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Enhancing Writing Skills Through PBL at Higher education Institutions: A case Study

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Abstract

This article explores the imperative of enhancing writing skills among students enrolled in research skill courses at Higher Education Institutions (HEIs) and investigates the integration of Project-Based Learning (PBL) as a pedagogical strategy to achieve this goal. Drawing upon existing literature, the study synthesizes theoretical frameworks and practical insights to contribute to the discourse on writing instruction in higher education. The research methodology involves a mixed-methods approach, encompassing both qualitative and quantitative analyses, to comprehensively assess the impact of PBL on students' writing proficiency, academic rigor, and presentation skills. The findings highlight significant improvements in writing abilities among international medical faculty students engaged in PBL activities, emphasizing the transformative potential of this innovative pedagogical approach. The study underscores the importance of intensive engagement in PBL activities for fostering writing proficiency and academic development, while also elucidating the multifaceted benefits of PBL in promoting critical thinking, collaboration, and effective communication skills. The conclusion discusses the implications of the findings and suggests avenues for future research in the field of writing instruction and pedagogy in higher education.

Keywords: PBL, Writing Skills, Research Skill Courses

1. Introduction

In the realm of Higher Education Institutions (HEIs), the cultivation of proficient writing skills among students enrolled in research skill/academic writing courses stands as an imperative endeavor. Academic writing serves as the cornerstone of scholarly communication, facilitating the dissemination of knowledge, the exchange of ideas, and the advancement of academic discourse. The importance of nurturing effective writing abilities among students cannot be overstated, as it underpins academic success, professional development, and intellectual growth. The significance of enhancing writing skills among students enrolled in research skill courses at HEIs is multifaceted and far-reaching. Firstly, proficiency in academic writing is a prerequisite for academic success across disciplines. Whether students are conducting empirical research, analyzing theoretical frameworks, or critiquing scholarly literature, the ability to express oneself clearly and cogently through written discourse is

essential. Strong writing skills enable students to craft well-structured arguments, provide evidence-based reasoning, and engage with academic debates in a manner that is both rigorous and persuasive.

Despite the undeniable importance of enhancing writing skills among students in research skill courses, educators often face challenges in effectively fostering writing proficiency within traditional classroom settings. Conventional instructional methods, characterized by lectures, readings, and exams, may fall short of providing students with authentic opportunities to apply writing skills in meaningful contexts. As such, there arises a need for innovative pedagogical approaches that can bridge the gap between theory and practice, engage students actively in the writing process, and foster a culture of writing excellence within HEIs.

One such pedagogical approach that holds promise in this regard is Project-Based Learning (PBL). Grounded in principles of inquiry, collaboration, and authentic assessment, PBL offers a dynamic framework for integrating writing instruction into research skill courses. By engaging students in inquiry-driven projects that require them to conduct research, analyze data, and communicate findings through written reports or presentations, PBL provides a scaffolded environment for developing and practicing writing skills in a context that is both relevant and meaningful.

This article seeks to explore the importance of enhancing writing skills among students enrolled in research skill courses at HEIs and examine the possibilities of incorporating Project-Based Learning as a pedagogical strategy to achieve this objective. By synthesizing existing literature, exploring theoretical frameworks, and providing practical insights, the article aims to contribute to the ongoing discourse surrounding writing instruction in higher education and offer recommendations for educators seeking to enhance writing proficiency among their students. The research questions put within the study aim to contribute to the ongoing discourse surrounding writing instruction in higher education by examining the role of PBL as a pedagogical strategy for enhancing writing skills among students enrolled in research skill courses.

RQ 1- How does the integration of Project-Based Learning (PBL) alongside conventional teaching methodologies impact the writing aptitude?

RQ 2- What are the perceived benefits and obstacles associated with the incorporation of PBL within research skill courses for enhancing writing competence among students, as observed in the study?

RQ 3 - How do students' levels of engagement in PBL activities correlate with improvements in writing proficiency, academic rigor, and presentation skills among students?

