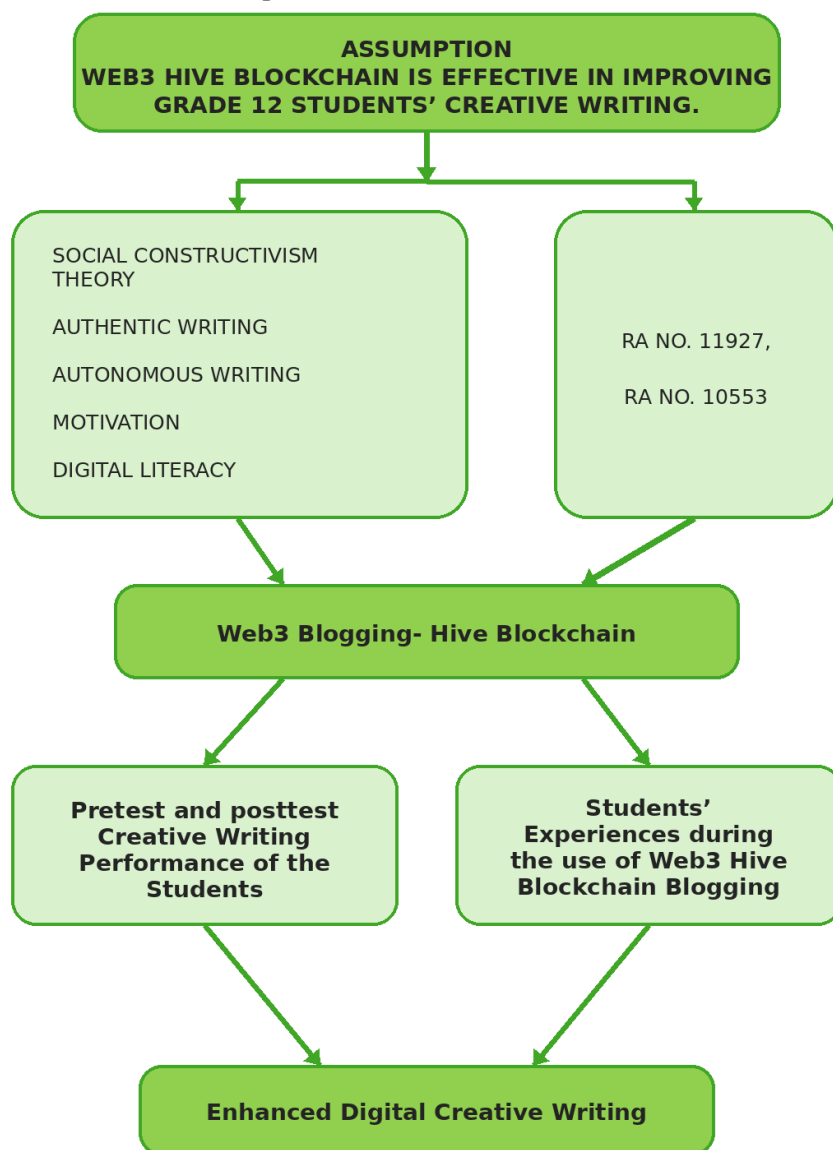


Figure 1. *Theoretical Framework*

METHODS

Research Design

The study used the Sequential Exploratory Design as identified in the original thesis. The design combined quantitative and qualitative phases. The quantitative phase established students' baseline creative writing performance through a pretest, exposed the intervention group to Web3 Hive Blockchain blogging for 12 weeks, and administered a posttest to determine changes in performance. The succeeding qualitative phase used survey responses and written reflections to describe students' experiences and perceptions. The integration of performance data and qualitative accounts was intended to provide both statistical evidence of change and contextual information about how students experienced the blogging intervention.

Research Locale

The study was conducted at Ilihan Integrated School in Ilihan, Tabogon, Cebu. The thesis described the school as the only integrated school in the District of Tabogon, serving learners from Kindergarten through Grade 12. During the study period, the school had approximately 1,500 students, 49 teaching personnel, two non-teaching personnel, and one principal. It was located in a highland, semi-urban area and was reported to have strong internet connectivity. Many students possessed personal mobile devices that they used for school assignments, projects, and internet searches, making smartphone-based blogging feasible within the study setting.

Participants and Sampling Technique

Forty Grade 12 students enrolled in the Creative Writing subject during School Year 2023-2024 completed the pretest. From this group, 20 students were provided Hive Blockchain blogging accounts and constituted the intervention participants. The detailed methodology section of the thesis identified convenience sampling for the selection of these 20 participants. Six participants were male (30%) and 14 were female (70%). All had prior English coursework, were familiar with technology, owned smartphones, and had not previously used blogs. The analysis of the intervention and posttest focused on the 20 students who participated in the Web3 Hive Blockchain blogging activities.

