



Developing Critical Thinking in Grades 3-4: Inclusive, Student-Centric Writing Approaches

Irdawati Nalls

Nanyang Technological University, Singapore

e-mail: cookies264@yahoo.com

Article Information

Received: June 22, 2024
Revised: July 28, 2024
Accepted: August 20, 2024
Online: September 09, 2024

Keywords

*Interdisciplinary Writing,
Writing Across Curriculums,
Critical Thinking Skills,
Elementary Language Arts Skills,
Non-traditional Student-centric
Approach*

ABSTRACT

This study aims to analyze the impact of high-stakes testing practices in Asian countries, particularly Singapore, on students' learning outcomes and overall intellectual development. While the education system that focuses on standardized testing has garnered international recognition, it also raises concerns about the dominance of rote memorization over the development of critical thinking skills. This research proposes integrating Bronfenbrenner's Ecological Systems Theory and Critical Theory in Education as a framework for curriculum design to create a more balanced educational approach. The research method employed was observational and participatory, conducted over one academic year in a 3rd and 4th-grade classroom in Singapore. Data were collected through classroom observations, student writing samples, and parental involvement in the writing program. Parental involvement included weekly writing facilitation sessions and providing insights into the influence of parents on student development. The results of the study indicate that high-stakes testing practices contribute to improved academic performance but tend to limit students' critical thinking abilities. The use of a holistic approach in the curriculum, emphasizing student engagement and environmental support, proved effective in fostering analytical thinking. The implications of this study highlight the need to balance test preparation with the development of critical thinking skills in the education system, ensuring that students not only excel academically but are also equipped to think critically and adapt to global contexts.

INTRODUCTION

In response to evolving demographic challenges and the quest for sustained economic growth, numerous Asian countries have embarked on concerted efforts to attract international students and establish themselves as leading regional education hubs. This strategic positioning is particularly evident in countries such as Hong Kong, Taiwan, South Korea, Malaysia, and Singapore, which have successfully gained recognition for their educational excellence (Soong, 2020; Symaco & Chao, 2019; Wen & Hu, 2018). Among these, Singapore stands out for its pioneering role in this endeavour, consistently achieving exceptional academic outcomes, largely attributable to its rigorous high-stakes testing regime (Erduran et al., 2020; K. H. Kim & Chae, 2019; Zhu, 2021).

High-stakes testing, a prominent feature of Singapore's education system, is not an isolated phenomenon but is prevalent in many other countries. For instance, in the United States, similar

practices are observed under policies like No Child Left Behind (NCLB), designed to ensure that students meet specific academic standards through standardized assessments (UNICEF, 2024). The emphasis on high-stakes testing in these educational systems reflects a broader trend towards accountability and measurable outcomes, which, while effective in some respects, also raises important questions about the holistic development of students.

The economic implications of high-stakes testing are significant. The demand for top academic performance has led to the proliferation of tutoring centres, particularly in Asia, where these centres cater to middle and upper-socioeconomic students (K. H. Kim & Chae, 2019; Liu & Bray, 2020; Singh et al., 2022). These centres, which often operate alongside formal education systems, offer supplementary instruction to enhance students' performance on standardized tests. In many cases, the pursuit of high test scores has also given rise to informal educational businesses, further highlighting the economic dimensions of this educational practice (Liu & Bray, 2020; Starkey, 2019).

While the rigorous practices associated with high-stakes testing have effectively produced students with outstanding test scores, they have also contributed to an overemphasis on rote memorization. This reliance on memorization as a primary learning strategy has been widely critiqued for its limitations, particularly in fostering critical thinking skills (K. H. Kim & Chae, 2019; Wong et al., 2020). As students are increasingly trained to perform well on tests, their ability to engage in deeper, more analytical thinking may be inadvertently compromised, leading to concerns about the long-term implications for their intellectual development.

The high value placed on academic success in many Asian countries, including Singapore, underscores the need for a more balanced approach to education—one that goes beyond mere test preparation. Academic achievement should indeed be celebrated, but it is equally important to consider how knowledge is acquired and applied. The current educational paradigm, which heavily favours test performance, must be re-evaluated to ensure that it also supports the development of critical and analytical thinking skills, essential for students to thrive in a complex, globalized world.

To address these challenges, we propose integrating two theoretical frameworks—Bronfenbrenner's Ecological System and Critical Theory in Education—into the curriculum design (Crawford, 2020; Giroux, 2023). Bronfenbrenner's Ecological System offers a comprehensive understanding of the various environmental factors that influence individual development, making it a valuable tool for creating a more holistic educational approach (Elliott & Davis, 2020; Hayes et al., 2022). By placing the child at the centre of the learning process, this framework emphasizes nurturing students' natural curiosity and encouraging them to explore and acquire knowledge more meaningfully and engagedly.

In addition to Bronfenbrenner's framework, Critical Theory in Education provides a critical lens through which to examine and address societal issues often marginalized in traditional educational settings. This theory advocates for including critical discussions on race, gender, class, and religion within the curriculum, promoting a more inclusive and socially aware educational experience (Giroux, 2023; Gloria Ladson-Billings, 2020). By integrating these perspectives into the curriculum, educators can help students develop cognitive skills and a deeper understanding of the social dynamics that shape their world.

The synthesis of Bronfenbrenner's Ecological Systems and Critical Theory in Education within the curriculum design represents a significant step towards creating a more inclusive and student-centred learning environment. Such an environment would support students in achieving academic success and empower them to develop the critical thinking and analytical skills necessary to navigate and contribute to the broader societal context. This holistic approach to education aims to produce learners who are well-prepared academically and equipped to engage thoughtfully with the world around them.

METHODS

This study was conducted over one academic year, during which a teacher-researcher collected incidental data from teaching and interacting with students and parents in a 3rd to 4th-grade classroom. The focus was on understanding student learning and development dynamics within a specific educational context using observational and participatory research methods (Kanyamuna & Zulu, 2022; Pope & Allen, 2019). The teacher-researcher's role as both the English teacher and form teacher

provided a unique opportunity to gather in-depth insights into the student's daily educational experiences.

Context and Participants

Site Selection

The site for data collection was a primary school located in the North-eastern part of Singapore. Although initially described as an "accidental" selection, the school's mixed-ability, co-educational, multi-racial, and multi-cultural environment made it an ideal location for this study. The diverse classroom setting, consisting of 36 students from various linguistic and cultural backgrounds, provided a rich context for exploring the impact of educational practices on student outcomes. The relevance of this site to the research objectives lies in its ability to offer insights into how such diverse settings influence teaching and learning processes, particularly about the development of critical thinking and writing skills.

Participants

The participants included 36 students from a 3rd to 4th grade classroom alongside their parents. The classroom was characterized by its diversity, with students remaining in the same group for most subjects, except for heritage language lessons, where students were divided based on their proficiency in Mandarin or Malay. This setup allowed for examining how different instructional environments influenced student learning. The teacher-researcher also collaborated closely with the curriculum team, which provided additional perspectives on the instructional strategies employed.

Data Collection Procedures

Classroom Observations and Interaction

Data was collected through systematic classroom observations, video recordings, and the collection of students' writing drafts and final pieces. Classroom observations were conducted throughout the school day, capturing the interactions between students, teachers, and parents, particularly during English and Social Studies lessons in the 3rd grade and Math and Science in the 4th grade. These observations were documented through detailed field notes and video recordings, which were later analyzed to identify student behaviour and engagement patterns.

Parent Involvement

An integral part of the data collection process involved the active participation of parents in the writing program. Every Friday, 5-6 parents were invited to the classroom to assist students with their weekly writing tasks. During these sessions, students were organized into small groups based on their writing abilities and the topics they were working on. Parents were provided with specific instructions to guide their assigned groups, ensuring that their involvement was structured and aligned with the program's educational objectives. Testimonials from both students and parents were collected to evaluate the effectiveness of these sessions, providing qualitative data on the perceived impact of parental involvement on student learning.

