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Development of metacognitive skills in a foreign language writing class

The development of metacognitive skills is particularly important for Master's students, as it equips them with the ability to manage their learning processes effectively, fostering independence and critical thinking essential for advanced academic work. This study aims to explore the integration of metacognitive strategies in a foreign language writing class to enhance students' writing proficiency and self-regulation skills. Metacognitive skills were developed through a structured approach that included several strategies: planning strategies, pre-writing techniques, monitoring and evaluation of writing, collaborative activities, and reflective practices. Students were engaged in creating detailed outlines and utilizing writing monitoring guides. They also participated in peer feedback sessions, reflective evaluations of their writing processes, and worked collaboratively to develop and discuss assessment criteria for their essays. The importance of the results lies in the substantial enhancement observed in students' metacognitive awareness and overall motivation. These findings underscore the critical role of metacognitive instruction in promoting effective learning strategies and self-regulation among students. The potential further usage of these results suggests that similar metacognitive strategies can be implemented across various educational contexts to improve academic performance and cultivate independent learners capable of navigating complex learning challenges.
Key words: cognition, metacognition, learning strategies, metacognitive strategies in ELT, metacognitive skills, peer assessment, metacognitive instruction, writing skills

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Развитие метакогнитивных навыков при обучении письму на уроках иностранного языка

Метакогнитивные навыки особенно важны для студентов магистратуры, где требуется высокий уровень аналитических умений и способности к самостоятельной работе в условиях выполнения сложных учебных задач. Данное исследование направлено на изучение влияния интеграции метакогнитивных стратегий при обучении письму на занятиях по иностранному языку с целью улучшения навыков письменной речи студентов и уровня их саморегуляции. Разработанный в ходе исследования комплексный подход включал несколько стадий работы с письменным текстом: планирование до выполнения письменного задания, мониторинг во время письменной практики, самоконтроль готового письменного задания, совместное обсуждение этапов работы над письменным заданием, разработку критериев оценивания, взаимооценивание, сравнение результатов взаимооценивания с оценкой преподавателя, рефлексию после всех этапов работы над письменным заданием. Исследование показало существенное улучшение метакогнитивной осведомленности и общей мотивации студентов в результате практик развития метакогнитивных навыков. Эти результаты подчеркивают важную роль метакогнитивного обучения в продвижении эффективных стратегий обучения и саморегуляции среди студентов. Дальнейшее использование результатов предполагает, что аналогичные

метакогнитивные стратегии могут быть реализованы в различных образовательных контекстах для улучшения академической успеваемости и развития навыков самостоятельного обучения, что позволит студентам успешно справляться с разнообразными учебными задачами.

Ключевые слова: метапознание, стратегии обучения, метакогнитивные стратегии в обучении иностранному языку, метакогнитивные навыки, оценка знаний сверстниками, метакогнитивное обучение, навыки письменной речи

Introduction

A world of VUCA refers to an environment characterized by volatility, uncertainty, complexity, and ambiguity. This acronym, VUCA, was originally used to describe the challenges of military strategy in the late 20th century. Over time, it has been adopted in business, education, and leadership, to depict the unpredictable and rapidly changing nature of the modern world. Navigating a complex VUCA landscape requires individuals and organizations to cultivate adaptability, resilience, critical thinking, and collaboration both to thrive in the face of challenges and to seize opportunities in an ever-evolving environment [5]. The Generation Z cohort is expected to continue to be the predominant demographic in undergraduate programs until 2030. Educators and institutions need to focus on preparing Generation Z students not only for current academic requirements but also for the evolving landscape of the future, ensuring that they are equipped to meet the challenges and opportunities that lie ahead [13]. Tual argues that 'universities are the bridge between the Generation Z and the VUCA World, so they should take the time to define clear and concerted strategies to fulfil the mission' [26].

According to the survey of master's degree students within the framework of the project "Innovative forms of control and assessment in the system of English-language training of graduate students (metacognitive aspect)", held by the National Research University Higher School of Economics in 2023–2024 academic year, 49 respondents – students of master's program outlined three top skills necessary for successful learning.

