Developing students' academic writing skills through the use of Bloom's taxonomy strategies (analysis, synthesis, evaluation)

Ybyrayeva Korkem¹,
Shyrynbekova Merey²,
Toltebayeva Fariza³

¹ Master of Science in Education Leadership and Inclusive Education, Teacher of English language and GPPW; Nazarbayev Intellectual School; Republic of Kazakhstan
² English language teacher; Nazarbayev Intellectual School of Chemistry and Biology; Republic of Kazakhstan
³ Chemistry teacher; Nazarbayev Intellectual School of Chemistry and Biology; Republic of Kazakhstan

Abstract.
This research explores the application of Bloom's taxonomy as a tool to enhance students' argumentation skills in academic writing. The professional development goal focuses on developing students' academic writing skills through the strategic implementation of Bloom's taxonomy strategies, specifically analysis, synthesis, and evaluation. The study aims to improve students' academic essay argumentation by cultivating higher-order thinking skills. The research is prompted by the identified knowledge gap in students' writing skills, including low argumentative writing, lack of high-order thinking skills, and insufficient interdisciplinary integration. The action research plan addresses these gaps and proposes new approaches to enhance students' academic essay writing skills.

Keywords:
Academic writing skills
Bloom’s Taxonomy
Action research
**Introduction:**

Academic writing skills are crucial for students, and the utilization of Bloom's taxonomy offers a promising strategy for their development (Rijlaarsdam & et al., 2014). This research stems from the observation that students, particularly 11K, scored 12% lower in the Term II writing assessment compared to their peers. The analysis of the 2021-2022 External Summative Assessment revealed a substantial knowledge gap in writing skills across NIS schools. This research aims to bridge this gap by focusing on academic essay writing and proposes a comprehensive action research plan.

The action research plan is designed with a process-based learning approach, breaking down the writing process into manageable steps (Rosenwasser and Stephen, 2015). The overarching goal is to enhance students' high-order thinking abilities and enable them to write academic discussion essays with self-analysis and critical evaluation. The research aligns with the learning objective "11.W6 develop coherent arguments supported by examples and reasons of written genres."

The lesson planning process involves interdisciplinary connections, exploring historical aspects, linking to Sustainable Development Goal 11 (SDG), and analyzing the relevance of "cultural conflicts" in the Kazakhstani context. The cross-disciplinary connections aim to enhance students' metasubject competencies.

The subsequent stages of the action research plan include inquiry-based learning, problem-based learning, peer learning, and analysis-based stages. Each stage is carefully designed to foster higher-order thinking skills, collaborative learning, and self-analysis. The culminating task involves project-based learning, where students rewrite their discussion essays on "cultural conflicts." An online survey will capture students' reflections on the process.

In conclusion, the lesson planning approach integrates teaching methods and assessment tools to promote interdisciplinary connections and augment students' research skills. Peer assessment and self-assessment strategies aim to create a collaborative and supportive learning environment. The expected outcome is that students will be able to write
academic discussion essays. Differentiated instructions will be provided to address the diverse learning needs of the class, ensuring the success of the lesson plan.

Literature Review

The literature surrounding Bloom's taxonomy emphasizes its effectiveness in developing cognitive abilities and argumentation skills in academic writing (Rijlaarsdam & et al., 2014). Previous studies have shown its potential as a tool for enhancing higher-order thinking skills, aligning with the professional development goal of improving students' academic essay argumentation.

However, there is a noticeable gap in the literature concerning the specific application of Bloom's taxonomy in addressing knowledge gaps in students' writing skills, especially in the context of low argumentative writing, insufficient high-order thinking skills, and lack of interdisciplinary integration. This research aims to fill this gap by providing insights into the practical implementation of Bloom's taxonomy to address these challenges.

Methodology

The research design employs an action research plan structured around a process-based learning approach. The five stages of the approach are meticulously planned to develop students' research skills and cognitive abilities. The inquiry-based learning stage encourages joint decision-making, conclusion drawing, and fact-based argumentation, enhancing students' abilities to connect with World History and GPPW perspectives.

