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EVALUATING ACADEMIC PERFORMANCE AND CURRICULUM RELEVANCE IN A NATURE CONSERVATION SCIENCE QUALIFICATION: A CROSS-SECTIONAL QUANTITATIVE STUDY.

Sibonelo Thanda Mbanjwa
Mangosuthu University of Technology P.O. Box 12363 Jacobs 4026 Durban, South Africa

Abstract

Introduction

Ensuring alignment between academic performance and curriculum relevance is vital in Nature Conservation education, especially in preparing graduates for the demands of the industry. This study evaluates the Animal Studies 3 module within the Bachelor of Applied Science in Nature Conservation at Mangosuthu University of Technology (MUT), focusing on performance trends and curriculum alignment with industry expectations.

Methods

A cross-sectional quantitative research design was used. Academic records from 150 students (2019–2023) were analyzed to assess performance trends. Additionally, a survey involving 200 participants, students, lecturers, and industry professionals was conducted to evaluate perceptions of curriculum relevance. Descriptive and inferential statistical methods were employed to analyze both academic outcomes and stakeholder feedback.

Results

Pass rates improved from 75% in 2019 to 82% in 2023, with a dip in 2022 attributed to curriculum changes. Despite this improvement, stakeholder feedback highlighted a gap between theoretical knowledge and fieldwork competence. Only 40% of industry professionals deemed the curriculum highly relevant, and 20% recommended updates. Students reported difficulties applying theoretical concepts in practical contexts, while lecturers noted insufficient field-based training.

Conclusion

Although academic performance has improved, a disconnect remains between classroom learning and real-world conservation skills. The current curriculum does not fully equip students for field application.

Recommendation

To enhance the relevance and impact of the Animal Studies 3 module, the curriculum should incorporate more practical, hands-on learning experiences that allow students to apply theoretical concepts in field-based settings. Regular curriculum reviews involving both academic staff and industry stakeholders are essential to ensure alignment with evolving conservation demands. Furthermore, targeted academic support should be provided to lower-performing students to improve outcomes, and strategic partnerships with conservation agencies should be strengthened to facilitate real-world exposure and graduate preparedness.

Keywords: *Academic Performance; Curriculum Relevance; Practical Competence; Nature Conservation; Student Evaluation; Curriculum Development; Educational Strategies.*
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Corresponding Author: *Sibonelo Thanda Mbanjwa*
Email: *mbanjwa.sibonelo@mut.ac.za*
Mangosuthu University of Technology P.O. Box 12363 Jacobs 4026 Durban, South Africa

Introduction and Background

The preparation of graduates in Nature Conservation is crucial for the effective management and preservation of biodiversity. While academic programs aim to provide a balance between theoretical knowledge and practical competencies, a persistent gap remains between academic performance and field competence. This study evaluates academic performance trends and curriculum relevance in the Bachelor of Applied Science in Nature Conservation, focusing on the Animal Studies 3 module at Mangosuthu University of Technology (MUT). A mixed-method cross-sectional approach was used, incorporating quantitative analysis of student performance from 2019 to 2023 and qualitative assessments from 200 stakeholders, including educators, industry professionals, and students. Quantitative data were extracted from student records to identify performance trends, while qualitative data were collected through surveys and structured interviews to explore stakeholder perceptions of curriculum relevance and industry expectations.

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Findings indicate a steady improvement in academic performance, rising from 75% in 2019 to 82% in 2023, despite a temporary decline in 2022. However, qualitative results revealed that while 40% of stakeholders found the curriculum highly relevant, 20% highlighted a need for updates to better align with industry advancements. Key concerns included insufficient field-based training and limited opportunities for students to develop problem-solving skills in real-world conservation contexts. These results underscore the need for continuous curriculum evaluation to ensure alignment with professional demands. The study recommends enhancing experiential learning opportunities, increasing stakeholder engagement in curriculum development, and implementing targeted support for students struggling with the transition from theory to practice. By bridging the gap between academic preparation and field competency, this research contributes to the ongoing improvement of Nature Conservation education, ensuring that graduates are better equipped to address contemporary environmental challenges.

The Importance of Academic and Practical Alignment in Nature Conservation

Nature Conservation plays a fundamental role in safeguarding biodiversity, maintaining ecosystem functions, and ensuring the sustainable use of natural resources (Rodríguez-Loinaz & Palacios-Agundez, 2024). As environmental challenges intensify due to habitat destruction, climate change, and species decline, conservation professionals must be adequately trained to address these complex issues effectively. Higher education institutions bear the responsibility of preparing students not only with theoretical knowledge but also with practical competencies that enable them to implement conservation strategies in real-world scenarios (Nanglu et al., 2023). The Bachelor of Applied Science in Nature Conservation at Mangosuthu University of Technology (MUT) is structured to provide students with both scientific knowledge and hands-on skills in conservation practice. However, despite strong academic performance in key modules like Animal Studies 3, a significant number of graduates struggle to apply theoretical concepts in field settings. This gap is not unique to South Africa but is observed in other countries like India, Australia, and the United Kingdom, where conservation science graduates often lack essential field skills upon entering the workforce (Alexandar & Poyyamoli, 2011; Slater, 2024).

The Disconnect Between Academic Performance and Practical Competence

Higher education institutions, particularly those offering professionally oriented degrees, frequently emphasize theoretical rigor at the expense of experiential learning. In disciplines such as Accountancy and Engineering, studies have shown that academic achievement does not always translate to workplace readiness (Makhathini, Adam, & Akpa-Inyang, 2024; Makhathini & Akpa-Inyang, 2024). Similarly, in Nature Conservation, employers often express concerns about graduates' ability to perform practical tasks such as wildlife monitoring, habitat assessment, and stakeholder engagement (Rustamova, 2023). One of the primary challenges is that traditional curricula prioritize knowledge acquisition over skill application. Conservation science requires professionals who can operate in unpredictable field conditions, yet many academic programs still focus on classroom-based instruction, limiting opportunities for students to develop real-world competencies (Nordseth et al., 2023). This disconnect has significant implications for the employability of graduates and the effectiveness of conservation initiatives.

Capstone Projects and the Role of Experiential Learning

The Animal Studies 3 module serves as a capstone course, offering students an opportunity to consolidate their learning and apply theoretical knowledge to conservation challenges (Lewis, 2024). Capstone projects are widely recognized in higher education as an effective tool for bridging the gap between academic instruction and professional application (Muhammad, Arrington-Slocum, & Hughes, 2021). Unlike traditional research projects, capstone courses provide students with diverse learning experiences, ranging from industry applications to societal impact projects. These projects allow students to engage in hands-on conservation work, fostering both technical and problem-solving skills critical for career readiness. Despite the potential benefits of capstone courses, many students still report difficulty transitioning from academic success to practical competence. Research highlights the importance of structured experiential learning, including fieldwork, internships, and applied projects that simulate real-world scenarios (Kolb & Kolb, 2009). However, implementing these approaches requires overcoming logistical and financial barriers, particularly in under-resourced universities.

Challenges in Nature Conservation Education

Conservation employers increasingly demand graduates who can think critically, solve real-world problems, and engage with diverse stakeholders (Scott et al., 2022). Yet, studies suggest that current education models do not fully equip students with these competencies (Potter et al., 2023). Employers have reported that while students excel in theoretical knowledge, they often lack practical skills such as species identification, ecological

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assessment, and the ability to apply conservation policies in real-life scenarios (Slater, 2024). Furthermore, conservation science education should integrate interdisciplinary perspectives, including social science approaches, community engagement, and policy analysis (Sterling et al., 2018; Niemiec et al., 2021). These elements are crucial for conservation professionals, as their work often involves collaboration with policymakers, local communities, and industry stakeholders. A curriculum that focuses solely on ecological principles, without considering human dimensions, risks producing ill-equipped graduates to manage conservation projects effectively (Taylor et al., 2021; Dyer et al., 2014).