Data Collection Tools

The data collection tools included video recordings of classroom interactions, student writing records (drafts and final pieces), test scores, and testimonials from parents and students. These tools were chosen to capture a comprehensive view of the educational process, from instructional delivery to student outcomes. The video recordings were useful for analyzing non-verbal communication and classroom dynamics, while the writing samples provided direct evidence of student learning and progress.

Data Analysis

The collected data were analyzed using a Critical Education Framework, with an emphasis on Bronfenbrenner's Ecological System. This framework was chosen to examine the environmental influences on student development, including the classroom, relationships between students, teachers, parents, and the broader educational context. The data were categorized into key themes such as the

classroom environment, parental involvement, and student-teacher interactions. A thematic analysis followed, focusing on how these elements shaped student learning, particularly in writing development. Coding helped identify how environmental factors influenced critical skill development. By combining Bronfenbrenner’s and Critical Education theories, the analysis provided deeper insights into the complex interactions affecting educational outcomes. The study also integrated the Reggio Emilia approach, which highlights the classroom as a "third teacher," underscoring the role of the learning environment in fostering students' cognitive and social development.

RESULTS

Going Beyond Narrative: Introducing Research-based Discussions into Our Composition

Singaporean primary school writing skills focus on narrative writing. A typical examination question at the Primary School Leaving Examination (PSLE) involves a theme based on a concept such as honesty. Three pictures and some guiding questions follow this. Refer to Figures 1 and 2 for a typical writing examination question. Because this is the end goal for writing skills required at the end of primary school, all primary school students are trained to write based on this question type.

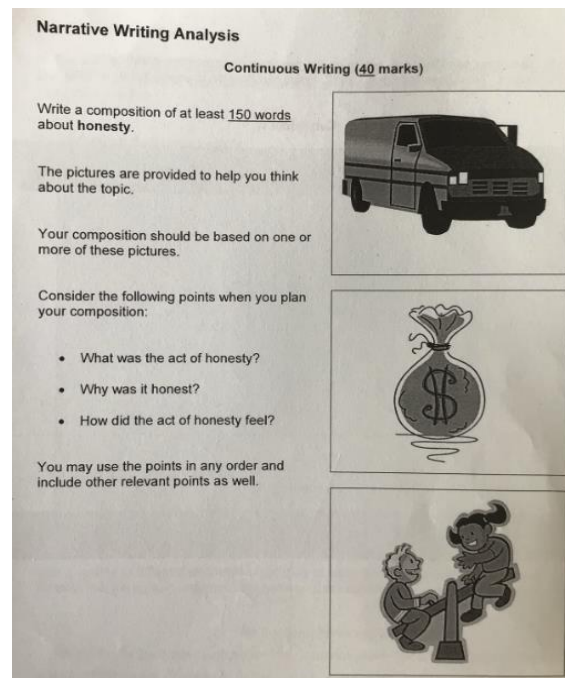


Figure 1. Sample Examination Based Question Type

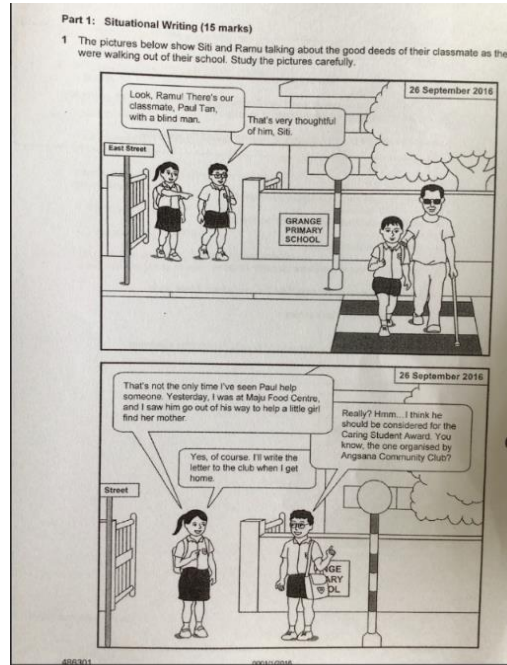


Figure 2. Sample Examination Based Question Type

Narrative Composition

In the traditional narrative composition, students are taught to plan their narratives with a clear story beginning, middle, and ending. This plot includes a climax in the story's middle and a resolution in the story ending. A strategy is normally expected for each composition, such as “starting with a problem”. Refer to Figures 3 and 4 for the listing of problems that students use to apply the skill “starting with a problem”. Students are also taught to describe main characters in their compositions using descriptive and defining adjectives and to adopt specific introduction strategies, as mentioned earlier. After the introduction, students are trained to focus on the problem/ climax of their composition. Here, students will have to show the development of an interesting problem that could happen in their composition. A solution follows the climax, and the conclusion ends with a lesson learned so that the composition ends positively.

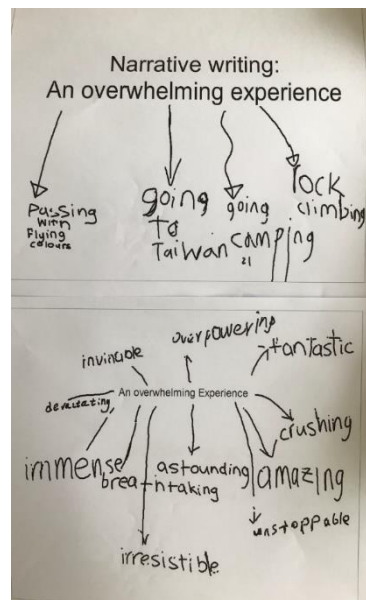


Figure 3. Listing of Problems for “Starting with a Problem”

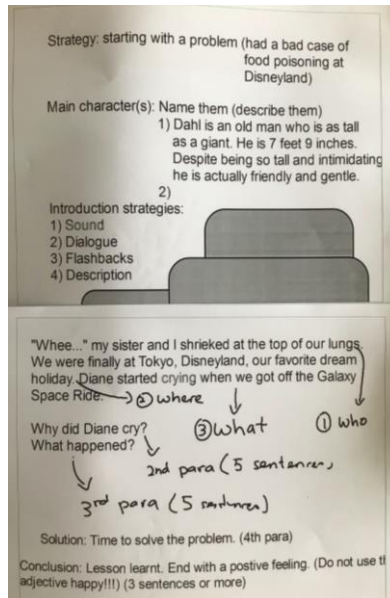


Figure 4. Listing of Problems for “Starting with a Problem”

Persuasive Composition

An alternative approach to traditional writing allows for critical thinking in the classrooms as it motivates students to voice their thoughts. It was conducted in the 3rd to 4th grade writing classes. In this alternative approach, persuasive writing is the taught genre. Before teaching persuasive writing, students were introduced to the features of persuasive writing to allow them to visualize and understand the purpose of such a genre. Refer to Figures 5 and 6 for reference.

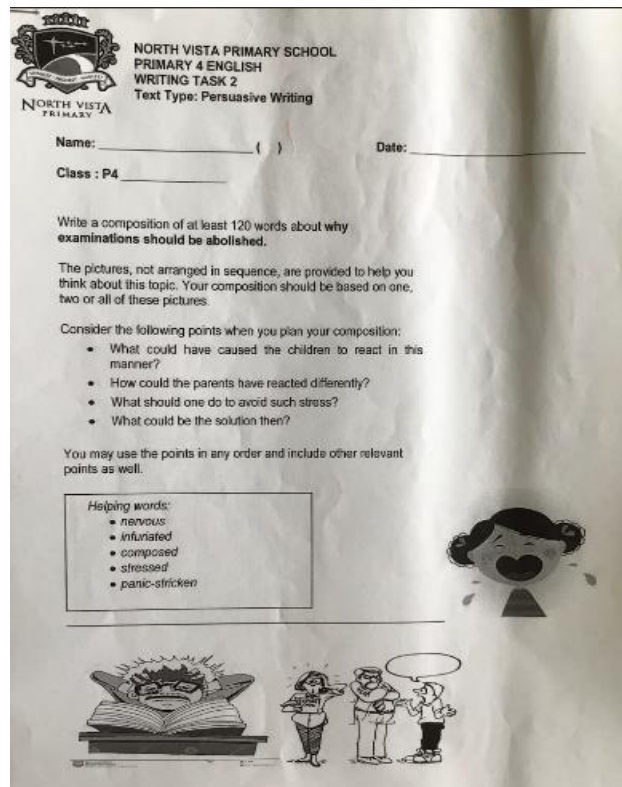


Figure 5. Persuasive Writing Question Type

| Features of persuasive writing | persuasive devices | written in the present tense | conclusion summarises the point of view |
|---|--|--|---|
| language to gain the reader's attention | presents opinion as fact | rhetorical question | introduction states the point of view |
| organised as sequence of arguments | use of factual evidence to support the point of view | detail and explanations support the main point | linking words make logical connections |

Figure 6. Persuasive Writing Question Type

Students are still expected to write based on a given concept, and three pictures are still given, followed by guiding questions. However, this alternative approach encourages students to apply critical thinking skills to discuss a social issue. For example, the issue of “why examination should be abolished” encourages students to think about three social issues: 1) parents’ reaction to the abolishment, 2) students’ reaction to the abolishment, and 3) mental well-being. Here, interdisciplinary skills beyond language are taught. Students are equipped with research skills using a laptop to search for information. In presenting this information, students work collaboratively with one another and share their research findings.

In addition to the persuasive writing genre, students are introduced to reflective writing. The aim is to get students to think about their experience as student writers and to work on their weaknesses while celebrating their strengths. Such skills encourage students to develop unique opinions and think of social topics they would like to pursue in their future writing tasks. Refer to Fig 5 as a reference for developing reflective skills. Reflective skills do not occur in isolation. This conversation with oneself is followed up with a conferencing session with their writing teacher. In this conferencing session, student writers verbalize their writing journey and share their goals and expectations for writing. They receive feedback and empower themselves as student writers as they make writing decisions on what skills to work on next. Refer to Figure 7, Figure 8, and Figure 9 for the conferencing tracker.

Figure 7. Reflective Skills and Conferencing Tracker

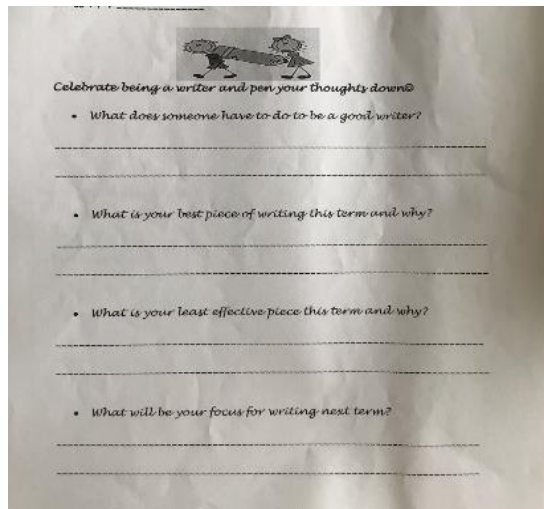


Figure 8. Reflective Skills and Conferencing Tracker

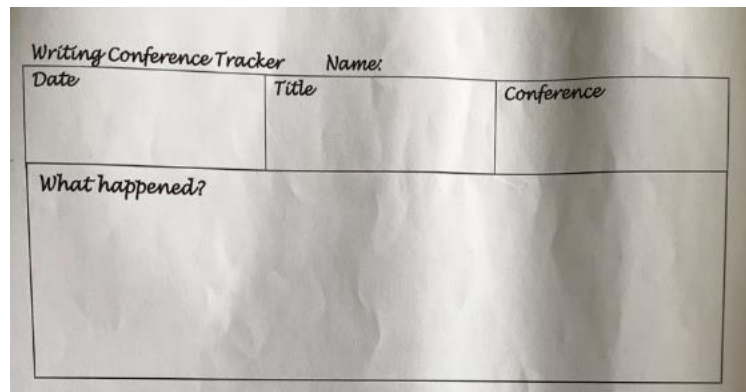


Figure 9. Reflective Skills and Conferencing Tracker

Writing across Curriculum

Interdisciplinary writing across the curriculum is another approach towards developing stronger student writers. Leveraging subjects such as Social Studies guides students towards taking an interest in social, cultural, political, and historical issues surrounding Singapore. A Social Studies Unit from 3rd – 4th grade examines early immigrant occupation. One of the occupations that students read about is the samsui women. These were the women who worked in the construction industry and had helped build Singapore. Today, we no longer see samsui women in Singaporean communities; therefore, samsui women can be considered one of the milestones celebrating women’s contribution to early Singapore’s success.

For this reason, the students were taken to the museum to learn more about samsui women. During the learning journey to the museum, they had the opportunity to fold the famous red hat using paper and bring it home. After the learning journey, they were tasked to write about Singapore’s samsui women. Refer to Figures 10 and 11 for a sample of student’s writing.

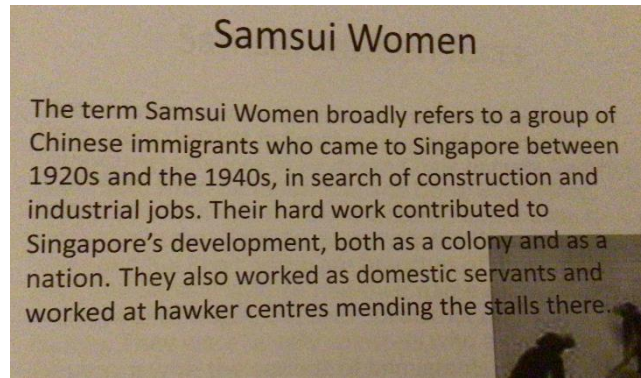


Figure 10. Sample Writing on Samsui Women

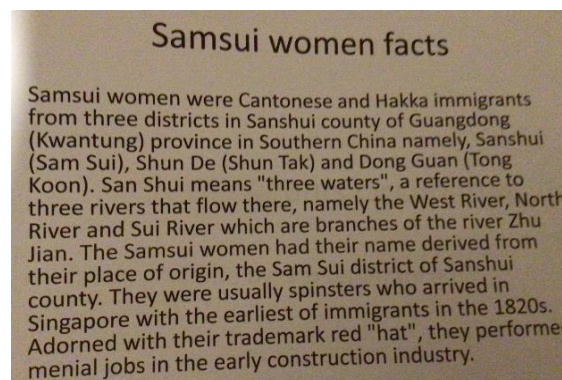


Figure 11. Sample Writing on Samsui Women

In addition to Social Studies, students were introduced to writing approaches within Science topics. For 3rd and 4th-grade Science, the focus was on animals and their habitats. Instead of relying solely on the prescribed textbook, students were encouraged to research their favourite natural habitat. They were instructed to select two animals from that habitat and gather information about these animals. Students were encouraged to use encyclopedias and internet search engines to support their research. Their report writing had to include several key topics: selecting a natural habitat, choosing two animals that reside in that habitat, describing the physical characteristics of the animals, discussing their life cycle, detailing their diet, naming the male, female, and young of the species, explaining the animals' role within the habitat, outlining the effects of human interaction on this habitat with supporting evidence, and listing the adaptations made by the animals to survive in the habitat, also with supporting evidence.

Using Art and Craft Lessons



Figure 12. Example of 3-D modal

Students had to design and develop a 3-D model of their chosen animals in their natural habitat. Students were invited to do a 5-10-minute presentation on their animals and habitat using only their 3-D model as props. In conclusion, students in the 3rd grade had to produce a report using science topics and extend them into a writing exercise. In producing the report, they had the opportunity to leverage their art and craft lessons to develop the 3-D model needed for their presentation. Since the information report goes beyond the knowledge provided in their prescribed Science textbook, they also had to learn to read for comprehension and synthesize information from the encyclopaedia and the internet. The human interaction component creates the opportunity for students to think about their impact on natural habitats. It allows for discussing bigger societal issues like climate change and global warming. (Emailing the author can provide a video link to the student's presentation.)