The problem-based learning stage addresses challenges faced by students in identifying and rectifying content and grammar mistakes. Scaffolding methods, such as providing written models, are implemented to support low-achieving students, ensuring they reach their full potential. Future improvements include the creation of individualized and differentiated tasks to cater to varying student abilities.

Peer learning methods are incorporated to promote student-centered classroom management, with 90% of students actively engaged in the assessment. The remaining 10%, high-achieving students, demonstrate the potential for further
challenge, suggesting a need for more advanced assessments in the future.

Analysis-based learning methods prove effective in facilitating self-analysis and critical thinking. The project-based learning stage allows students to rewrite their essays, leading to successful self-analysis and evaluation. The anonymous online survey reveals positive feedback from students, with 85% indicating improvement in writing quality through essay rewriting. Challenges identified include difficulties in generating ideas and arguments on unfamiliar topics, emphasizing the need for more focused content lessons.

Results

The five planned stages of the process-based learning approach effectively develop students' research skills and cognitive abilities. Despite variations in outcomes, the overall achievement is notable. The inquiry-based learning stage successfully generates cross-disciplinary arguments, while the problem-based learning stage reveals challenges, particularly for high-achieving students. Peer learning and analysis-based learning methods prove effective, leading to successful project-based learning outcomes.

The action research concludes with 85% of students meeting the learning objectives by producing high-quality discussion essays, with the remaining 15% achieving partial success. Identified strengths include cross-disciplinary argument generation and collaborative learning, while weaknesses are observed in problem-based learning. Future strategies involve addressing individualized needs and providing additional resources to enhance the challenge-based approach.

In conclusion, the action research implementation demonstrates significant strengths, with identified areas for improvement. The comprehensive methodology effectively addresses the research objectives, providing valuable insights into the practical application of Bloom's taxonomy in improving students' academic writing skills.

Discussion

The results of the action research highlight the effectiveness of high-quality instructions, clear assessments, and formative assessments in promoting active learning and evaluating students' progress. Formative
assessments incorporated into various stages of the research plan, such as the Venn diagram discussion on "cultural conflicts," proved beneficial in fostering a supportive classroom environment. Positive reinforcement through praise and rewards motivated students to sustain their efforts, contributing to a positive learning atmosphere. The use of sandwich feedback further reinforced student appreciation while guiding them for improvement in argumentation.

The problem-based learning approach with corrective feedback proved influential in developing critical thinking and problem-solving skills, particularly for high-achieving students. The implementation of scaffolding techniques, such as "modeling," effectively supported low-achieving students, enabling them to understand and correct mistakes. Peer assessment played a crucial role in promoting collaborative learning, and the incorporation of rubric checklists improved objectivity, consistency, and accountability. The self-assessment method, aligned with Bloom's taxonomy, provided students with a systematic measurement of their strengths and weaknesses, emphasizing high-order thinking abilities.

The action research not only aligns with existing literature on the importance of formative assessments, problem-based learning, and peer assessment but also contributes by addressing specific gaps in research related to interdisciplinary approaches and Bloom's taxonomy application in writing skills development. The emphasis on diverse assessment methods and student-centered design adds a valuable dimension to the existing literature.

Conclusion

In conclusion, the action research demonstrates the effectiveness of a process-oriented learning approach in developing students' research skills and cognitive abilities. The emphasis on higher-order thinking skills and the incorporation of diverse assessment methods contribute significantly to the improvement of academic writing skills. The judicious selection of pedagogical strategies, such as positive reinforcement, corrective feedback, and scaffolding, enhances the overall efficacy of the research plan.

The primary strength lies in the student-centered design and the successful completion of group work and project-based
learning tasks. However, the potential weakness in not creating an additional assessment instrument for lower-ability students in problem-based learning calls for ongoing reflection and adaptation. Future research could focus on personalized tasks to meet diverse learning requirements, ensuring that all students can successfully meet the learning objectives. This study encourages a continuous improvement mindset in pedagogical strategies for enhanced student outcomes in academic writing.

References: