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Effect of Feedback and Strategy Training on Undergraduate Students' Writing Ability

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ABSTRACT: A combination of writing skill training and revision feedback was evaluated to increase text quality in higher education. The goal of this study was to review the feedback and provide strategy training for enhancing academic writing. The methodology includes the interaction of cognitive and metacognitive support that is crucial for mastering difficult tasks such as academic writing, particularly in higher education. Writing ability and text quality were assessed using items and ratings. First, text structure knowledge application strategy improved academic writing skills; second, feedback related to writing experience improved text quality; undergraduates benefited from informative tutoring feedback, while postgraduates benefited from try-again feedback; and third, the combination of writing strategy and feedback did not improve text quality significantly. To improve writing performance, the demands on working memory must be decreased so that executive attention can be directed to controlling their interactions. In theory, this can be accomplished through focused practise that assists authors in developing executive control through regular writing opportunities and timely, appropriate feedback. Automated essay scoring software may be able to relieve instructors of their time-consuming grading duties, significantly boosting the amount of writing practise pupils receive.

KEYWORDS: Assessment; feedback; higher education; writing skills

1. Introduction

The writing quality of college freshmen and even graduate students demonstrates a difference between school-learned writing skills and those necessary at the college or university level: writers at school are able to translate their information into a text that they can comprehend and utilise to their advantage. In addition to assuming that the reader understands the subject thus far, academic writing necessitates the creation of a document with exceptional coherence. Several studies have shown that training writing skills and providing feedback during the writing process might help improve writing [1, 2]. This applies to higher education as well. Writing techniques may benefit students by regulating and changing their efforts to comprehend the writing assignment. The purpose of writing feedback is to provide information regarding the quality of the written product. In contrast, input that impedes the writing process can be limiting.To stimulate the learner's efforts to close the gap between actual and intended

performance, it is possible to apply feedback tailored to the learner's present level of need [3, 4].

According to studies, authors who use summarization techniques are able to recover knowledge to develop new texts, but authors who use text structure strategies are able to recognise and assign information. Research indicates that feedback should be customised to the writer's degree of competence. Despite the extensive literature on writing methods and feedback, little is known about the exact combination of instruction to apply text structural knowledge or a summary and feedback with varying levels of elaboration in higher education. We do know, however, that teaching students to use text structure knowledge as a cognitive writing strategy and to self-monitor the writing process as a metacognitive writing strategy can improve their writing abilities and text quality. In addition, it is acknowledged that external stimuli may stimulate metacognitive activity. Therefore, it is anticipated that providing feedback to monitor the writing process will be an additional means of improving text quality while teaching a cognitive writing style [5, 6].

Students are required to create specific sorts of technical documents relevant to their fields of study at university. This includes developing an acceptable writing style for the student's academic field and type of writing. Moreover, students must grasp a rhetoric defined by a clear, methodical, logical argument and an empirical justification. When writing academically, students must integrate and synthesise diverse knowledge sources into an authoritative stance. When one's own voice takes on the persona of an authority figure, the expected personal viewpoints in secondary school are traded for the ability to include authoritative others in a multi-perspective.Students must provide critical analyses of other academics' works when absorbing their ideas, both independently and in relation to other relevant materials.As beginners, many students are unaware that they are expected to assert authority in their papers; hence, they regard their assignment as a collection of objective and impersonal opinions from others. It is not without good reason that the term "academic writing" is not used to describe the writing that students perform in secondary schools but rather is limited to defining the writing performed at universities and beyond [7–9].

Adapting to this incorporative rhetoric as opposed to the rhetoric of personal argument is necessary due to the fact that these qualities of text production are not merely extensions of abilities obtained in preparatory schools but rather distinct skills peculiar to a university education. In spite of these disparities in the writing needs of university students, academic writing instruction was not recognised as worthy of significant attention by European institutions until recently. In the context of courses taught in the mother tongue, university educators and administrators typically assume that secondary school students have been adequately prepared for the type of writing they will be required to do at university and that the type of writing they will be required to do at university is simply an extension of this. On the premise that what is learned once is learned forever, it is commonly expected that college-bound students may autonomously adjust their writing skills to their new academic subjects [2, 4]. Beginning with the first semester, students are required to adapt their newly learned academic writing skills to the course material. Figure 1 depicts the effective ways of teaching academic writing. This study reviewed the impact of cognitive writing strategies on academic writing skills and the effects of feedback to promote monitoring the writing process on the text quality of undergraduate and graduate students. The employment of academic writing strategies, such as the summary strategy and the text structure knowledge application strategy,

enables the writer to connect information units to generate an understandable text. The purpose of practice-related feedback is to assist the author in monitoring the writing process and implementing writing methods.