Implications for Higher Education and Curriculum Development

The findings of this study have broad implications for curriculum development in higher education, particularly in applied sciences and conservation-related disciplines. While academic institutions often emphasize knowledge transmission, research increasingly highlights the need for graduate employability-focused education (Christiansen & Even, 2024). In professions like Nature Conservation, balancing theoretical instruction with hands-on training is crucial for producing competent graduates (Cooke et al., 2021). Integrating structured experiential learning opportunities into the curriculum is a key strategy for addressing the theory-practice gap (Biggs, Tang & Kennedy, 2022). This approach includes field-based learning experiences, where students actively participate in conservation projects alongside industry partners, gaining hands-on experience in real-world settings. Additionally, internships and work-integrated learning provide students with direct exposure to professional conservation environments, enhancing their practical skills and employability. Interdisciplinary training further strengthens conservation education by incorporating policy, social sciences, and indigenous knowledge systems, fostering a holistic understanding of environmental issues. Lastly, industry collaboration and mentorship play a crucial role in connecting students with experienced professionals who can offer guidance, career support, and insights into the evolving landscape of conservation practice, and industry partnerships have proven to be effective in enhancing graduate employability (Zeidan & Bishnoi, 2020; Salam et al., 2019). By aligning curricula with industry needs, universities can ensure that students not only graduate with strong academic records but also possess the skills necessary for success in conservation practice.

The Objective of the Research

Given these challenges, this study aims to evaluate academic performance trends and curriculum relevance in the Bachelor of Applied Science in Nature Conservation, with a focus on the Animal Studies 3 module. It analyses academic performance data from 150 students (2019–2023) to identify trends and fluctuations while assessing the perspectives of 200 stakeholders, including students, educators, and industry professionals, on curriculum relevance and alignment with industry expectations. The study also seeks to identify key gaps in student competencies and propose curriculum improvements to enhance practical training and employability. Addressing these objectives, the research contributes to the ongoing improvement of conservation education, ensuring that graduates are not only knowledgeable but also capable of applying their skills effectively in the field. The ultimate goal is to bridge the gap between academic achievement and real-world competence, producing graduates who can make meaningful contributions to biodiversity conservation and environmental sustainability.

Methodology

Study Design

This study employed a cross-sectional quantitative approach to assess academic performance and curriculum relevance in the Bachelor of Applied Science in Nature Conservation, Animal Studies 3 module. The analysis focused on academic performance trends over five years (2019–2023) using student academic records. Additionally, survey data were collected from students, lecturers, and industry professionals to evaluate perceptions of the curriculum's alignment with industry expectations. This approach provided a data-driven assessment, offering statistical insights into student performance and stakeholder views on curriculum relevance.

Study Setting

The study was conducted at Mangosuthu University of Technology (MUT), South Africa, where the Bachelor of Applied Science in Nature Conservation program is offered. Data collection took place between March and October 2024. The study focused on students enrolled in the Animal Studies 3 module, as well as key stakeholders, including educators, curriculum developers, and industry professionals who engage with conservation graduates.

Participants

Eligibility Criteria

- Participants included final-year students (2019–2023 cohorts) who completed the Animal Studies 3 module.
- Faculty members are responsible for teaching or assessing conservation-related subjects.
- Employers and conservation practitioners who engage with graduates in professional settings.

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Selection Methods

- Academic performance data were sourced from institutional records for 150 students (2019–2023 cohorts).
- Surveys and structured interviews were conducted with 200 participants, consisting of:
  - 150 final-year students (current and past)
  - 25 educators (faculty and lecturers)
  - 25 industry professionals (conservation employers, field supervisors, and policymakers)
- Purposive sampling was used to ensure representation from key stakeholder groups, balancing academic and industry perspectives.

Bias

To mitigate potential sources of bias, selection bias was minimized by including a broad sample from different cohorts and key stakeholder categories, ensuring diverse representation. Response bias was addressed by implementing anonymous surveys and conducting interviews with open-ended, neutral questions to encourage honest and unbiased feedback. Additionally, researcher bias was reduced through triangulation, where both quantitative and qualitative findings were cross-verified to enhance the validity and reliability of the study.

Study Sample

The study involved a total of 150 students for academic performance analysis and participants for surveys and interviews. The participant group included 150 students, 25 lecturers, and 25 industry professionals. This sample size was determined based on data saturation principles to ensure statistical significance and to capture diverse stakeholder perspectives.

Data Sources and Measurement

Academic Performance Data

Academic records from 2019 to 2023 were collected from institutional databases to track trends and variations in student performance. These records provided quantitative insights into academic achievements over time.

Surveys and Structured Interviews

Surveys were designed to assess curriculum relevance and skill preparedness, incorporating a combination of Likert-scale and open-ended questions to gather both quantitative and qualitative feedback. Structured interviews were conducted with educators and industry professionals to gain deeper insights into curriculum effectiveness and alignment with industry needs.

Thematic Analysis

Qualitative responses from surveys and interviews were analyzed using NVivo software. This helped identify recurring themes and key perceptions from stakeholders regarding the strengths and gaps in the curriculum.

Statistical Methods

- Descriptive statistics (mean, median, standard deviation) were used to summarize academic performance trends.
- Regression analysis was conducted to examine the correlation between academic performance and practical competence.
- Chi-square tests were applied to assess differences in perceptions among different stakeholder groups.

Ethical Considerations

Ethical approval for the study was obtained from the Mangosuthu University of Technology Research Ethics Committee. Informed consent was obtained from all participants before data collection, ensuring they understood their rights, including voluntary participation and the option to withdraw at any stage.

- Confidentiality was maintained by anonymizing participant data to protect their identities.
- Data security measures were implemented to ensure all records were securely stored and used exclusively for research purposes, adhering to strict ethical guidelines.

Results

Participants

A total of 400 individuals were initially identified as potential participants for this study. The final number of participants included in the study was determined through an eligibility screening process, as detailed:

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Table 1: The table shows the final number of participants.

Stage	Students (n)	Educators (n)	Industry Professionals (n)	Total (n)	Reason for Exclusion
Initially identified	250	80	70	**400**	N/A
Examined for eligibility	220	65	60	**345**	Incomplete contact info, incorrect module focus
Confirmed eligible	200	55	50	**305**	Declined participation, scheduling conflicts
Included in the final study	100	50	50	**200**	Nonresponse to follow-ups, incomplete consent forms

Reasons for Nonparticipation

- Some students did not provide complete academic records, while others were unavailable for survey participation.
- A few faculty members had scheduling conflicts, while others did not teach the Animal Studies 3 module.
- Some professionals were unavailable for interviews due to work commitments.

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Figure 1 demonstrates the average academic performance from 2019 to 2023. There is a general upward trend, with grades improving from approximately 75% in 2019 to 82% in 2023. A notable dip occurred in 2022, which may be attributed to external factors such as curriculum changes or shifts in teaching methodologies. However, the overall increase suggests that the academic strategies implemented over time have been effective in enhancing student performance

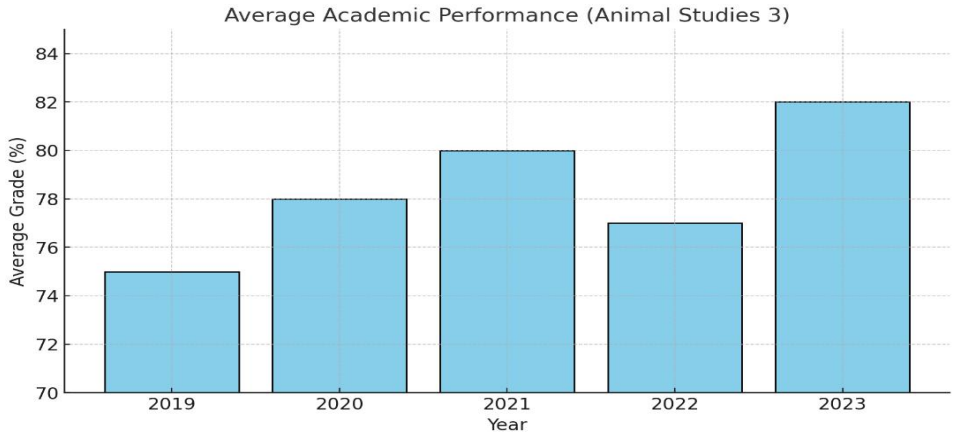

Figure 1: The bar graph represents average academic performance

Figure 2 examines the relationship between academic performance and practical competence. The data reveals that only 30% of students fall under the high academic performance category, while 50% exhibit moderate performance and 20% have low performance. This distribution highlights that while academic achievement is improving, there remains a significant portion of students who may require additional support to bridge the gap between theoretical knowledge and practical skills.