According to the pie-chart (Fig. 1), the most vital skills mentioned by students are goal-setting and planning with 29 respondents citing their importance. Self-reflection accounted for 16 responses. Error-analysis and correction, time-management, and self-assessment were considered equally important by 10 respondents. All these skills may be summarized as the awareness of one's own thought processes, which include planning, monitoring, and evaluating one's learning strategies. This awareness is known as Metacognition.
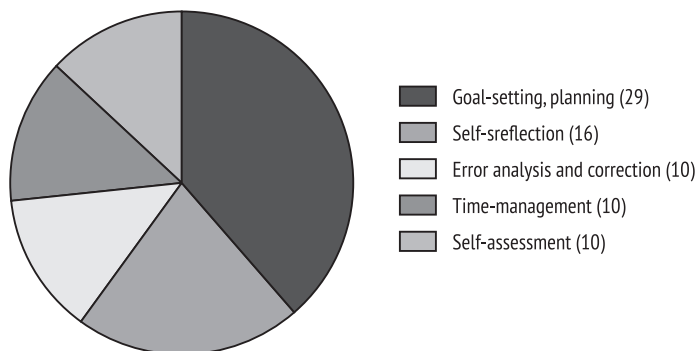

Goal-setting, planning (29)
Self-sreflection (16)
Error analysis and correction (10)
Time-management (10)
Self-assessment (10)

Fig. 1. Top skills for education

Theoretical background

Metacognition, often described as "thinking about thinking," is a powerful cognitive ability that allows us to understand and control our own thought processes. It's like having a mental supervisor overseeing the work of our brains [4]. This ability enables us to: become aware of our own thoughts and feelings, monitor our understanding and regulate our thinking. In other words, consciousness controls practical activity, and metacognition controls the activity of consciousness itself, giving it a new quality, provides an understanding of the characteristics of one's own cognitive activity [11]. Nelson and Narens (1990) model of metacognition consists of two levels: the object level and the meta level.

1. *Object level* (*cognition*). The object level represents cognitive processes or "one's thinking" that occur during a task, such as decoding text while reading. At this level, cognitive strategies are employed to help the learner achieve a specific goal, such as understanding the meaning of text.

2. *Meta level* (*metacognition*). The meta level is where metacognitive strategies come into play, involving thinking about one's own thinking processes.

Metacognitive regulation occurs when learners monitor and control their cognitive processes. For example, realizing that a particular strategy is not working to solve a problem and trying a different approach. Monitoring involves checking one's understanding of a task, while control involves making adjustments to cognitive processes based on monitoring feedback. Metacognition, as Brown, 1987 [4] and Flavell, 1979 stated [7], includes metacognitive knowledge:

− the learner's knowledge of their own cognitive abilities or self-knowledge;
− the learner's knowledge of the nature of particular tasks;
− the learner's knowledge of different strategies including when to use these strategies or strategic knowledge [18]

and metacognitive regulation which describes how learners monitor and control their cognitive processes.

The theoretical framework that divides metacognition into metacognitive knowledge and metacognitive regulation was modified by Schraw and Moshman in 1995 [22]. According to them metacognitive knowledge comprises declarative knowledge about oneself as a learner and procedural knowledge about learning strategies. Conditional knowledge involves understanding the appropriate timing and reasons for using specific learning strategies. Metacognitive regulation encompasses planning, monitoring, and evaluating strategies for effective learning. Planning involves selecting learning strategies for future tasks. Monitoring assesses comprehension and strategy effectiveness during learning. Finally, evaluating involves an evaluation of previous plans to adjust for future learning. In academic environment metacognition can be defined as "awareness and control of thinking for learning" [6].

Material and methods

To achieve the goal of the study, we used theoretical (analysis, comparison) and empirical (observation, survey) methods. The observed groups of students completed an electronic survey, which represented a set of questions to find out their opinion about the effectiveness of the implemented strategies.

Currently, there is no single best method for teaching metacognitive skills. Typically, students are offered a sequence of mastering strategies, starting with the formation of a conscious understanding of the strategy, discussion of its advantages, practice of use, and demonstration of transferability to new tasks [15]. Modern authors recommend the following stages: modelling the strategy by which a teacher explains the significance and method of use, guided practice of use, generalization with the help of the teacher, independent use of the strategy, and application of the strategy to new tasks [16].

Russian psychologists Karpov and Demidova consider externalization as the main method of metacognitive learning, the subsequent "strengthening" of metacognitive strategies and the expansion of their arsenal [10].