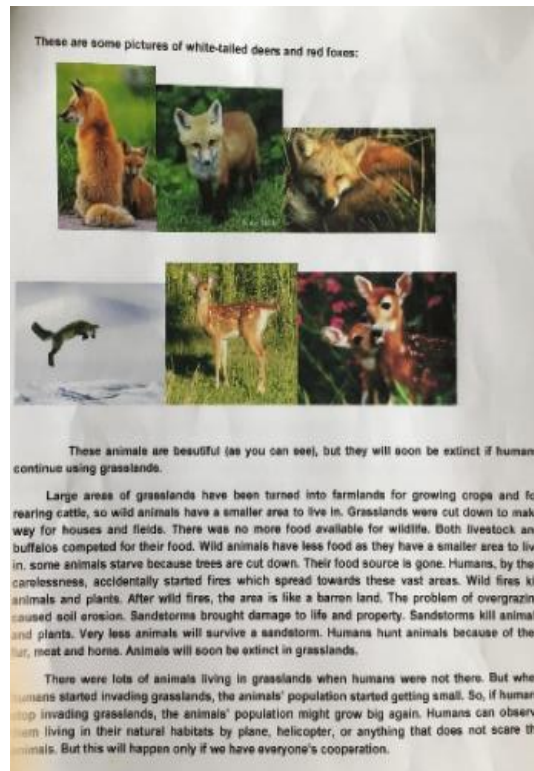


Figure 13. Sample Writing on Animals and Their Natural Habitat

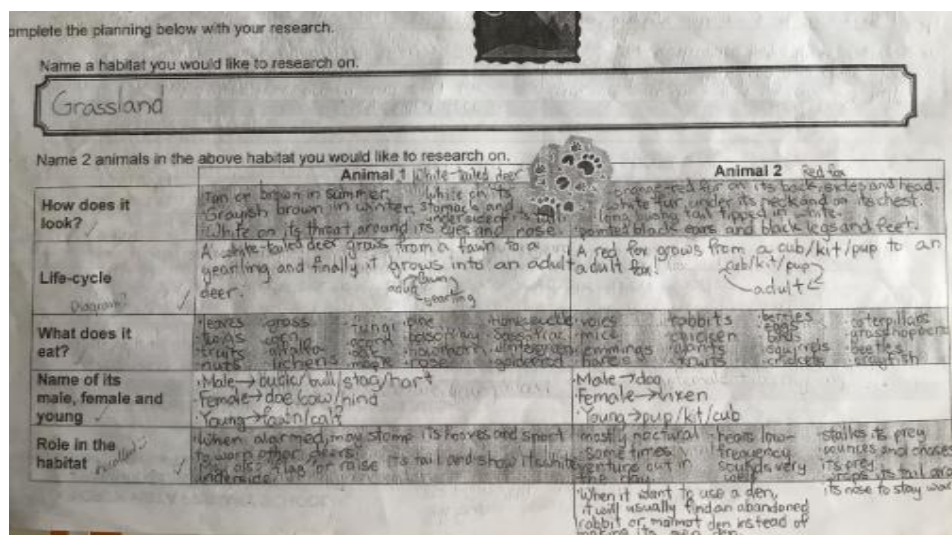


Figure 14. Sample Writing on Animals and Their Natural Habitat

List at least 3 – 5 effects of human interaction on this habitat.

| No. | Topic Sentences / Main point |
|------|--|
| 1. ✓ | Large areas of grassland have been turned into farmlands for growing crops and for rearing cattle. |
| 2. ✓ | Grasslands were cut down to make way for houses and fields. There was no more food available for wildlife. Both livestock and buffaloes competed for their food. |
| 3. ✓ | Humans, by their carelessness, accidentally started fires which spread towards these vast areas. |
| 4. ✓ | The problem of overgrazing caused soil erosion. Sandstorms brought damage to life and property. |
| 5. ✓ | Humans hunt animals because of their fur, meat, and horns. |

List at least 3 adaptations of the 2 animals

| No. | Animal 1 White-tailed deer | Animal 2 Red fox |
|------|--|--|
| 1. ✓ | White-tailed deer have brown and soft fur to keep warm in the winter. | Red foxes have sharp claws that dig into the ground to bury their food. These claws also serve to kill their prey. |
| 2. ✓ | White-tailed deer bounce around to confuse the predator that is coming after them. | Red foxes have sharp teeth which helps them to shred and tear their food. |
| 3. ✓ | Female white-tailed deer are able to abort their unborn fawns in order to survive. | Red foxes have long legs which are good for running quickly while chasing prey. |

Include the websites / books you used for your research at this stage.

(1) <http://sites.google.com/site/capellaed.com/grassland-savanna/home/human-impact/> ✓
(2) <http://www.brighthub.com/environment/science-environment/articles/68527.aspx> ✓
(3) <http://classrooms.sunony.com/impacts-humans-grassland-biomes-2594.html> ✓
(4) (1), (2), (3) (white-tailed deer) <http://white-taileddeer.weebly.com/adaptations.html> ✓
(4) (1), (2), (3) (red fox) http://wiki.answers.com/Q/What_adaptations_does_the_red_fox_have_to_have ✓

Figure 15. Sample Writing on Animals and Their Natural Habitat

Complete the planning below with additional research and information from Stage 1.

Include supporting facts and examples for each effect human interaction has on this habitat from Stage 1.

| Point | Supporting facts / examples |
|-------|--|
| 1. ✓ | Wild animals have a smaller area to live in. |
| 2. ✓ | Wild animals have less food as they have a smaller area to live in. Some animals die starve because trees are cut down. Their food source is gone. |
| 3. ✓ | Wild fires kill animals and plants. After wild fires, the area is like a barren land. |
| 4. ✓ | Sandstorms kill animals and plants. Very less animals will survive the sandstorm. |
| 5. ✓ | Animals will soon be extinct in grasslands. |

List supporting facts and examples for each adaptation of each animal from Stage 1.

| Point | Animal 1 White-tailed deer | Animal 2 Red fox |
|-------|---|---|
| 1. ✓ | White-tailed deer have lesser fur than in winter as it is not that cold. They will grow brown and soft fur during winter. | Red foxes claws will grow throughout their life. They need to use it for lots of different uses. |
| 2. ✓ | White-tailed deer bounce around the predator in order to survive. They do that everytime a predator comes after them. | Red foxes have sharp teeth throughout their life. If their teeth is blunt, they will not be able to shred and tear food properly. |
| 3. ✓ | Female white-tailed deer have to abort their unborn fawns in order to survive, or they will die. | Red foxes need their long legs. Without them, red foxes will not be able to run fast. |

Figure 16. Sample Writing on Animals and Their Natural Habitat

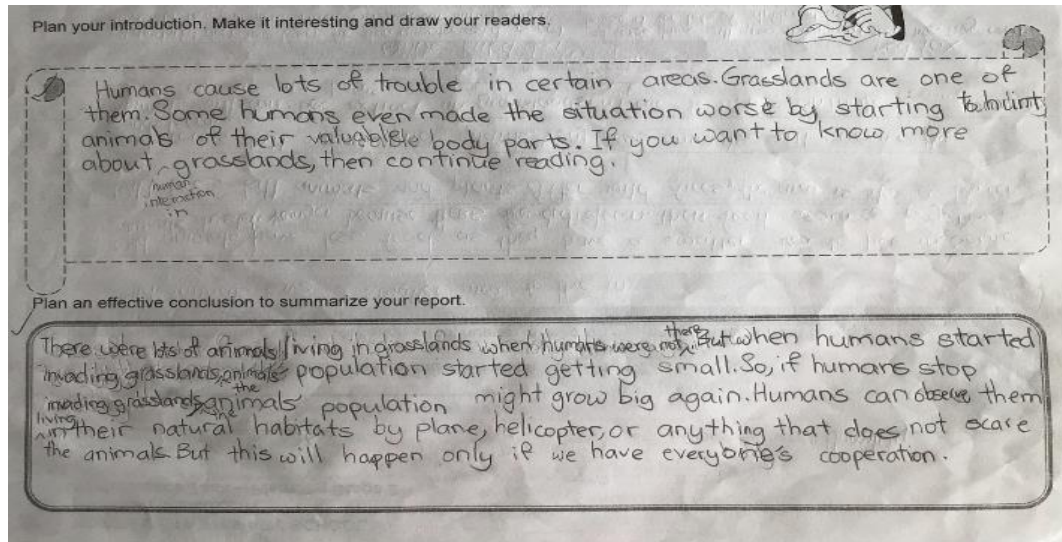


Figure 17. Sample Writing on Animals and Their Natural Habitat

Parents as Partners

The African proverb, "It takes a village to raise a child," carries a more local meaning in Singapore. Our *kampung spirit*, which refers to a sense of social cohesion in a community and the willingness to help one another, is one of Singaporean's community attitudes. The word *Kampung* is a Malay word meaning village. In a school setting, this word is implemented when teachers and parents collaborate and work together to help students succeed.