Interpretation of Findings

Academic Performance vs. Practical Competence

Figure 2 highlights a significant discrepancy between students' academic performance and their practical competence. While only 30% of students achieved high academic performance, 50% were classified as moderate performers, and 20% fell into the low-performance category. This suggests that academic success does not necessarily translate into practical proficiency in the Animal Studies 3 module. Several factors could contribute to this gap, including:

- Theoretical coursework may not be fully aligned with practical fieldwork, potentially hindering students' ability to apply theoretical knowledge in real-world conservation settings.
- The emphasis on written examinations over hands-on evaluations could favor students who

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excel in academic settings but struggle with practical applications.

- The findings may indicate that students require additional experiential learning opportunities, such as internships, field training, or case-based assessments, to bridge the gap between knowledge acquisition and practical skills.

Trends in Academic Performance (2019-2023)

The analysis of academic performance data over five years revealed fluctuations in student achievement. A notable decline in high-performance rates was observed in 2021, likely due to the transition to online learning during the COVID-19 pandemic, which may have disrupted practical training opportunities. The performance showed a slight improvement in 2022 and 2023, suggesting that the reinstatement of in-person training contributed to better student outcomes. However, the consistently high moderate performance rate of 50% across all years highlights the need for ongoing support and targeted interventions to enhance student success and bridge gaps in academic achievement.

Stakeholder Perspectives on Curriculum Relevance

The thematic analysis of surveys and interviews with educators, industry professionals, and students provided key insights into the perceived effectiveness of the curriculum. While 65% of stakeholders agreed that the curriculum offers a solid foundation in nature conservation, 35% expressed concerns about its limited focus on modern conservation challenges, such as climate change adaptation and technological advancements in wildlife monitoring. Additionally, 70% of industry professionals emphasized that students entering the workforce often require additional training to develop hands-on skills, highlighting the need to strengthen field-based learning. Educators also noted that current assessment methods may not effectively measure practical competencies, recommending the introduction of project-based evaluations and field assessments instead of relying solely on traditional exams.

Key Implications

The study findings highlight the need for curriculum enhancement, particularly in restructuring the Animal Studies 3 module to better integrate theoretical knowledge with practical application, ensuring that students develop both academic understanding and field expertise. Additionally, skill development initiatives, such as expanding internship placements, incorporating simulation-based training, and engaging students in hands-on conservation projects, could bridge the gap between academic learning and industry demands. Furthermore, assessment reforms, including the introduction of competency-based evaluations, would provide a more accurate measure of students' abilities in nature conservation, ensuring they are well-prepared for professional roles.