Modern Russian methodologists divide metacognitive strategies into the following groups:

1) planning of intellectual activity: putting forward goals and sub-goals of one's own intellectual activity, thinking over the means to achieve them, building up a sequence of one's own actions;

2) anticipation: taking into account the consequences of decisions made, as well as forecasting possible changes in a problematic situation;

3) conscious regulation of one's own intellectual behaviour: objective assessment of one's own knowledge/ignorance and the quality of individual actions;

4) analysis of the course of one's own thoughts, argumentation of one's own intellectual actions; setting oneself up for work; defending or reconsidering one's opinion as a result of realizing mistakes made [12].

As metacognitive regulation represents mental structures that carry out involuntary and voluntary regulation of intellectual activity, students will not automatically adopt these practices. At the same time, it has been established that students with high academic performance possess a wide range of metacognitive strategies [2; 27]. In the modern educational context, the formation of metacognitive skills is of particular importance, therefore they are calculated as a necessary basis for the processes of personal self-development. In particular, the connection of metacognition as the ability to manage internal cognitive processes with thinking has been revealed [3].

Although the term "metacognition" itself implies over-subjectivity, independence from subject knowledge, recently researchers have agreed that learning to master metacognitive strategies can only take place in the process and on the basis of learning subject knowledge and skills. It is more important that metacognitive knowledge is embedded within the usual content-driven lessons in different subject area [18]. Although students may possess knowledge and strategies for performing tasks, oftentimes they tend not to use them [21]; therefore, teachers have a critical role to play in promoting student learning through enhancing their metacognition. Language learning is at the university level is a rich and multifaceted experience suitable for fostering many transferable skills that can support today's students and future graduates. If, when teaching a foreign language, the teacher ensures that their students develop metacognitive knowledge and skills to be able to use metacognitive strategies, then such training can be called metacognitive. Several studies over the years have provided compelling evidence on the impact of language learning strategies on students' performance in different language skills.

It was confirmed that the use of metacognitive strategies by language learn-ers results in better listening comprehension [8]. Furthermore, experimental evidence showed that metacognitive strategies significantly enhanced Iranian students' ability to comprehend English texts when reading [9]. Additionally, a well-designed reading strategy training program for Chinese students led to an increase in their metacognitive awareness and improved understanding of the text content[1]. Metacognitive skills, mental experience and associative thinking which are highly involved in mind maps were found to have a pro-found effect on self-regulating learning [25] and understanding and interpre-tation of modernistic texts [14].

Based on the above understanding of metacognition, we decided to use writing as a valuable tool for engaging students metacognitively, allowing them to make their thinking explicit and reflect on their learning processes. The principles listed above provided the foundation for the development of metacognitive strategies which were offered for students to implement.

Strategy 1. Creating a writing monitoring guide

An effective writing strategy includes the ability to think about the subject and the purpose of a written statement. Students are to be taught that in order to monitor the use of this strategy, they should pause in the writing process and ask themselves whether they provide enough background information to their reader to understand their message; whether the specific examples they give serve to achieve their goal [1].

The process writing paradigm views writing as a personal skill that is primarily acquired through practice rather than through direct instruction. In this approach, teachers act as facilitators, offering support to students as they express meaning through writing. Bearing in mind that there are four levels of metacognitive learners: tacit; aware; strategic; reflective [17], metacognition instruction emphasizes a more involved role for teachers in developing students' awareness of their own thought processes and strategies for writing. Teachers are called upon to create opportunities for students to engage in conscious, reflective thinking while writing. By integrating metacognitive strategies into writing instruction, we presumed that we could enhance students' motivation and overall writing skills, ultimately leading to better outcomes.

Certain metacognitive tasks were designed to prompt students to reflect on their strategies used at different stages of the writing process. Prior