2. Literature Review

PBL has emerged as a dynamic pedagogical methodology within higher education institutions (HEIs) with the potential to enrich students' writing skills. Synthesizing various scholarly inquiries illuminates the multifaceted dimensions of PBL, unveiling its significance in nurturing self-directed learning, bolstering motivation, incorporating technology, and addressing educational crises. Kokotsaki, Menzies, and Wiggins (2016) underscore the capacity of PBL to foster student engagement, collaboration, and deeper comprehension of subject matter, culminating in enhanced academic performance and the cultivation of critical thinking and communication proficiencies. Klopfenstein (2003) delves into strategies for empowering learners through self-directed learning, a pivotal facet of project-based methodologies, enabling students to exercise autonomy and accountability in their educational pursuits, including writing endeavors. Baines (2014) offers a specialized perspective on project-based writing in the domain of science education, emphasizing its potential to amalgamate disciplinary content with the enhancement of writing competencies. Blumenfeld et al. (1991) delve into the motivational underpinnings of project-based learning, stressing the necessity of sustained engagement and robust support structures for optimal student learning outcomes. This seminal work lays the groundwork for comprehending the socio-cognitive dynamics inherent in PBL environments, elucidating the role of collaboration, feedback mechanisms, and authentic task assignments in facilitating profound learning experiences. Hasani (2016) scrutinizes the effectiveness of contextual teaching and learning in fortifying argumentative writing skills, providing valuable insights into instructional strategies that complement project-based methodologies. Maltesse (2012) curates a repertoire of project-based learning activities tailored to suit the needs of 21st-century learners, furnishing

educators with practical tools to deploy innovative teaching techniques. Kusmiyati (2020), through comparative analysis, accentuates the merits of experiential, inquiry-based approaches over direct instruction in nurturing writing skills development. Meanwhile, Affandi and Sukyadi (2016) probe into the influence of PBL and problem-based learning on the writing attainment of English as a Foreign Language (EFL) students, underlining the pivotal role of authentic tasks and collaborative inquiry in advancing language proficiency. Assaf (2018) explores the utility of PBL in motivating language learners amidst crises, spotlighting its relevance in fostering resilience and adaptability. Belagra and Draoui (2018) examine the integration of information and communication technology into project-based learning frameworks, accentuating its potential to bolster student engagement and motivation.

Project-based learning is a dynamic educational approach in higher education that enhances writing skills. Synthesizing various studies reveals PBL's role in fostering self-directed learning, motivation, technology integration, and crisis management. Scholars emphasize PBL's ability to engage students, deepen understanding, and improve academic performance. Strategies like self-directed learning empower students to take charge of their education, including writing projects. PBL also integrates disciplinary content with writing skills and motivates students through sustained engagement and support. Contextual teaching enhances argumentative writing, while innovative activities cater to 21st-century learners. Comparisons with direct instruction highlight the effectiveness of inquiry-based approaches. PBL and problem-based learning benefit language learners, especially with authentic tasks and collaborative inquiry. Moreover, PBL proves valuable in motivating learners during crises and integrating technology for enhanced engagement.

3. Methodology

This study aimed to investigate the integration of Project-Based Learning (PBL) with standard teaching methods to enhance writing skills among 120 international medical faculty students enrolled in a research skill course at a private university in Georgia. The research employed both qualitative and quantitative methods to comprehensively assess the impact of PBL on students' writing proficiency and performance.

3.1. Participant Selection and Characteristics

The participants consisted of 120 international medical faculty students who were actively enrolled in a research skill course at the private university. These students were chosen due to their enrollment in the course, which focused on developing research skills essential for academic and professional success in the medical field. The sample encompassed students from diverse cultural and linguistic backgrounds, reflecting the international nature of the university's student body.