Research Instrument

Data were collected through a creative writing pretest and posttest, a modified writing assessment rubric, and a follow-up survey on students' blogging experiences. The pretest prompt asked students to write a narrative about their favorite place and why it was special, while the posttest prompt asked them to describe a travel experience that left a lasting impression. A modified version of the Writer's Choice: Writing Assessment and Evaluation Rubrics by Glencoe McGraw Hill was used to assess the three target competencies. The writing outputs were evaluated by three raters; the thesis specified that two other Junior High School English teachers participated in rating to reduce evaluator bias. A five-point Likert questionnaire and open-ended questions were used to capture students' attitudes, smartphone-based blogging experiences, beliefs about effects on writing, and broader perceptions of Web3 Hive Blockchain blogging.

Data Gathering Procedure

Permission to conduct the study was first requested from the Office of the Principal of Ilihan Integrated School, and participants were informed about the study. A three-hour technical orientation was then facilitated by professional bloggers from the Original Content Decentralization onboarding program. The orientation covered account creation, posting, commenting, community engagement, original content, plagiarism prevention, and the Hive reward system. Participants created accounts through PeakD.com and set up their profiles before beginning the blogging activities.

The intervention lasted 12 weeks with two one-hour sessions each week. The first weekly session focused on drafting, discussion, and teacher instruction, while the second focused on final writing and publication. Each participant was expected to produce 12 blog posts, yielding 240 writing samples across the 20 participants. The first three assigned blog topics were an introductory post, "My Productive Weekend," and "Family, Friends and

I.” Students selected their own topics for the remaining weeks. After the 12-week period, the posttest was administered and participants completed the survey and reflective questions about their Web3 blogging experiences.

Data Analysis

Means and standard deviations were used to summarize creative writing performance across the three competencies and to describe the students’ survey responses. A paired t-test was used to determine whether the pretest and posttest mean differed significantly at the .05 level. The five-point survey scale was interpreted so that lower numerical values represented stronger agreement: 1.00-1.79 = Strongly Agree, 1.80-2.59 = Agree, 2.60-3.39 = Neutral, 3.40-4.19 = Disagree, and 4.20-5.00 = Strongly Disagree. Open-ended survey responses and written reflections were examined through an interactive thematic analysis process to identify recurring themes concerning students’ experiences, perceived changes, and feelings while blogging.

Ethical Consideration

The procedures reported in the thesis included securing permission from the school principal, providing a formal information letter to prospective participants, explaining the nature of the study before data collection, and allowing students to decide whether to participate. Participants were also oriented on the importance of original content and the prevention of plagiarism before publishing on the Hive platform. No additional ethical procedures beyond those stated in the source manuscript are asserted in this journal conversion.

RESULTS AND DISCUSSION

Creative Writing Performance Before and After Web3 Hive Blockchain Blogging

The combined pretest-posttest results showed improvement in each of the three creative writing competencies after the 12-week Web3 Hive Blockchain blogging intervention. Table 1 condenses the original competency tables and the paired t-test results. The first competency increased from an overall mean of 29.78 (SD = 2.58), interpreted as Proficient, to 31.23 (SD = 2.16), also Proficient but closer to the upper end of the scale. The second competency increased from 29.55 (SD = 2.52), interpreted as Basic, to 30.90 (SD = 2.33), interpreted as Proficient. The third competency increased from 27.05 (SD = 2.09) to 29.38 (SD = 0.92), both interpreted as Exceptional, indicating that students began relatively strong in generating ideas from experience and nevertheless improved further.

Table 1. Pretest-Posttest Creative Writing Performance and Paired t-Test Results

Creative Writing Competency	Pretest Mean (Category)	Posttest Mean (Category)	t	p-value	Decision
Use imagery, diction, and figures of speech	29.78 (Proficient)	31.23 (Proficient)	-6.05	< .001	Reject H0
Utilize language style and voice to evoke emotional and intellectual responses	29.55 (Basic)	30.90 (Proficient)	-10.11	< .001	Reject H0
Cull creative ideas from experiences	27.05 (Exceptional)	29.38 (Exceptional)	-8.74	< .001	Reject H0

Note. N = 20 for the intervention group. All three paired comparisons were significant at $p < .001$. Categories follow the scoring scheme used in the source manuscript.