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to writing their essays on the topic of immigrants (*Some advocates welcome immigrants while many still regard them as a burden. What would be your opinion on costs and benefits of migration? Provide a comprehensive analysis of both perspectives, supporting your arguments with relevant examples and evidence.*) students were given a task to think about their "before writing activities". They were asked to develop their planning strategies to organize ideas, activate prior knowledge, and conduct research before starting to write. The highest-scoring essays demonstrated clear pre-writing activities. First, they involved understanding and establishing a clear opinion or point of view on the essay topic or issue. Second, they clearly outlined the main arguments or points that supported the writer's perspective. Third, the overall structure of the essay was planned, including an introduction, body paragraphs, and a conclusion. Finally, students demonstrated clear evaluation and selection of sources to support arguments and perspectives presented in the essay. Bearing in mind that teaching students to monitor their writing in progress helps them maintain alignment with their writing objectives, students were also given a task to monitor and evaluate their writing skills, ensuring that they effectively communicate their thoughts and present a well-structured argument. Students who scored highest marks underlined the relevance of arguments and provided convincing supporting evidence, whilst maintaining essay structure and language in their while-writing guidelines. Such students cited sources while avoiding repetition. Ensuring cohesiveness and effectiveness in academic writing, the tasks involved reflecting on opinion and argument and alignment to guarantee that the expressed viewpoint in the essay was well-supported by logical argument. Students were asked to carry out after writing evaluation as well. With some students the evaluation plan encompassed analysing essay structure and language usage, focusing on utilizing linking words appropriately, maintaining word limits, and aligning vocabulary and language with the essay's genre and objectives. The review process scrutinized content and grammar integrity, evaluating the logical progression of arguments, the significance of conclusions in relation to the essay's main body, grammatical accuracy, and the fulfilment of the original goals set forth in the writing task. And again this analysis was most thorough with students who scored highest.

Carrying out post-assessment evaluation students are supposed to gain a deeper understanding of their strengths and weaknesses, allowing them to reflect on their performance and identify strategies to enhance their learning. So we asked them to do it immediately after their papers were graded. As a result, students came up with the following after assessment feedback:

1. Reflection on process: the evaluations found the strategies of "Before writing", "While writing" and "After writing" to be very important to critically assess areas of improvement, indicating a conscious understanding of the writing process and its iterative nature.

2. Identification of strengths and weaknesses: the evaluations clearly outlined both positive aspects and areas for improvement, showcasing a balanced approach to self-assessment and a constructive willingness to acknowledge personal limitations.

3. Emphasis on planning and structure: multiple feedbacks highlight the significance of planning before writing and the importance of structure in organizing ideas and arguments effectively.

4. Need for in-depth exploration: students' evaluations expressed the need for more in-depth exploration of arguments, inclusion of factual information, and expansion of perspectives, indicating an understanding of the necessity for comprehensive and evidence-based writing.

5. Language usage and grammar: the evaluations pointed out the need for precise language usage, attention to grammar, and adherence to formal writing standards, emphasizing the importance of effective communication through written work.

6. Acknowledge of perspective and counterarguments: the evaluations recognized the importance of considering multiple perspectives and integrating counterarguments to strengthen the overall argument, indicating an awareness of the need for a well-rounded discussion.

7. Use of references and citations: the evaluations highlight the importance of proper usage of references and citations, demonstrating an understanding of the role of supporting evidence in academic writing.

8. Title and Conclusion: the absence of a title (introduction of their own titles) and the need for a strong conclusion are highlighted in several evaluations, underlining the significance of framing the essay effectively and leaving a lasting impression on the reader.

These commonalities underscore a thoughtful approach to after-assessment evaluation and a commitment to continual improvement in writing skills. The consistent evaluation of before, during, and after writing stages, coupled with an emphasis on planning, evidence-based arguments, language usage, and structure, indicates a proactive attitude towards honing writing capabilities. To sum up, this strategy which presupposes engagement of students in the process of building their metacognitive awareness proved to be useful for developing both writing and metacognitive skills.

The collaborative dialogue when students interact with their peers is supposed to foster metacognition as well [25]. After summarizing and discussing together all individual plans students collaboratively worked out a writing

monitoring guide (table 1). It resulted in a regulatory checklist which can also be referred to as a writing self-assessment tool.

Table 1

A writing monitoring guide

Before writing: *Planning*
1. What specific objectives have I set for this writing task? 2. In what genre will my writing be classified? 3. Who is my intended audience for this piece of writing? 4. What are the specific and measurable goals I have established for this writing project? 5. What exact information and strategies are essential for the successful execution of this writing task? 6. How much dedicated time do I have allocated for the planning and execution of this writing project?
During writing: *Monitoring*
1. Have I effectively communicated the purpose of my writing? 2. Is the language I am using suitable for the specific genre I am targeting? 3. Have I tailored my writing to resonate with the intended audience? 4. Am I on track to achieve the predetermined goals for this writing task? 5. Is my writing logically coherent and easy to comprehend? 6. What specific obstacles have I encountered during the writing process, and what strategies have I employed to overcome these challenges?
After writing: *Evaluating*
1. Have I successfully achieved the specific goals I set for this writing task? 2. In what areas did I demonstrate particular strength or proficiency in my writing? 3. What specific aspects of my writing could be improved or require further development? 4. What specific changes or adjustments should I consider making in my approach for future writing tasks? 5. What new and specific goals should I establish for my next writing endeavour?