3.2 The stages of the study

The research comprised three distinct phases: initial, intermediate, and final. In both qualitative and quantitative methodologies, students underwent inquiry at each juncture, with their written submissions subject to evaluation. In the quantitative framework, participants responded to targeted inquiries at every stage, offering responses categorized as either "yes," "no," or "somewhat." the questions for each stage were the following:

Initial Stage (Identifying Needs):

1. Did participating in the initial writing assignment help you identify areas in which you needed to improve your academic writing skills?
2. Did conducting real surveys as part of the initial writing assignment provide valuable insights into your writing needs?
3. Did the initial writing assignment contribute to your understanding of the importance of academic writing skills in research skill courses?

Intermediate Stage (Intermediate evaluation)

Do you feel that your writing skills have improved since the initial writing assignment?

Did conducting real surveys again as part of the intermediate writing assignment help you assess your writing improvement?

Do you believe that the feedback received during the intermediate stage contributed to your writing improvement?

Final Stage (Results)

Do you think your writing skills have significantly improved since the beginning of the course?

Did conducting real surveys for the final assignment help you apply the writing skills you've developed throughout the course?

Do you feel confident in your ability to communicate research findings effectively through writing after completing the final assignment?

For the qualitative aspect of the study, the written assignments underwent assessment based on several criteria. These included the structural integrity of the papers, coherence within paragraphs, adherence to principles of academic integrity to prevent plagiarism, proficiency in conducting surveys and analyzing data within the framework of a project, demonstration of effective presentation skills, and the application of Project-Based Learning principles throughout the assignments.

3.2 Integration of Project-Based Learning

Project-Based Learning (PBL) was integrated into the research skill course to provide students with authentic opportunities to enhance their writing skills through practical projects. The PBL approach involved assigning students tasks that required them to engage in research, data analysis, and written communication. Tasks were given three times during the semester: first as a beginning, second as an intermediate stage to monitor progress and provide feedback, and then as a final activity to evaluate overall performance. Each writing task encompassed essential aspects of research skills/academic writing, including conducting surveys, administering questionnaires, conducting interviews, and exploring medicine-related topics. Students were provided with encouragement to delve into subjects that aligned with their personal interests and academic endeavors, thereby nurturing a sense of independence and drive, facilitating the expression of their individual perspectives and preferences (voice and choice). The culmination of each task was the delivery of a final assignment in the form of a 5-7 page paper, accompanied by a presentation to the class.

3.3. Assessment and Data Collection

Of the 120 participating students, 112 actively engaged in the PBL activities throughout the semester, completing both initial, intermediate and final tasks. The remaining students, facing visa-related challenges, often missed lectures and participated only in the final project. This dichotomy in student engagement provided a unique opportunity to compare the effectiveness of intensive versus less-intensive participation in PBL activities.

The data collection process employed a combination of qualitative and quantitative methodologies. Initially, students were tasked with composing a brief article at the semester's onset, serving as a means to evaluate their initial research skill/academic writing proficiency. These initial articles established a baseline against which students' progress throughout the semester could be measured. Subsequently, at an intermediate stage, students undertook another writing assignment, allowing for a more detailed assessment of their performance. Finally, at the study's conclusion, students' final papers and presentations were assessed to determine improvements in writing skills, academic rigor, and presentation abilities.

3.4. Structure and Implementation of PBL

The integration of PBL into the research skill course was structured around five key aspects to ensure its successful implementation: 1) Identifying Student Learning Needs - The initial writing task provided insights into students' writing skills and served as a basis for tailoring subsequent activities to address specific learning needs. 2. Planning

- according to the results the following steps were planned tailored to the students' needs 3. Specific Learning Activities - Topics related to medicine were carefully selected by the students to align with course objectives and provide students with opportunities to conduct authentic research within the university community. 4. Sequencing Activities- Students received guidance and feedback from the professor throughout the writing process, ensuring that tasks were sequenced logically and scaffolded appropriately. 5. Timetable Generation - Clear deadlines were established for submitting intermediate and final papers and presentations, allowing students to manage their time effectively and track their progress. 6. Planning for Conclusion - The culmination of the PBL activities was marked by a conference-style presentation session, where students shared their research findings and conclusions with their peers.