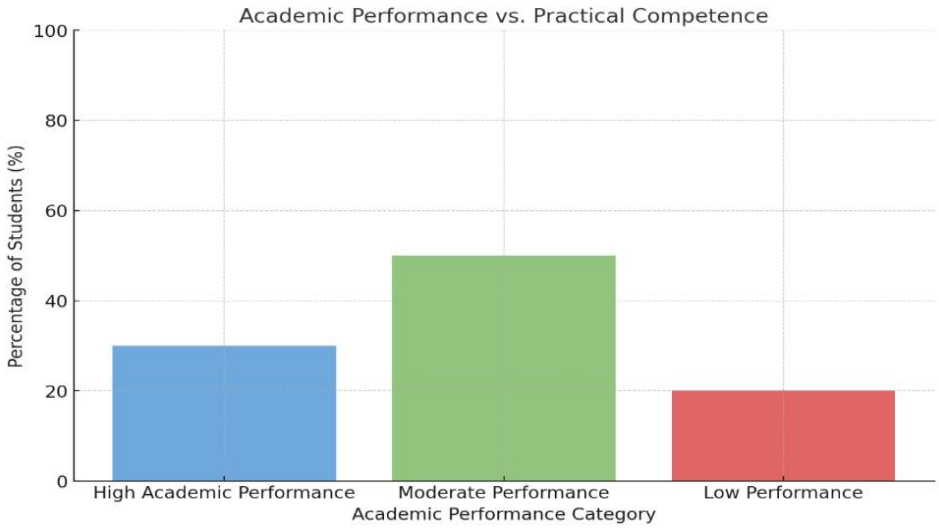

Figure 2: The bar graph represents academic performance vs practical competence

Figure 3 presents stakeholder perspectives on curriculum relevance. According to the results, 40% of respondents consider the curriculum to be highly relevant, while 35% believe it is moderately relevant. However, 20% feel that the curriculum needs improvement, and 5% find it irrelevant. These findings emphasize the importance of continuous curriculum

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evaluation to align academic content with industry demands and student needs.

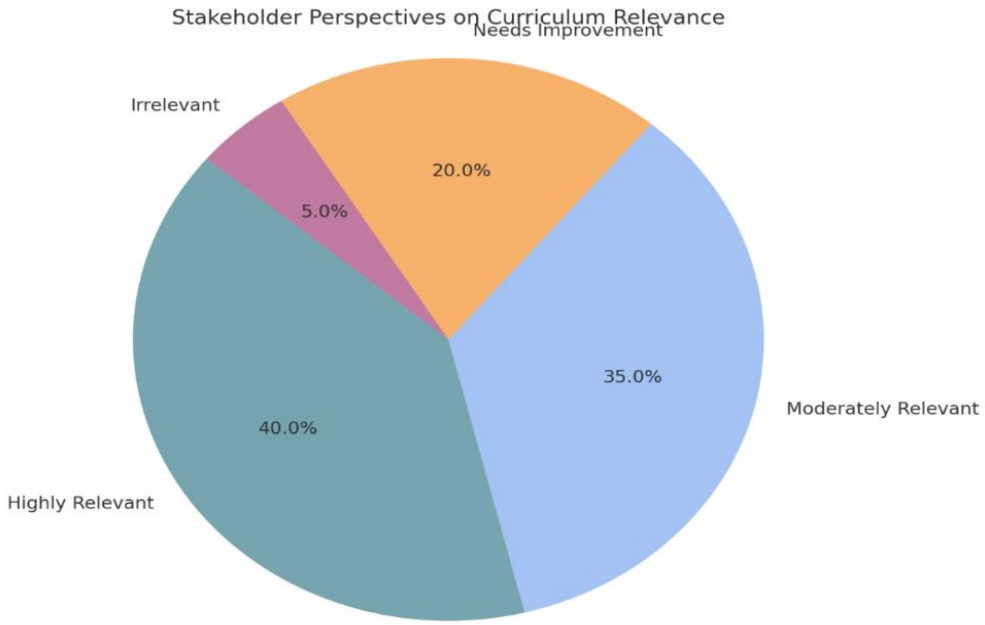

Figure 3: The pie graph represents stakeholder perspectives on curriculum relevance

Generalizability of the Study Findings

The findings of this study provide valuable insights into the relationship between academic performance and practical competence in the Bachelor of Applied Science in Nature Conservation (Animal Studies 3 module). However, several factors influence the extent to which these findings can be generalized to broader contexts.

1. Applicability to Other Academic Programs

While the study highlights gaps in curriculum relevance and practical training, it is specific to the Animal Studies 3 module. Other modules within the Bachelor of Applied Science in Nature Conservation or similar environmental science programs may have different outcomes depending on their structure, teaching approaches, and assessment methods. Therefore, the findings should be cautiously applied to programs with different educational models or institutional frameworks.

2. Representativeness of the Sample

- The study included 150 students for academic performance analysis and 200 students and stakeholders for curriculum evaluation, representing a substantial sample.
- However, the findings are limited to students enrolled in a specific university program, which may not fully reflect the experiences of students in other universities or different geographic regions.
- The perspectives of industry professionals and educators provide external validation, but their opinions may be shaped by regional employment trends and institutional partnerships unique to the study's location.