This checklist proved to be effective in helping students to regulate their writing process in subsequent essays, to assess their own work, and to engage in metacognitive reflection to improve their writing skills.

Strategy 2. Developing and clarifying assessment criteria

Involving students in the process of developing and clarifying assessment criteria can not only significantly enhance their sense of ownership and thereby reduce anxiety related to assessment but strongly contribute to the development of metacognitive skills. When students have a say in defining what constitutes good performance, they become more engaged in the assessment

process and are better equipped to monitor their progress [24]. This level of involvement promotes autonomy and responsibility in their learning journey [23]. In the framework of our project we provided students with some examples of grading criteria from different exams and competitions, such as Cambridge IGCSE English as a Second Language[2], IELTS (International English Language Testing System)[3], TOEFL (Test of English as a Foreign Language)[4] and all-Russian Olympiad for schoolchildren in English[5]. Small group discussions encouraged students to express their thoughts, propose adjustments, and suggest additional criteria based on their understanding of the learning goals and expectations. Assessment of the essays by the students themselves (self-assessment), by their fellow students (peer review) and by the teacher (external assessment) has had a positive impact on the development of metacognitive skills as well by promoting comparison, analysis and diverse feedback. When students compared the feedback received from peer review with self-assessment and the external assessment, they managed to analyse and understand discrepancies and similarities. This comparison enabled them to understand different perspectives and to learn how to incorporate feedback effectively into their writing process. Peer review also promoted collaboration and communication amongst the master students as they discussed and provided feedback on each other's essays. This collaborative process allowed students to learn from each other, share insights, creating a supportive learning community focused on academic growth.

Results

As a part of the project, a survey in the form of an interview was conducted to gather students' overall impressions on the writing tasks, focusing particularly on the development of metacognitive skills. The survey results indicated that students found the writing tasks to be beneficial for their metacognitive skills development. 90% of students highlighted how engaging in the writing assignments, receiving feedback through peer review and external assessment, and reflecting on their writing processes had positively impacted

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[2] Cambridge International AS & A Level English Language 9093 syllabus for 2024–2026. URL: https://www.cambridgeinternational.org/Images/637160-2024-2026-syllabus.pdf (accessed: 27.05.2024).

[3] IELTS Writing Band Descriptors and Key Assessment Criteria. URL: https://ielts.org/news-and-insights/ielts-writing-band-descriptors-and-key-assessment-criteria (accessed: 27.05.2024).

[4] TOEFL iBT Writing Rubrics. URL: https://www.ets.org/pdfs/toefl/toefl-ibt-writing-rubrics.pdf (accessed: 27.05.2024).

[5] Olympiada. Criteria for evaluating the performance of practical tasks in English 9–11 grades. Workshop, school stage, Moscow, 2020–2021. URL: https://vos.olimpiada.ru/upload/files/Arhive_tasks/2020-21/dop/engl/krit-engl-9-11-prak-sch-msk-20-21.pdf (accessed: 27.05.2024).

their awareness of their learning strategies and abilities. The predominant theme among the answers to the question "What insights did you gain about your learning strategies from experience of writing with particular emphasis on metacognitive skills development?" was the importance of planning, organizing, time management, self-reflection, self-awareness, breaking down complex topics, active engagement with the material, and structuring thoughts before writing. These answers highlight the significance of having a clear plan, being aware of one's own strengths and weaknesses, managing time effectively, and engaging in reflection to improve writing skills. Some responses focus on specific strategies such as pre- writing and post-writing techniques, organizing thoughts systematically, and utilizing outlines before writing essays.

The prevailing theme among the answers to the question "What strategies or approaches do you feel were most effective (important) for you, and why?" was the importance of planning, self-monitoring, active self-reflection, seeking feedback, following requirements, creating a clear and logical flow of ideas, structuring thoughts, giving and receiving feedback, focusing on logical cohesion, using linking words, analyzing previous essays, setting specific goals, creating detailed outlines, discussing grading criteria, engaging in peer assessment, and having a clear plan before starting the writing process. These responses emphasize the value of preparation, organization, self-evaluation, and feedback in improving writing skills and producing coherent and well-structured essays.