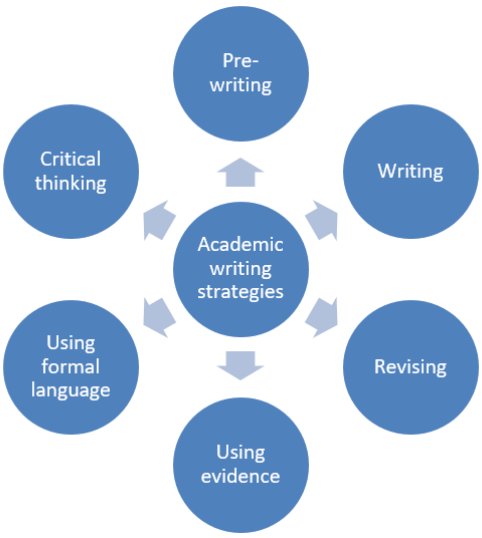

Figure 1. The effective strategies for teaching academic writing.

2. Enhancing writing skills

Despite the necessity for evaluative material and the time restrictions of mass education, it is crucial to keep in mind that the fundamental objective of teaching and mastering academic writing at universities extends well beyond the day a student graduates. Individually and collectively, technological advancements in today's globalised world have highlighted the importance of lifelong education. The education of today must also be aimed toward the education of tomorrow. Some institutions can address the future demands of their students to be active participants and designers of their own continuous learning by developing goals to equip their students to become active lifelong participants in the written discourse communities of their choosing [10–12]. The interaction of cognitive and metacognitive support is crucial for mastering difficult tasks such as academic writing, particularly in higher education (Figure 2).

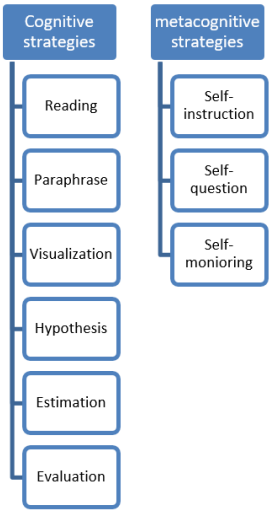

Figure 2. Cognitive and meta-cognitive in academic writing strategies.

According to research, the combination of cognitive and metacognitive assistance is a good strategy for fostering the writing growth of students. By modelling writing processes, cognitive support can be provided, allowing the learner to witness when and how a certain action can be completed. It is possible to offer metacognitive support by providing feedback during the writing process and purposefully accompanying students as they monitor their writing process [13, 14].

4. Cognitive strategy in writing

A text structure knowledge application strategy or a summarization strategy can be taught to aid in the improvement of text quality in academic writing. The former assists the author in relating major claims through a genre-based structure that provides a schema to be filled in. The latter assists the writer in relating main propositions by selecting and organising information units.Knowledge of text structure is closely related to reading comprehension and writing proficiency. On the one hand, the structure of a text allows readers to easily locate the information they seek; on the other hand, the structure of a text assists writers in coordinating their ideas and intent [15, 16]. The necessity of text structure training for writers in order to organise the writing process Practice assists writers in utilising the text's structure to locate information and assigning their ideas to the appropriate text sections. Text structure influences reading and writing performance as well. The empirical research article is a common type of academic writing that enables the research community to receive research-relevant information in a succinct but detailed manner. As the structure is expected and shared in the scientific community, it facilitates the development and organisation of the empirical research article's main arguments. Therefore, text structure facilitates the reader's ability to follow and comprehend a text [17, 18].

Undoubtedly, multiple factors contribute to the development of cognitive control in writing. These include (1) the maturation of working memory throughout adolescence, (2) learning strategies for prewriting, drafting, and revision that manage the demands of composition, and (3) the rapid retrieval of domain-specific knowledge from long-term memory during composition, thereby avoiding the need for temporary storage in short-term working memory. The use of deliberate practise to directly reduce the working memory demands of each writing process is an obvious and potentially valuable alternative that has not yet been fully realised in writing education [13, 14, 19].

5. Timely and relevant feedback

In addition to training in writing tactics, authors can receive support in the form of feedback tailored to their level of expertise in order to enhance their texts and grow their writing skills. Some reports demonstrated a variety of feedback types with varying levels of elaboration, such as try-again feedback with no elaboration and informative tutoring feedback with extensive elaboration. Try-again feedback highlights the gap between the student's current and desired level of performance and provides him or her with a second opportunity to complete the task. Informative tutoring feedback is considered to be the most complex form of feedback. It includes an evaluation of the work completed to date, identifies errors, and provides strategic advice on how to proceed. Typically, the correct answer is not provided during this procedure. Depending on their writing experience, the type of feedback has varying effects on students. Previous research has demonstrated that learners with low abilities benefit more from

elaborated feedback than from feedback that provides information about the correctness of the work completed to date. For low-ability students, elaborated feedback produced the highest grades, while try-again feedback produced the lowest. Feedback without elaboration, such as a review of the work completed thus far, is most beneficial for learners with high aptitude. In addition, his findings indicate that learners with exceptional abilities benefit from working at their own pace, so feedback should not interrupt their work. Therefore, feedback given to high-ability learners during the work process should not be elaborated [20, 21].