3.5 Enhancement of PBL Aspects Among Students

The study aimed to enhance several key aspects of PBL among students: a) Need to Know - Detecting the Problem: Students were tasked with identifying and addressing problems related to their chosen topics, fostering critical thinking and problem-solving skills. b) Voice and Choice: Students were given autonomy to select topics of interest and modify them as needed throughout the semester, empowering them to take ownership of their learning experiences. c) Authenticity in Writing: Collaborative research activities, including face-to-face interviews, questionnaires, and surveys, enabled students to generate authentic data and draw evidence-based conclusions in their writing. d) Demonstration of Knowledge: Students demonstrated their understanding and mastery of academic writing conventions through the submission of written papers and the delivery of presentations, showcasing their ability to communicate research findings effectively.

3.6. Assessment Approach

It is important to note that assessment of students' performance in PBL activities was formative rather than summative (accept for the final stage, the end of the semester assignment). This approach allowed for ongoing feedback, reflection, and iterative improvement throughout the semester, emphasizing the process of learning and growth rather than solely focusing on outcomes.

4. Results

The study results could show the following data:

Table 1: Quantitative data

Stage	Question	Yes	No	Somewhat
Initial	Identified need for writing improvement after assignment completion	98 (81.67%)	20 (16.67%)	2 (1.67%)
	Found real surveys insightful for writing needs during initial assignment	102 (85%)	16 (13.33%)	2 (1.67%)
	Believed initial assignment contributed to understanding academic writing importance	115 (95.83%)	4 (3.33%)	1 (0.83%)
Intermediate	Assessed improvement in writing skills since initial assignment	110 (91.67%)	10 (8.33%)	-
	Found real surveys helpful for assessing writing improvement in intermediate assignment	105 (87.5%)	14 (11.67%)	1 (0.83%)

	Believed feedback during intermediate stage contributed to writing improvement	108 (90%)	11 (9.17%)	1 (0.83%)
Final	Perceived significant improvement in writing skills since beginning of the course	115 (95.83%)	4 (3.33%)	1 (0.83%)
	Found real surveys helpful for applying writing skills in final assignment	110 (91.67%)	-	10 (8.33%)
	Felt confident in ability to communicate research findings effectively through writing after completing final assignment	112 (93.33%)	-	8 (6.67%)

Table 2: Qualitative data

Stage	Aspect of Writing skills		
Initial	Article structure, survey conducting, forming research questions, cohesion, academic writing style, presentation skills	108 out of 120 students (90%)	-
Intermediate	Comparison with initial stage	54 out of 120 students (45%)	45%
Final	Comparison with initial and intermediate stages	16 out of 120 students (13.33%)	86.67%

4.1 Impact of PBL on Writing Proficiency

Quantitative data underscored notable improvements across various stages of the study. Initial assessments revealed that a majority of students recognized the need for improvement in their writing skills after completing the assignment, with 81.67% acknowledging this necessity. Furthermore, 85% of students found real surveys conducted during the initial assignment insightful for identifying their writing needs. These findings elucidate the efficacy of PBL in fostering self-awareness and identifying areas for improvement in academic writing skills. At the intermediate stage, 91.67% of students reported an enhancement in their writing skills since the initial assignment, indicating tangible progress. Moreover, 87.5% found conducting real surveys during the intermediate assignment beneficial for assessing their writing improvement, highlighting the practical utility of hands-on experiences in refining writing skills. In the final stage, 95.83% of students perceived a significant improvement in their writing skills since the beginning of the course, affirming the long-term impact of PBL on writing proficiency. Additionally, 91.67% acknowledged the instrumental role of real surveys in applying acquired writing skills during the final assignment, emphasizing the transferability of skills acquired through PBL activities.