In the 3rd to 4th grade classroom, Ms N developed a close working relationship with the student's parents. The normal practice in government schools for collaboration with parents is to invite them on educational learning journeys to help chaperon students and ensure their safety outside a school environment. It is because the required ratio of adults to children is 1:20 to ensure safety while outside the school compound. Beyond learning journeys, parents become a part of students' writing journeys.

Friday afternoons are collaborative writing days with parents. Parents were invited to join the students as facilitators. A maximum of six parents could sign up as volunteers each week. They are assigned to help out between 10:30 a.m. to 1 p.m. During this time, students would have been seated in groups of 4-6 and were tasked to complete the different stages of their writing. Some of these stages included peer review, where students had to respond to their friend's writing and post critical questions that will help in the elaboration of their drafts, further research to be conducted using the internet to fact check on their drafts, basic error corrections of structural and grammatical errors including but not limited to tenses and spelling, or starting on a new composition topic which requires engaging discussion. The students may not be at the same stage regarding their writing because they were encouraged to develop skills at a pace that they were comfortable with. They are also encouraged to write on topics that they are interested in. Parents signed up weeks in advance to receive an invitation as facilitators. Most parents willingly apply for leave from their work to be a part of this writing journey.

During each writing session, when parents helped as facilitators, they were given specific instructions on how to help the students. Parents understood that they would not be tasked to facilitate their child's group. It is to ensure that no favouritism is practised at any time. Parents are encouraged to bring laptops to help students with internet research skills. They may ask questions to further students' thought processes, and they may not provide answers during their facilitation. At the end of each session, students submit their drafts to Ms N for feedback.

In addition to being writing facilitators, parents also helped with learning journeys. Here, parents became safety officers, ensuring all students were on task and taking notes. Often, one of the tasks from these learning journeys requires students to write a recount or a reflective narrative afterwards. On top of their official duties as safety officers, parents are encouraged to guide students in note-taking, which will be used in their writing tasks upon returning to the classroom. Parents are also encouraged to guide students by asking critical questions to provoke thoughts and engage in conversation on the tasks.

Parents have also been invited as guest speakers to give talks when the topic covered in class is their area of expertise. We had to discuss the topic of entertainment and mental health. One of the parents was in the entertainment industry and was invited to give a talk to the students. He dressed as a clown and engaged the students in an engaging discussion on what entertainers do and how their job impacts society. Students were engaged and asked curious questions. They took notes and used them for a reflective writing activity on mental health.

Another important role that parents play is to help set up an impactful experiential learning environment in the classroom. One of the most important corners of the classroom is the class library. Parents donate furnishings such as pillows, blankets, shelves, and books. These materials may seem trivial, but they helped create an inviting reading corner for the students. Library activity is an important part of the student's learning experience. Each student chooses a book to read, and they would share fortnightly. In these sharings, their peers would ask questions about the content shared. Such interactions invoke critical thinking and engaging discussions beyond their textbooks. Students develop curiosity and a thirst for knowledge during these sessions. All in all, parents play a significant role. The relationship is built on trust and a common objective to ensure all the students in the class succeed and develop as strong student writers.



Figure 18. Class Library

Routine Writing Process

Writing is a routine. Students were made aware of the writing process and expectations at a very early stage of teaching and learning. Writing is broken down into five stages.

Stage 1: Group Exploration of Topics

At stage 1 of the writing process, students were invited to work in small groups of 4-5 and explore topics they might be interested in reading up and investigating. These topics needed to be about social issues in a community in Singapore. Students could brainstorm individually or as a group. They were given about 30 minutes for this activity.

Stage 2: Sharing of Ideas

At stage 2 of the writing process, students shared their group's ideas with the class. They rationalize why they pick certain topics and how their topics impact a particular community in Singapore. Their peers may offer suggestions and critical feedback on how they may improve the ideas that they shared. They were given 10-15 minutes per group for this activity. *(It must be noted that stages 1 and 2 occurred within one period, on the same day. However, stage 3, which is class-dictated, occurs on the next school day.)*

Stage 3: Class Dictated

At stage 3, Ms. N introduced sample stories related to the students' selected topics from the previous day. These stories were distributed as reading materials. The students worked in groups to

discuss the relevance of these materials to their chosen topics. They were allotted 30-45 minutes to complete this activity. Among the topics explored by the 3rd to 4th-grade students were domestic helpers, modern slavery in Singapore, and the killing of animals for luxury goods.

Stage 4: Drafting stages

Stage 4 is where the actual writing begins. This process may be longer for some students and shorter for other students. However, they will follow the same writing cycle. Refer to Fig 11 for the writing cycle.

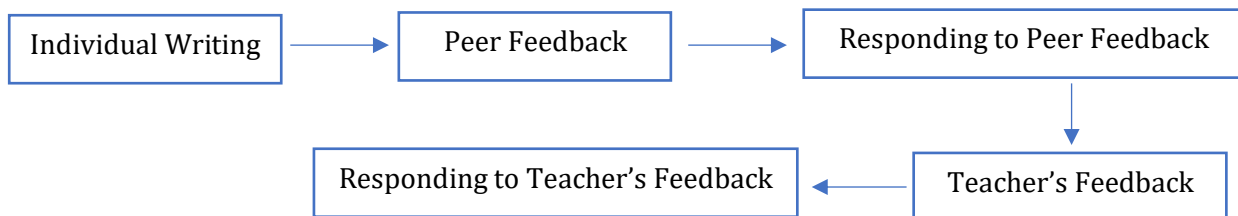


Figure 19. Writing Cycle

Writing at this stage begins with individual writing. It is because brainstorming of ideas and content generation are completed by stage 3. Students are ready to consolidate their ideas and begin writing. Here, they are given 40 minutes to write their first drafts. After this, they will email their writing to a peer who will give them content feedback by applying the 5W and 1H question techniques (Who, when, where, what, why, and how). Peers are encouraged to ask for content elaboration to improve their peers' writing. After the peer feedback, student writers will respond to their peers by making the necessary changes to their second draft if they deem the suggestions helpful. Rejection of suggestions must be rationalized. The next stage is the teacher's feedback. Here, Ms N will indicate the areas they want the students to work on. For example, it could be language- tenses, punctuation, and content-problem development. So, while Ms. N provided feedback on the composition, her feedback will focus on the two areas she wants a particular student-writer to work on. Student writers will work on their third draft. They will resubmit this and get an overall comment on their composition. Most students will be invited to the publishing stage from here. If they present several errors in their third draft, they must repeat the stage 4 cycle.

Stage 5: Publishing

Stage 5 is the publishing stage, where students are invited to type out their latest draft, with the invitation from Ms N to publish it. Students work on their respective laptops and must print out the final piece. All of their writing processes, from stages 1 through 5, will be filed into a clear folder so that they can track their development as a writer. Students enjoyed the writing process and wrote notes on what they enjoyed.

PHD (doctor rate). She was the one who started the writers' workshop, math treasure hunt, and many other fun activities. She also conducts remedial lessons weekly. She is also a very kind and helpful teacher. It was a very fun year with her as all of our grades improved a lot. Also, on Wednesday, 28 May, we went on a field trip with her to the Singapore Discovery Center. We had a lot of fun there. Also, we got good grades for SA1, 2014. We really appreciate Miss Nalls teaching. We hope that we can make her proud in the following term without her. The year was great and the best year so far. We hope that Miss Nalls would not leave us and will continue to guide us to become the best class in the level.

Figure 20. Student-Published Written Works

When our class was learning persuasive essay she taught us carefully the structure and when comes to parts that is hard to memorize she will makes action for them when we make mistakes she will run through them individually with patience when we make tenses error she do not just write the correct tense on top instead she will just write letter T as tense we will have to correct the error ourselves if she just tell us the answer we will not learn anything

Figure 21. Student-Published Written Works

Dr Nalls teaches english, math, science, IRS, social studies. In all the subjects she also include english. For example, for IRS she calls us to write a persuasive essay on our IRS topic. Even for english, she tries to make english lessons fun and interesting. It is difficult not to concentrate in her lessons. She also uses her snack and lunch to mark our practice papers. Every Thursday, she stays back to give us tips on how to score, and she also makes it fun!

Figure 22. Student-Published Written Works

DISCUSSION

Developing good writing practices among younger student writers requires a disciplined writing routine where the process is repetitive. However, to ensure student writers can engage with content generation, the topics must be relevant and current to build a connection between classroom practices and reality. It aligns with MOE's latest writing approach that aims to connect real-world teaching approaches and learning practices (Singapore, 2024). The current STELLAR curriculum (Singapore, 2023) maps three aspects of language learning, namely a) shared book reading approach (SBA), b) modified learning English approach (MLEA) and c) learning centres. These approaches focus on other

language skills beyond reading and writing. It includes listening and speaking skills. These four real-world communicative skills are much needed in our everyday interactions. Considering the current learning approaches in STELLAR and the observed approaches in Reggio, students in the 3rd to 4th-grade classroom adopted and adapted learning objectives to consider interdisciplinary approaches to writing. Writing lessons are designed to leverage technological skills to conduct critical research.

Interdisciplinary Approach: Using Critical Research to Engage Young Learners

Student writers were introduced to innovative and non-traditional writing strategies to foster a deeper intellectual curiosity and engagement with socially relevant topics. The primary objective of these strategies is to cultivate student writers who are proficient in writing and possess a heightened awareness of the issues affecting their communities and society at large. By moving beyond conventional narrative compositions, students were encouraged to explore diverse genres, including persuasive writing, which allowed them to critically engage with and articulate their perspectives on social issues ([Ferris & Hedgcock, 2023](#); [Mitsikopoulou, 2020](#)).

The interdisciplinary writing approach, which integrates writing tasks across various curricular subjects, offers students the opportunity to research topics of personal interest. For instance, students explored whether examinations should be abolished, utilizing internet research tools to gather data and form evidence-based arguments. This method equips students with skills pertinent to the workforce, such as critical thinking, research proficiency, and synthesising information across disciplines ([Becker, 2020](#); [Tilakaratna, 2024](#)).

In more complex subjects like Science, 3rd and 4th graders were introduced to report writing, where they investigated and wrote about topics such as animals and their habitats. This interdisciplinary approach made writing lessons more engaging and established connections between Writing and content knowledge from other subjects ([Didham et al., 2024](#); [Moser et al., 2019](#); [Self et al., 2019](#)). For example, when writing about "Animals and their Habitats," students were encouraged to consider global issues such as climate change, expanding their critical thinking skills and enhancing their academic writing.

The pedagogical value of these approaches lies in their emphasis on student agency and creativity ([Horasan-Doğan & Cephe, 2020](#); [M. Kim, 2022](#); [Yang et al., 2020](#)). Students are encouraged to express their opinions on social issues through authentic writing tasks, fostering a sense of ownership and responsibility for their work. Those who excel in oral communication were allowed to present their research findings verbally, often supported by creative projects such as 3-D models of animals in their natural habitats. This integration of art and craft into the writing curriculum not only enriches the learning experience but also reinforces the interdisciplinary nature of the writing tasks ([Buck & Snook, 2020](#); [N. Kim, 2023](#); [Tadesse & Melesse, 2022](#); [Wijayanti et al., 2023](#)).

These non-traditional writing strategies promote a student-centred learning environment where students' voices are prioritized. By engaging with topics that are meaningful to them and utilising various research tools and resources, students are empowered to develop as critical thinkers and skilled writers. The role of teachers as facilitators is crucial in this process, guiding students through their writing journey while fostering an environment that encourages inquiry and exploration. Furthermore, the involvement of parents as partners in the writing process can significantly enhance the effectiveness of these strategies, providing additional support and diverse perspectives that contribute to the overall development of the student writers.

Parents as Partners

Parental involvement plays a significant role in the writing process, particularly within the context of 3rd and 4th-grade classrooms ([Moorhouse & Beaumont, 2019](#); [Saro, 2022](#); [Tan et al., 2020](#)). Despite their demanding schedules, parents actively participate as volunteers during Friday writing workshops. Their involvement as facilitators allows for more individualized guidance, particularly benefiting students who require additional support ([Beck & DeSutter, 2020](#); [Gershwin et al., 2023](#); [Mueller & Vick, 2019](#)). While parents follow a provided instructional guide, many scaffolding questions that facilitate deeper student engagement with their writing drafts emerge organically from their interactions. The presence of parents in the classroom fosters an authentic learning environment, enriching discussions by introducing diverse perspectives beyond those of the classroom teacher, Ms. N. This diversity of

thought proved especially valuable during discussions on complex topics, such as the abolition of examinations. Moreover, parents are facilitators and serve as guest speakers, contributing their expertise to enhance the educational experience ([Craig et al., 2020](#); [Moorhouse & Beaumont, 2019](#)). Their involvement in this capacity adds significant value to students' learning, bridging classroom instruction with real-world knowledge.

Integrating parents as partners in the writing process has proven effective in these classrooms ([Gershwin et al., 2023](#); [Moorhouse & Beaumont, 2019](#)). While some educators may hesitate to involve parents due to concerns about potential misunderstandings of pedagogical practices, the evidence suggests that parental contributions greatly enhance the learning outcomes for student writers. Specifically, students benefit from parental involvement in two key scenarios: first, as facilitators during the Friday writing sessions, and second, as guest speakers who provide insights on topics of relevance to the curriculum ([Moorhouse & Beaumont, 2019](#); [Tan et al., 2020](#)). In both instances, the collaboration between parents and students extends learning beyond the traditional classroom setting, offering experiences that textbooks alone cannot provide.

This approach also encourages students to engage in inquiry-based learning, as they are prompted to ask questions and actively participate in discussions. Exposure to real-world issues and diverse viewpoints fosters an engaging and stimulating learning environment that supports student-writers holistic development ([Hammons et al., 2020](#); [Pfeiffer et al., 2022](#)). However, for the interdisciplinary approach and parental involvement to be effectively integrated, it is essential to establish a routine writing process within the classroom. This structured process ensures that all parties—teachers, students, and parents—share a mutual understanding of the educational objectives and are aligned in their efforts to achieve them ([Amalia et al., 2024](#); [Vitiello et al., 2020](#)).

Routine Writing Process

The third strategy discussed is the implementation of a routine writing process. Among the three approaches presented, this strategy is arguably the most critical, as it establishes a foundational framework that facilitates the smooth execution of other strategies. For young student writers developing their voices, cultivating discipline and accountability is essential, and acquiring robust writing skills ([Condie & Pomerantz, 2020](#); [Graham, 2019](#)). Without discipline, students risk becoming easily distracted and straying from their writing tasks ([Graham, 2019](#); [McGarr, 2024](#)). Writing, as a process, does not yield immediate results; hence, students must recognize the importance of each of the four stages in the writing process.

The stages of reading, gathering information, engaging in discussions, and planning are foundational steps that guide students in selecting the most appropriate subject matter for their Writing ([Aagaard, 2022](#); [M. Kim, 2022](#)). The drafting stage, the fourth stage, is particularly crucial, as it embodies the value of accountability ([Aagaard, 2022](#); [Perry et al., 2020](#)). At this stage, students understand that writing is not an isolated activity. Instead, it involves collaboration through debates and conferencing sessions where the opinions of others are valued ([Condie & Pomerantz, 2020](#); [Symaco & Chao, 2019](#)). Ultimately, the student writers make informed decisions about the final piece to be published.

This process underscores the significance of the student's voice in their writing. Recognizing that their words impact their audience instils a sense of responsibility in the student-writers. The messages they convey to their community and society must be credible and meaningful. As a result, students emerge as responsible writers, fully aware of the accountability that comes with their words. They develop into critical thinkers and writers, honing their writing skills within an authentic, student-centered environment.

CONCLUSION

The research underscores the effectiveness of integrating structured writing processes, interdisciplinary approaches, and parental involvement in enhancing the writing skills of primary school students. While foundational, the traditional emphasis on narrative Writing was expanded to include persuasive and reflective writing, encouraging students to critically engage with social issues and their own experiences as writers. The interdisciplinary approach enriched the learning experience by connecting writing tasks with subjects like Social Studies and Science, making classroom activities more relevant to real-world issues.

The involvement of parents as partners in the writing process played a crucial role in providing additional support and introducing diverse perspectives, thereby creating a more dynamic and supportive learning environment. However, implementing these strategies required careful management to address the diverse needs of students and ensure effective communication with parents.

The routine writing process established a disciplined framework vital for developing strong writing habits, fostering accountability, and enabling personalized instruction. Overall, the combination of these innovative and collaborative strategies improved students' writing abilities and equipped them with essential critical thinking and research skills, preparing them for future academic and professional challenges. This study highlights the importance of adopting a holistic approach to writing instruction, where structured processes, interdisciplinary learning, and community involvement converge to foster comprehensive student development.

Funding and Conflicts of Interest

The authors declare no funding and conflicts of interest for this research.

REFERENCES

- Aagaard, J. (2022). Taming Unruly Beings: Students, Discipline and Educational Technology. *Technology, Pedagogy and Education*, 31(2), 159–170. <https://doi.org/10.1080/1475939X.2021.1981993>
- Amalia, I., Pratiwi, D., Razieb, L. A. L., & Maab, S. H. (2024). Alignment Between Student Learning Needs and Classroom Learning Models: Case Study. *Journal of Linguistics and Language Teaching*, 2069(10), 113–130. <http://dx.doi.org/10.29300/ling.v10i1.4627>
- Beck, S. J., & DeSutter, K. (2020). Special Education Meetings: The Role of the Facilitator in Districts Serving Rural Communities. *Rural Special Education Quarterly*, 40(1), 33–41. <https://doi.org/10.1177/8756870520972660>
- Becker, P. A. (2020). Teaching Language and Literacy Through the Visual Arts: An Interdisciplinary, Literature-Based Approach. *TEACHING Exceptional Children*, 52(3), 166–179. <https://doi.org/10.1177/0040059919894736>
- Buck, R., & Snook, B. (2020). Reality Bites: Implementing Arts Integration. *Research in Dance Education*, 21(1), 98–115. <https://doi.org/10.1080/14647893.2020.1727873>
- Condie, C., & Pomerantz, F. (2020). Elementary Students' Literacy Opportunities in an Age of Accountability and Standards: Implications for Teacher Educators. *Teaching and Teacher Education*, 92, 103058. <https://doi.org/https://doi.org/10.1016/j.tate.2020.103058>
- Craig, C. M., Bergstrom, A. M., & Buschhorn, J. (2020). All Guest Speakers Are Not Created Equal: Diverse Students Require Diverse Speakers. *Journal of Advertising Education*, 24(2), 150–167. <https://doi.org/10.1177/1098048220956939>
- Crawford, M. (2020). Ecological Systems Theory: Exploring the Development of the Theoretical Framework as Conceived by Bronfenbrenner. *Journal of Public Health Issues and Practices*, 4(2), 2–7. <https://doi.org/10.33790/jphip1100170>
- Didham, R. J., Fujii, H., & Torkar, G. (2024). Exploring Interdisciplinary Approaches to Education for Sustainable Development. *Nordic Journal of Comparative and International Education*, 8(2). <https://doi.org/10.7577/njcie.5877>
- Elliott, S., & Davis, J. M. (2020). Challenging Taken-for-Granted Ideas in Early Childhood Education: A Critique of Bronfenbrenner's Ecological Systems Theory in the Age of Post-humanism. In A. Cutter-Mackenzie-Knowles, K. Malone, & E. Barratt Hacking (Eds.), *Research Handbook on Childhoodnature : Assemblages of Childhood and Nature Research* (pp. 1119–1154). Springer International Publishing. https://doi.org/10.1007/978-3-319-67286-1_60
- Erduran, S., El Masri, Y., Cullinane, A., & Ng, Y. P. D. (2020). Assessment of Practical Science in High Stakes Examinations: A Qualitative Analysis of High Performing English-speaking Countries.

International Journal of Science Education, 42(9), 1544–1567.

<https://doi.org/10.1080/09500693.2020.1769876>

Ferris, D. R., & Hedgcock, J. S. (2023). *Teaching L2 Composition: Purpose, Process, and Practice (4th Edition)*. Routledge. <https://doi.org/10.4324/9781003004943>

Gershwin, T., McKittrick, L., & Kilpatrick, A. (2023). The Importance of following Legal Requirements: Factors that Lead to Parent Satisfaction with the Individualized Education Program Meeting Process. *Journal of Educational and Psychological Consultation*, 33(4), 369–392.

<https://doi.org/10.1080/10474412.2022.2145290>

Giroux, H. A. (2023). Critical Theory and Educational Practice 4th Edition. In *The Critical Pedagogy Reader* (p. 25). Routledge. <https://doi.org/10.4324/9781003286080>

Gloria Ladson-Billings. (2020). Just What is Critical Race Theory and What's It Doing in a Nice Field Like Education? In *Critical Race Theory in Education* (p. 18). Routledge.

<https://doi.org/10.4324/9781003005995>

Graham, S. (2019). Changing How Writing Is Taught. *Review of Research in Education*, 43(1), 277–303.

<https://doi.org/10.3102/0091732X18821125>

Hammons, A. J., Fiese, B., Koester, B., Garcia, G. L., Parker, L., & Teegarden, D. (2020). Increasing Undergraduate Interdisciplinary Exposure Through an Interdisciplinary Web-based Video Series. *Innovations in Education and Teaching International*, 57(3), 317–327.

<https://doi.org/10.1080/14703297.2019.1635902>

Hayes, N., O'Toole, L., & Halpenny, A. M. (2022). *Introducing Bronfenbrenner: A Guide for Practitioners and Students in Early Years Education 2nd Edition*. Routledge.

<https://doi.org/10.4324/9781003247760>

Horasan-Doğan, S., & Cephe, P. T. (2020). The Effects of Creative Drama on Student Teachers' Creative Pedagogy and Identity. *Thinking Skills and Creativity*, 38, 100736.

<https://doi.org/10.1016/j.tsc.2020.100736>

Kanyamuna, V., & Zulu, K. (2022). Participatory Research Methods: Importance and Limitations of Participation in Development Practice. *World Journal of Social Sciences and Humanities*, 8(1), 9–13. <https://doi.org/10.12691/wjssh-8-1-2>

Kaynak-Ekici, K. B., İmir, H. M., & Temel, Z. F. (2021). Learning Invitations in Reggio Emilia Approach: A Case Study. *Education 3-13*, 49(6), 703–715. <https://doi.org/10.1080/03004279.2020.1775272>

Kim, K. H., & Chae, N. (2019). Recapturing American Innovation Through Education: The Creativity Challenge for Schools. In C. A. Mullen (Ed.), *Creativity Under Duress in Education? Resistive Theories, Practices, and Actions* (pp. 215–233). Springer International Publishing.

https://doi.org/10.1007/978-3-319-90272-2_12

Kim, M. (2022). Student Agency and Teacher Authority in Inquiry-Based Classrooms: Cases of Elementary Teachers' Classroom Talk. *International Journal of Science and Mathematics Education*, 20(8), 1927–1948. <https://doi.org/10.1007/s10763-021-10233-7>

Kim, N. (2023). Reformulating Crafts in Art Education Curriculum. *Art Education*, 76(1), 44–49.

<https://doi.org/10.1080/00043125.2022.2131203>

Liu, J., & Bray, M. (2020). Evolving Micro-level Processes of Demand for Private Supplementary Tutoring: Patterns and Implications at Primary and Lower Secondary Levels in China. *Educational Studies*, 46(2), 170–187. <https://doi.org/10.1080/03055698.2018.1555452>

McGarr, O. (2024). Teacher Educators' Views and Responses to Digital Distraction in Pre-service Teacher Education. *Teaching and Teacher Education*, 148, 104701.

<https://doi.org/10.1016/j.tate.2024.104701>

Mitsikopoulou, B. (2020). Genre Instruction and Critical Literacy in Teacher Education: Features of a

- Critical Foreign Language Pedagogy in a University Curriculum. *L2 Journal*, 12(2).
<https://doi.org/10.5070/1212245951>
- Moorhouse, B. L., & Beaumont, A. M. (2019). Involving Parents in Their Children's School-based English Language Writing Using Digital Learning. *RELC Journal*, 51(2), 259–267.
<https://doi.org/10.1177/0033688219859937>
- Moser, K. M., Ivy, J., & Hopper, P. F. (2019). Rethinking Content Teaching at the Middle Level: An Interdisciplinary Approach. *Middle School Journal*, 50(2), 17–27.
<https://doi.org/10.1080/00940771.2019.1576579>
- Mueller, T. G., & Vick, A. M. (2019). Rebuilding the Family–Professional Partnership Through Facilitated Individualized Education Program Meetings: A Conflict Prevention and Resolution Practice. *Journal of Educational and Psychological Consultation*, 29(2), 99–127.
<https://doi.org/10.1080/10474412.2018.1470934>
- Nalls, I. B. (2020). Globeville: The Neighborhood that Shapes the Learning Environment for BFLA Spanish-English Mexican Americans. *International Journal of Anthropology and Ethnology*, 4(1).
<https://doi.org/10.1186/s41257-020-00029-y>
- Perry, N. E., Lisaingo, S., Yee, N., Parent, N., Wan, X., & Muis, K. (2020). Collaborating with Teachers to Design and Implement Assessments for Self-regulated Learning in the Context of Authentic Classroom Writing Tasks. *Assessment in Education: Principles, Policy & Practice*, 27(4), 416–443.
<https://doi.org/10.1080/0969594X.2020.1801576>
- Pfeiffer, L. J., Knobloch, N. A., Tucker, M. A., & Hovey, M. (2022). Issues-360TM: An Analysis of Transformational Learning in a Controversial Issues Engagement Initiative. *The Journal of Agricultural Education and Extension*, 28(4), 439–458.
<https://doi.org/10.1080/1389224X.2021.1942090>
- Pope, C., & Allen, D. (2019). Observational Methods. *Qualitative Research in Health Care*, 67–81.
<https://doi.org/10.1002/9781119410867.ch6>
- Saro, J. M. (2022). Impact of Family Structure and Parental Involvement in Low Socioeconomic Areas on Reading and Writing Development of Grade 3 Students from San Rafael Elementary School in the Division of Agusan Del Sur, Philippines. *Psych Educ*, August.
<https://doi.org/10.5281/zenodo.7004580>
- Self, J. A., Evans, M., Jun, T., & Southee, D. (2019). Interdisciplinary: Challenges and Opportunities for Design Education. *International Journal of Technology and Design Education*, 29(4), 843–876.
<https://doi.org/10.1007/s10798-018-9460-5>
- Singapore, M. of E. (2023). *Primary School Subjects and Syllabuses*. Ministry of Education Singapore.
<https://www.moe.gov.sg/primary/curriculum/syllabus>
- Singapore, M. of E. (2024). *Curriculum and Targeted Literacy Support Programmes for Students*. Ministry of Education Singapore. <https://www.moe.gov.sg/-/media/files/news/press/2023/annex-c---moe-pirls-2021.pdf>
- Singh, J., Evans, E., Reed, A., Karch, L., Qualey, K., Singh, L., & Wiersma, H. (2022). Online, Hybrid, and Face-to-Face Learning Through the Eyes of Faculty, Students, Administrators, and Instructional Designers: Lessons Learned and Directions for the Post-Vaccine and Post-Pandemic/COVID-19 World. *Journal of Educational Technology Systems*, 50(3), 301–326.
<https://doi.org/10.1177/00472395211063754>
- Soong, H. (2020). Singapore International Education Hub and Its Dilemmas: The Challenges and Makings for Cosmopolitan Learning. *Asia Pacific Journal of Education*, 40(1), 112–125.
<https://doi.org/10.1080/02188791.2020.1725433>
- Starkey, L. (2019). Three Dimensions of Student-centred Education: A Framework for Policy and Practice. *Critical Studies in Education*, 60(3), 375–390.

<https://doi.org/10.1080/17508487.2017.1281829>

- Symaco, L. P., & Chao, R. Y. (2019). Comparative and International Education in East and South East Asia. In C. C. Wolhuter & A. W. Wiseman (Eds.), *Comparative and International Education: Survey of an Infinite Field* (Vol. 36, pp. 213–228). Emerald Publishing Limited.
<https://doi.org/10.1108/S1479-367920190000036012>
- Tadesse, Z., & Melesse, S. (2022). Analysis of Arts and Crafts Content in the Arts and Physical Education Integrated Textbook of Grade 3: Amhara National Regional State in Focus. *Cogent Education*, 9(1), 2041217. <https://doi.org/10.1080/2331186X.2022.2041217>
- Tan, C. Y., Lyu, M., & Peng, B. (2020). Academic Benefits from Parental Involvement are Stratified by Parental Socioeconomic Status: A Meta-analysis. *Parenting*, 20(4), 241–287.
<https://doi.org/10.1080/15295192.2019.1694836>
- Tilakaratna, N. (2024). Developing Disciplinary Values: Interdisciplinary Approaches to Investigating Critical Reflection Writing in Undergraduate Nursing (1st Edition). In *Demystifying Critical Reflection: Improving Pedagogy and Practice with Legitimation Code Theory* (p. 20). Routledge.
<https://doi.org/10.4324/9781003177210>
- UNICEF. (2024). *Our Mandate: No Child Left Behind*. United Nations International Children's Emergency Fund. <https://www.unicef.org/eca/our-mandate-no-child-left-behind>
- Vitiello, V. E., Pianta, R. C., Whittaker, J. E., & Ruzek, E. A. (2020). Alignment and Misalignment of Classroom Experiences from Pre-K to Kindergarten. *Early Childhood Research Quarterly*, 52, 44–56. <https://doi.org/10.1016/j.ecresq.2019.06.014>
- Wen, W., & Hu, D. (2018). The Emergence of a Regional Education Hub: Rationales of International Students' Choice of China as the Study Destination. *Journal of Studies in International Education*, 23(3), 303–325. <https://doi.org/10.1177/1028315318797154>
- Wijayanti, O., Irawan, D., Muryaningsih, S., & Fah, L. Y. (2023). Patterns of Teacher Pedagogical Creativity in Cultural Arts and Crafts Subjects in Elementary Schools. *Dinamika Jurnal Ilmiah Pendidikan Dasar*, 15(1), 37. <https://doi.org/10.30595/dinamika.v15i1.16808>
- Wong, H. M., Kwek, D., & Tan, K. (2020). Changing Assessments and the Examination Culture in Singapore: A Review and Analysis of Singapore's Assessment Policies. *Asia Pacific Journal of Education*, 40(4), 433–457. <https://doi.org/10.1080/02188791.2020.1838886>
- Yang, Y., Long, Y., Sun, D., Van Aalst, J., & Cheng, S. (2020). Fostering Students' Creativity Via Educational Robotics: An Investigation of Teachers' Pedagogical Practices Based on Teacher Interviews. *British Journal of Educational Technology*, 51(5), 1826–1842.
<https://doi.org/10.1111/bjet.12985>
- Zhu, G. (2021). A Prism of the Educational Utopia: The East Asian Educational Model, Reference Society, and Reciprocal Learning. *Discourse: Studies in the Cultural Politics of Education*, 42(6), 943–957. <https://doi.org/10.1080/01596306.2020.1714547>