The recent advancement of automated essay scoring is an innovative cognitive science contribution to increasing the amount of writing assigned and the timeliness of feedback. Cognitive psychology and computational linguistics have inspired a number of computer-based scoring and feedback methods. Not only do students need significantly more opportunities to write, both in assigned papers and on tests, but they could also benefit from the instant feedback that only software can provide. Computer-based feedback on preliminary draughts could encourage students to improve their grades before submitting their papers for peer or instructor feedback. Some scholars in the field of college composition have raised strong objections to the reliability of essay scoring software. It is beyond the scope of this paper to weigh their objections against the potential benefits, but it should be noted that the reliability of human essay scoring is also problematic. To achieve sufficiently high levels of rater reliability, human raters must undergo extensive training. Fatigue, mood, and motivation add difficult-to-control variability to the outcome. We are not suggesting that feedback is required for every written assignment or that computer-based feedback can completely replace feedback from human peers and instructors. Intermittent feedback could potentially serve as a desirable learning difficulty that hinders acquisition performance but promotes the long-term acquisition of writing skills. Furthermore, a variety of feedback sources may be most useful for providing both error correction and motivation to practise and improve. Nonetheless, essay scoring automation has the potential to significantly increase the amount of writing assigned to students and the rate at which they receive feedback [22, 23].

6. Deliberate practice

We believe that college-level writers must be trained rather than just instructed. For good writing, knowledge of precise spelling, punctuation, grammar, diction, thesis statements, topic sentences, and cohesive relationships within a paragraph, as well as global text organization, is important yet insufficient. As with musicians and athletes, writers must be trained to retrieve and creatively apply their knowledge during composition. In English composition classes and across the curriculum, college students will need to purposefully practise the art of writing lengthy texts for effective knowledge application. Without training to apply what they know, their information during composition is frequently inert. Utilizing intentional practise is fundamental to the development of expert performance across a vast array of physical and cognitive task domains [24–26]. Theoretically, such a practise could minimise the high working memory demands of planning, creating, and reviewing textual composition, freeing up limited capacity for managing and monitoring these operations. Instead of just automating a skill, careful practise enables its regulation to achieve greater performance. This approach to skill development requires effort to enhance performance, intrinsic motivation to engage in the activity, practise tasks within the individual's capabilities, feedback that offers knowledge of

results, and high levels of repetition over a number of years. The reports of successful writers contain evidence of intrinsic motivation and high recurrence rates [16, 17, 27, 28].

7. Combination of training

Several meta-analyses have found that certain writing activities, such as summarization and monitoring, are effective in improving writing skill acquisition and text quality; however, little is known about how the recommended writing activities can be combined for writing development in higher education. A recent study found that combining two writing styles increased undergraduates' text quality. She combined the instruction of one cognitive writing technique, the text structure application strategy, with the training of another, the summary strategy, and the training of a metacognitive approach, the self-monitoring strategy [29, 30]. Undergraduates benefited more from training with one cognitive writing strategy and one metacognitive writing approach in terms of text quality than from training with two cognitive writing strategies. This finding implies that simultaneously teaching one cognitive and one metacognitive writing style can be successful. The hypothesis addressed in this study is that combining cognitive and metacognitive writing support improves text quality. We conclude from the preceding sections that training writing strategies to apply summarization or text structure knowledge can induce cognitive writing activities, and that providing feedback that supports monitoring the writing process to establish coherence can induce metacognitive writing activities [13, 19, 31].

4. Conclusions

We recommend that intentional practise be used to guide the instruction and training of student writers. Some institutions can address the future demands of their students to be active participants and designers of their own continuous learning by developing goals to equip their students to become active lifelong participants in the written discourse communities of their choosing. The interaction of cognitive and metacognitive support is crucial for mastering difficult tasks such as academic writing, particularly in higher education. To become proficient at writing large texts, as with other complex physical and cognitive abilities, it takes many years of devoted practice. This strategy is thought to help authors achieve cognitive control over their text output by reducing the individual working memory demands of idea formation, text generation, and concept and text assessment. This level of control is required for a writer to apply linguistic and domain-specific knowledge when writing a work and overcome the content and rhetorical difficulties it poses. In our perspective, more research is needed on the ideal use of purposeful practise in educational interventions, such as the spacing effect and developments in automated essay scoring. This form of applied cognitive study could lead to findings implying that writing strategies, such as the knowledge application approach for text structure, should be taught to develop abilities that increase coherence, and that feedback should be matched to writing experience to improve text quality.

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Competing Interest

All authors declare no competing interest.

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