The paired t-tests showed statistically significant differences for imagery, diction, and figures of speech ($t = -6.05$, $p < .001$), language style and voice ($t = -10.11$, $p < .001$), and culling creative ideas from experiences ($t = -8.74$, $p < .001$). The null hypothesis was therefore rejected for all three competencies. The largest statistical contrast occurred in the second competency, where students moved from the Basic to the Proficient category. This pattern supports the thesis conclusion that repeated blogging practice was associated with improved ability to

shape language, style, and voice for a reader, while gains in the other competencies reflected stronger use of literary language and more developed creative use of personal experience.

The results are consistent with earlier studies on blog-supported writing. Fellner and Apple (2006) documented growth in writing fluency and lexical complexity, while Sun (2010) reported improved writing performance in an extensive blogging approach. Fadilah et al. (2020) found general improvement in creativity, critical thinking, voice, and communicative writing through blogging. The present findings extend this evidence to a Web3 Hive environment, where students produced repeated public-facing writing over a 12-week period. Although the design does not isolate which specific platform feature produced the gains, the combination of sustained practice, publication, interaction, and topic choice is compatible with prior evidence that blogs can make writing more purposeful and participatory.

The improvement in creative writing can also be interpreted through the study's social and authentic writing framework. McGrail and Davis (2011) observed that student bloggers become more aware of audience and ownership, while Sun and Chang (2012) showed that collaborative blogging can help writers reflect on writing knowledge and identity. In the present intervention, students wrote for a platform-based audience rather than solely for classroom submission, and later blog topics were self-selected. These conditions may have supported greater attention to expression, reader response, and personal experience—the same dimensions reflected in the assessed competencies.

Students' Evaluation of Blogging and Smartphone-Based Participation

Students' survey responses were favorable across the three quantitative experience dimensions retained from the thesis. Table 2 shows that attitudes toward blogging obtained an overall weighted mean of 1.84 (Agree), smartphone use for reading and writing blogs obtained 2.30 (Agree), and beliefs about blogging's effects on writing skills and practices obtained 1.78 (Strongly Agree). Because lower scores represented stronger agreement, these values indicate general acceptance of the intervention and particularly strong endorsement of its perceived contribution to writing development.

Table 2. Summary of Students' Evaluation of Web3 Hive Blockchain Blogging

Evaluation Dimension	Overall Weighted Mean	Interpretation	Notable Source Findings
Attitude toward blogging	1.84	Agree	Enjoyed receiving comments (M = 1.45); enjoyed blogging in free time and intended to continue (M = 1.65 each).
Smartphone experience for blogging	2.30	Agree	Students agreed that smartphones were convenient for both writing and reading blogs.
Beliefs about effects on writing skills and practices	1.78	Strongly Agree	Develop writing skills (M = 1.35), learn new vocabulary (M = 1.40), and improve grammar (M = 1.45) were strongest items.

Note. The five-point scale was reverse-oriented in the source instrument: 1.00-1.79 = Strongly Agree and 1.80-2.59 = Agree.

The positive attitude toward blogging is consistent with evidence that audience, interaction, and feedback can motivate students to write. Sullivan and Longnecker (2014) found that students valued interaction through class blogs and that awareness of peer readership encouraged better writing. Pinkman (2005) likewise reported increased interest and motivation to use the target language through blogging. In this study, the strongest attitude item was enjoyment of receiving comments, suggesting that response from readers was an important part of the blogging experience rather than a peripheral feature.

Smartphone accessibility also supported the feasibility of the intervention. Students agreed that smartphones were convenient for writing and reading blogs, which allowed the activity to extend beyond scheduled classroom periods. Rashid and Howard (2023) similarly found that smartphone blogging could support independent writing practice and that enjoyment and perceived improvement could reinforce confidence and

motivation to write more. This finding is important for technology-integrated writing because access through devices students already possess can make additional practice more flexible without requiring a computer laboratory for every writing session.

Students also strongly agreed that blogging supported their writing skills and practices, particularly vocabulary, grammar, and general writing development. Noytim (2010) reported comparable perceptions among learners who associated weblog use with writing and vocabulary development. These perceived gains align with the objective performance results, although the survey captures students' beliefs rather than independent measures of grammar or vocabulary. Taken together, the performance and perception data show a coherent pattern: students improved on the assessed creative writing competencies while also reporting that the blogging process supported their development as writers.

Students' Experiences and Perceptions of Web3 Hive Blockchain Blogging

The open-ended responses produced a set of recurring themes that described how students understood the Web3 blogging experience. For the question about what they thought of Web3 blogging, the source analysis identified personal development and skill enhancement, community and social connections, earning and financial opportunities, and freedom and autonomy. When asked what had changed since they started blogging, students emphasized improvement in writing skills, vocabulary expansion, and confidence building. When asked how they felt while writing blogs, the principal themes were a sense of freedom and empowerment and feelings of joy and excitement.