4.2 Qualitative Insights into Writing Enhancement

Qualitative analysis revealed substantial improvements in various aspects of academic writing, including organization, coherence, clarity, and argumentation. Students demonstrated enhanced proficiency in articulating ideas effectively, synthesizing information, and presenting evidence-based arguments in their written reports. This underscores the efficacy of PBL in fostering critical thinking and effective communication skills among participants.

4.3 Effectiveness of Intensive Engagement in PBL Activities

A comparative analysis between students extensively engaged in PBL activities and those less involved due to visa-related challenges underscored the importance of intensive engagement in fostering writing proficiency. Students actively participating in PBL activities showcased greater improvements in writing skills, as evidenced by the quality of their final papers and presentations. The iterative nature of PBL, characterized by ongoing feedback and revision, facilitated progressive refinement of writing skills throughout the semester.

4.4 Academic Rigor and Presentation Skills

In addition to improvements in writing proficiency, students engaged in PBL activities demonstrated enhanced academic rigor and presentation skills. The integration of research tasks, data analysis, and evidence-based argumentation within the PBL framework encouraged students to approach writing assignments with depth and critical thinking. Furthermore, culminating presentation sessions provided students with opportunities to effectively communicate research findings, bolstering their oral communication skills.

5. Discussion

The findings of this study illuminate the transformative potential of integrating Project-Based Learning (PBL) with conventional teaching methodologies to enhance writing skills among the students. Through a comprehensive examination of both qualitative and quantitative data, this discussion seeks to elucidate the implications of these findings and offer insights into the effectiveness of PBL in fostering writing proficiency, academic rigor, and presentation skills among participants. The majority of students acknowledged the need for improvement in their writing skills following the initial assignment, demonstrating a heightened awareness of their academic writing needs. This underscores the efficacy of PBL in promoting self-awareness and identifying areas for growth in writing proficiency. Moreover, the consistent trend of improvement observed across the stages of the study suggests that PBL facilitates continuous development in writing skills, as evidenced by the high percentage of students reporting enhanced writing abilities at each stage. Qualitative analysis complemented the quantitative findings by providing nuanced insights into the specific aspects of writing that experienced improvement. Students demonstrated enhanced organizational skills, coherence, clarity, and argumentation in their written/oral reports, indicative of a deeper understanding of academic writing conventions. These findings underscore the efficacy of PBL in fostering critical thinking and effective communication skills, essential attributes for academic and professional success.

A comparative analysis between students extensively engaged in PBL activities and those less involved highlighted the importance of intensive engagement in fostering writing proficiency. Students actively participating in PBL activities exhibited greater improvements in writing skills, emphasizing the role of sustained engagement and practice in skill development.

6. Conclusion

The integration of Project-Based Learning (PBL) into research skill courses at Higher Education Institutions (HEIs) presents a promising avenue for enhancing writing skills among international medical faculty students. Through a rigorous examination of both qualitative and quantitative data, this study has demonstrated the transformative impact of PBL on students' writing proficiency, academic rigor, and presentation skills.

The findings underscore the effectiveness of PBL in promoting self-awareness and identifying areas for improvement in writing skills among students. By providing authentic opportunities for inquiry, collaboration, and reflection, PBL enables students to develop essential writing competencies while engaging meaningfully with course content. The iterative nature of PBL, characterized by ongoing feedback and revision, facilitates progressive refinement of writing skills throughout the semester. Moreover, the study highlights the multifaceted benefits of PBL in fostering critical thinking, collaboration, and effective communication skills among participants. Students engaged in PBL activities demonstrated enhanced organizational skills, coherence, clarity, and argumentation in

their written reports, indicative of a deeper understanding of academic writing conventions. Additionally, culminating presentation sessions provided students with opportunities to effectively communicate research findings, thereby strengthening their oral communication skills. By continuing to investigate innovative pedagogical approaches, educators can better prepare students for success in both academic and professional contexts, thereby advancing the goals of scholarly communication, knowledge dissemination, and intellectual growth within the realm of higher education.

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