The common theme among answers to the question regarding the most difficult and easiest aspects of writing while applying metacognitive skills is the challenges associated with self-reflection, self-questioning, maintaining coherence and logical cohesion in writing, converting internal thoughts into written form, and maintaining self-discipline throughout the writing process. Many responses also highlight the difficulty of objectively evaluating one's own work, organizing ideas effectively, and meeting the requirements of the writing task. Easier aspects mentioned include planning, initial brainstorming, and recognizing strengths and areas for improvement. Overall, the responses emphasize the importance of self-awareness, critical thinking, and continuous self-assessment in improving writing skills through the application of metacognitive strategies.

Students provided various insights into how reflecting on their learning process influenced their understanding and performance in other subjects. While some students (5%) mentioned that they didn't perceive any noticeable impact on their performance in other subjects, others highlighted substantial advantages. This included discovering the origins of their mistakes, incorporating metacognitive skills that greatly improved their

understanding across coursework, and facilitating the transfer of strategies and approaches between subjects. Students also emphasized how metacognitive skills, self-regulation, and critical thinking aided in understanding and performing well in different subjects. Moreover, the reflective practice encouraged them to actively seek feedback, develop a growth mindset, and enhance problem-solving abilities. Some students noted that reflecting on their learning process prompted them to write better in structure and content, reconsider their planning and self-checking strategies, and approach essay types and structures with improved understanding. One notable achievement was the development of enhanced self-regulation among students, as they learned to plan their writing tasks more effectively, to monitor their progress, and to evaluate their work critically. This newfound ability to self-regulate their writing processes led to improvements in the coherence, organization, and overall quality of their written responses by almost 2 points on average.

Discussions

Overall, student survey responses demonstrated the diverse impact of reflecting on their learning process, on their overall academic performance and on the development of effective learning strategies. Students concluded that to further improve metacognitive skills, learners can:

1. Set clear learning goals, monitor progress, and practice writing regularly, maintaining a learning journal to document reflections on their writing processes and the effectiveness of different strategies.

2. Practice doing similar assignments to enhance follow-through with all steps.

3. Develop metacognitive skills and strategies in different spheres through various activities by participating in workshops or seminars focused on metacognitive strategies and self-regulated learning.

4. Engage in self-discipline, self-reflection, and self-assessment consistently.

5. Seek feedback from instructors, peers, and mentors and be open to criticism for improvement.

6. Create and utilize checklists or rubrics to evaluate their own work against established criteria.

7. Engage in group discussions to share insights and strategies for effective writing and learning.

8. Explore various forms of media and resources to broaden understanding of metacognitive practices such as books, videos, podcasts, and online courses.

Conclusions

In conclusion, the integration of metacognitive strategies in foreign language classrooms offered a transformative approach to enhancing students' writing proficiency and fostering independent learning skills. Strategies such as creating writing monitoring guides, developing assessment criteria, peer assessment vs mentor assessment analysis and engaging in reflective practices before and after writing tasks played a crucial role in guiding students towards a deeper understanding of their writing processes. Furthermore, the transferable nature of metacognitive skills equips students with valuable lifelong learning abilities that extend beyond the confines of the language classroom. The practical application of this research on writing monitoring and metacognitive strategies can significantly enhance educational practices in various ways. First, educators can implement the writing monitoring guide in their classrooms, providing students with a structured framework to follow during the writing process. Second, teachers can incorporate metacognitive instruction into their writing curriculum by explicitly teaching students about the importance of planning, monitoring, and evaluating their writing. This can be achieved through workshops, guided writing sessions, and collaborative activities that encourage peer feedback and discussion. Additionally, by allowing students to contribute to the creation of assessment rubrics, they become more engaged and invested in their learning, which can reduce anxiety related to assessments and enhance their understanding of what constitutes quality writing. Moreover, the integration of technology can further support the practical application of this research. Online platforms and tools can be utilized to facilitate peer review, provide instant feedback, and track students' progress over time. This technological integration can enhance collaboration and communication among students, creating a supportive learning environment focused on academic growth.

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