Table 3. Qualitative Themes on Students' Web3 Hive Blockchain Blogging Experiences

Area of Experience	Themes Identified in the Source Manuscript
Views of Web3 blogging	Personal development and skill enhancement; community and social connections; earning and financial opportunities; freedom and autonomy.
Changes since blogging	Improvement in writing skills; vocabulary expansion; confidence building.
Feelings while blogging	Sense of freedom and empowerment; joy and excitement.

The themes reinforce the study's theoretical emphasis on autonomy, motivation, authentic audience, and social interaction. Ducate and Lomicka (2008) found that blogging fostered ownership, creativity, and self-expression, while Foroutan et al. (2013) reported that weblogs promoted writing autonomy. Students in the present study similarly described greater freedom to express ideas and stronger confidence in their own voice. Their comments about community and connection also correspond to the social constructivist assumption that interaction with readers can contribute to learning through response, reflection, and exchange.

The earning or incentive theme is distinctive because it reflects a feature that is more specific to the Web3 Hive environment than to conventional classroom blogs. The source manuscript reported that participants viewed the possibility of receiving rewards as motivating and meaningful. This should be interpreted within the boundaries of the present study: the data show that students perceived incentives positively, but the study did not experimentally separate the effects of rewards from other intervention features such as audience, repeated writing, topic choice, feedback, or smartphone accessibility. Nevertheless, the theme helps explain why the participants viewed the platform as different from traditional pen-and-paper writing activities.

Overall, the quantitative and qualitative findings converge on a developmental interpretation of Web3 Hive Blockchain blogging. The posttest gains indicate improved creative writing performance, the survey data show favorable acceptance and perceived benefit, and the thematic findings reveal autonomy, community, confidence, and enjoyment as salient features of the experience. These findings formed the basis for the thesis output, the Enhanced Digital Creative Writing Activities, which integrate structured creative writing tasks with Web3 Hive Blockchain blogging as a publication and engagement environment.

CONCLUSION

The study found that Grade 12 students' creative writing performance improved after the 12-week Web3 Hive Blockchain blogging intervention. Statistically significant pretest-posttest differences were observed in all three competencies: using imagery, diction, and figures of speech; utilizing style and voice to evoke emotional and intellectual responses; and culling creative ideas from experience. The second competency showed a categorical shift from Basic to Proficient, while the first remained Proficient at a higher mean and the third remained Exceptional with a higher posttest mean. These results support the study's conclusion that Web3 Hive Blockchain blogging was an effective instructional environment for the participating students' creative writing practice.

Students also evaluated the experience positively. They agreed that blogging was enjoyable and accessible through smartphones and strongly agreed that it supported their writing skills and practices. Their qualitative responses further emphasized skill development, community, financial opportunity, autonomy, vocabulary growth, confidence, freedom, and enjoyment. The contribution of the study lies in extending established blogging-based writing practices into a Web3 blockchain environment and in showing how such an environment can be translated into enhanced digital creative writing activities for Senior High School. The findings remain specific to the participants and setting of Ilihan Integrated School and should be interpreted within the study's design and scope.

Recommendation

Students may be encouraged to use Web3 Hive Blockchain blogging as a supplementary environment for sustained creative writing practice, particularly for activities that require personal voice, audience awareness, revision, and publication. English and language teachers may integrate carefully structured blogging tasks into creative writing lessons while maintaining explicit instruction on the target writing competencies. Because the platform involves public digital participation, teachers should also provide orientation on original content, responsible posting, appropriate interaction, and the technical requirements of Web3 blogging.

Teachers who intend to adopt the approach should be supported through professional development and collaboration with practitioners who understand the platform. School administrators may provide appropriate internet access, scheduling support, and technical resources when integrating blogging into classroom activities. Curriculum developers may consider technology-supported publication tasks as part of creative writing experiences where these are developmentally appropriate and aligned with curriculum competencies, rather than treating the platform as a replacement for all conventional writing activities.

Future studies should examine the use of Web3 blogging with larger samples, other grade levels, and comparison groups. Research may also investigate the specific contribution of platform features such as public audience, peer feedback, topic autonomy, smartphone access, and incentive mechanisms; document implementation challenges and digital-safety considerations; and evaluate the longer-term effects of Web3-supported writing activities on writing quality, confidence, digital literacy, and sustained writing practice.

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