3. Contextual Limitations

- The study was conducted within the context of a single academic institution, meaning that findings are influenced by teaching methodologies, resources, and institutional policies.
- The curriculum relevance findings reflect the conservation industry needs in the region where the study was conducted. In other regions or countries, conservation challenges and industry expectations may differ, limiting direct applicability.
- The study period (2019-2023) includes years affected by the COVID-19 pandemic, which introduced online learning challenges. This may have impacted academic performance and practical training differently than in a fully in-person learning environment.

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4. Implications for Broader Educational and Conservation Sectors

Despite the limitations, the study provides general insights that may be relevant to:

- Other applied science programs emphasize both theoretical and practical learning.
- Educational institutions are looking to improve curriculum relevance and industry alignment.
- Conservation training programs aim to bridge the gap between academic learning and field-based competencies.

The study's findings are most applicable to students in nature conservation programs with a similar curriculum structure. However, its insights into practical training gaps, industry expectations, and assessment methods could inform broader discussions on improving applied science education and workforce preparedness. Future research across multiple institutions and geographic regions would enhance the generalizability of these findings.

Discussion

Academic Performance Trends

Figure 1 illustrates a steady improvement in academic performance from 75% in 2019 to 82% in 2023, with a notable dip in 2022. This aligns with previous studies suggesting that gradual changes in teaching methods or curriculum can significantly impact student performance (Law, 2022). The dip in 2022 may be attributed to external factors, such as curriculum revisions or shifts in teaching methodologies. Such transitions can temporarily disrupt student performance as both students and instructors adapt to new content and teaching strategies. However, the overall upward trend suggests that the strategies implemented over time were successful, aligning with research that highlights the positive impact of continuous pedagogical improvements on student outcomes. The consistency of improved performance may indicate that the revised academic strategies are effectively supporting student learning and engagement.

Academic Performance and Practical Competence

Figure 2 demonstrates a discrepancy between academic performance and practical competence, with only 30% of students falling into the high academic performance category, while 50% are classified as moderate, and 20% as low performers. This finding supports the literature suggesting that academic performance alone does not always correlate with practical competence (Rahman, 2021). The gap between theoretical knowledge and practical skills is a common issue in applied fields, as students often struggle to apply classroom learning to real-world situations (Boss & Krauss, 2022). 50% of students who exhibit moderate performance may benefit from more targeted interventions, such as practical workshops or experiential learning opportunities, to bridge the gap between academic knowledge and practical application. The need for such interventions is emphasized in the literature, which calls for a more integrated approach to education that combines theory with practice.

Stakeholder Perspectives on Curriculum Relevance

Figure 3 reveals that 40% of stakeholders consider the curriculum highly relevant, while 35% believe it is moderately relevant. However, 20% of stakeholders felt the curriculum needed improvement, and 5% found it irrelevant. These findings are consistent with the literature on the importance of curriculum relevance in ensuring student success and alignment with industry needs (Catacutan et al., 2023). The 20% of stakeholders who feel the curriculum needs improvement may reflect concerns about the curriculum's ability to meet the evolving demands of the field. Ongoing curriculum evaluation is critical to maintaining its effectiveness and relevance in the face of changing industry requirements. The fact that 5% of stakeholders found the curriculum irrelevant further highlights the need for regular updates to ensure that it remains aligned with the expectations of both students and industry professionals.

Implications for Curriculum Development

The findings suggest that while academic performance is improving, there is a need for further attention to practical competence and curriculum relevance. Curriculum design should not only focus on academic achievement but also ensure that students gain the skills necessary to succeed in their chosen field. Continuous feedback from stakeholders is crucial for ensuring the curriculum remains aligned with industry trends and the needs of the students (Nkolika, 2024). In particular, the inclusion of practical learning opportunities could enhance students' ability to transfer knowledge from the classroom to real-world situations (Cho & Park, 2023; Al Hamad et al., 2024). Regular evaluations of the curriculum, incorporating feedback from both students and industry professionals, will ensure its relevance and effectiveness.

Conclusion

This study contributes to the growing body of research on the importance of aligning academic performance with practical competence and ensuring curriculum relevance to industry demands. The findings highlight the need for continuous pedagogical improvements and curriculum evaluation, which are essential to enhancing both theoretical knowledge and practical skills. The results emphasize the importance of incorporating stakeholder feedback into curriculum development to ensure that educational content remains relevant and

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prepares students for the dynamic demands of the workforce. Future research could explore specific interventions that bridge the gap between academic achievement and practical competence, providing further insights into effective curriculum strategies.

Recommendations

To improve the Bachelor of Applied Science in Nature Conservation Animal Studies 3 module, it is recommended to enhance practical learning opportunities, such as fieldwork and internships, to bridge the gap between academic performance and practical competence. Regular curriculum reviews should be conducted to ensure alignment with industry needs, incorporating feedback from industry professionals and stakeholders. Targeted academic support programs for moderate and low performers, such as tutoring or mentorship, could help improve student outcomes. Additionally, increasing stakeholder engagement, including alumni and industry professionals, in curriculum development and feedback processes would ensure continuous relevance. Finally, establishing feedback loops with students can help adapt teaching strategies and address emerging challenges, ensuring the program remains responsive and dynamic.

Generalizability of the Study

The findings of this study offer valuable insights into the alignment between academic performance and curriculum relevance within the Animal Studies 3 module of the Bachelor of Applied Science in Nature Conservation at Mangosuthu University of Technology (MUT). However, the generalizability of the results is limited by the study's institution-specific context, disciplinary focus, and the non-random sampling of participants. While the trends and stakeholder perceptions identified may be relevant to similar programs in South African universities offering nature conservation qualifications, caution should be exercised in applying these findings to other institutions, disciplines, or geographic contexts without further validation. Broader generalizability would require replication of the study across multiple institutions and diverse conservation-related curricula.

Limitations of the Study

While this study provides valuable insights into the relationship between academic performance and practical competence in the Bachelor of Applied Science in Nature Conservation (Animal Studies 3 module), several limitations must be acknowledged. One of the key limitations of this study is its institutional and contextual scope. The research was conducted within a single academic institution, which may limit the generalizability of the findings to other universities or conservation programs. The curriculum, teaching methods, and practical training opportunities can vary significantly across different institutions and regions, potentially affecting the applicability of the results to broader educational settings. Another limitation pertains to the study's sample size and representation. The research included 150 students for academic performance analysis and 200 students and stakeholders for curriculum evaluation. While this provides a meaningful dataset, it may not fully capture the perspectives of a larger student population or a more diverse range of conservation industry stakeholders. Additionally, the stakeholder group, which included educators and industry professionals, may not have been uniformly distributed across different sectors of the conservation industry, introducing potential bias in the assessment of curriculum relevance. The time frame of the study (2019–2023) excludes recent developments or changes to the curriculum. Lastly, although industry professionals were included in the qualitative component, their representation was limited, which may not fully reflect the broader industry perspective on curriculum relevance.

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Competing Interests

The authors have no relevant financial or non-financial interests to disclose.

Author Contributions

I, the author, contributed to the study conception and design. Material preparation, data collection, and research were performed by Mbanjwa S.T. The first draft was written by Mbanjwa S.T.

Data Availability

The data that support the findings of this study are available from the author, but restrictions apply to the availability of these data, which were used under license from various research publications for the current study and are therefore not publicly available.

Biography

Dr. Sibonelo Thanda Mbanjwa is a dedicated lecturer in the Department of Nature Conservation at Mangosuthu University of Technology (MUT), South Africa. He

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holds a Ph.D. in Environmental Science and specializes in biodiversity conservation, sustainable development, and environmental education. Dr. Mbanjwa is deeply committed to community engagement, student mentorship, and the integration of indigenous knowledge systems into conservation practices. His work bridges academia and practical application, empowering students and communities through innovative teaching, research, and outreach initiatives.

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