ALIGNING STATE UNIVERSITY AND COLLEGES ENGINEERING AND TECHNOLOGY CURRICULA WITH INTERNATIONAL ACCREDITATION STANDARDS: A STUDY ON THE INTEGRATION OF WASHINGTON, SYDNEY, AND DUBLIN ACCORDS IN THE PHILIPPINES

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Abstract

The pursuit of global educational standards has become increasingly significant in the context of a rapidly evolving professional landscape. This study delves into the imperative task of aligning engineering curricula offered by State University and College (SUC) programs in the Philippines with international accreditation standards, particularly focusing on the Washington, Sydney, and Dublin Accords. These accords serve as critical benchmarks, reflecting competencies and educational standards essential for producing globally competitive engineering professionals. As the demand for highly skilled and adaptable engineers continues to rise, the alignment of curricula with international accords ensures that graduates possess the knowledge, skills, and attributes required to excel in a diverse and interconnected world. This study aims to contribute to the enhancement

of engineering education by examining the process of integration and its implications for educational institutions in the Philippines. To achieve this goal, a comprehensive approach is employed, encompassing various facets of curriculum development, assessment, and improvement. The study involves investigating strategies to effectively integrate the educational and competency standards outlined in the accords within the context of SUC engineering curricula. By engaging faculty, chairpersons, and college deans, the research evaluates the alignment process's effectiveness and identifies areas of successful integration, challenges faced, and recommendations for improvement. Through a combination of quantitative and qualitative methods, including surveys, interviews, and data analysis, this research seeks to illuminate the extent to which curricula align with international standards. Furthermore, the study explores how these aligned curricula impact student outcomes, preparing them for a globally competitive engineering landscape. The outcomes of this research have the potential to guide educational institutions in refining their engineering programs, fostering a culture of continuous improvement, and equipping graduates with the skills required to thrive in a dynamic global environment. Ultimately, this study contributes to the broader discourse on enhancing engineering education, ensuring its relevance and effectiveness in an interconnected world.

INTRODUCTION

In an era of global interconnections, where technological advancements and innovation transcend borders, the role of engineering education has become increasingly vital (Sandor & Sándor, 2023). As professionals seek to contribute their expertise on an international scale, the need for uniformity and recognition of engineering qualifications has gained paramount importance. To address this imperative, various international agreements have emerged as guiding principles for engineering education and professional practice (Chin et al., 2019). The Washington Accord, the Sydney Accord, and the Dublin Accord are three such agreements that epitomize collaborative efforts among nations to harmonize engineering standards (Diamond & Adam, 2023).

This study embarks on a journey to explore the relationship between the curricula of State University and College (SUC) engineering programs in the Philippines and the internationally recognized engineering accreditation standards delineated by the Washington, Sydney, and Dublin Accords. In this interconnected world, where knowledge and skills transcend geographical boundaries, understanding how SUCs align their curricula with these global benchmarks is crucial for fostering competence and enhancing the mobility of engineering professionals.

The Washington Accord, established in 1989, has provided a framework for mutual recognition of engineering qualifications among participating countries. By ensuring substantial equivalence in the accreditation of engineering degree programs, this accord facilitates the seamless mobility of engineers across international borders (Hanrahan, 2009). The Sydney Accord, established in 2001, further extends this recognition to engineering technologists and technicians, acknowledging their role in shaping technological innovation. The Dublin Accord, established in 2002, takes a specific focus on engineering technicians, reinforcing the importance of aligning education and competencies with internationally accepted standards.

As the Philippines strives to bolster its engineering education and workforce, understanding how SUCs integrate the principles of these accords into their curricula holds paramount significance. This study seeks to uncover the strategies, challenges, and achievements in the alignment process. By delving into the intricate relationships between SUC engineering curricula and the international accreditation standards set by the Washington, Sydney, and Dublin Accords, this research contributes to the discourse on global engineering education and the potential for harmonization (Chance, 2006).

The findings of this study are expected to shed light on the effectiveness of current efforts to align SUC engineering curricula with international standards. Moreover, this research has the potential to highlight areas for improvement and innovation in engineering education, ultimately enhancing the quality of graduates produced by SUCs and their readiness to participate in the global engineering landscape. Through a comprehensive exploration of the connections between SUC curricula and the international accords, this study aims to provide valuable insights that contribute to the advancement of engineering education in the Philippines and beyond.

OBJECTIVES

1. Assess the degree of alignment between the engineering curricula offered by State University and College (SUC) programs in the Philippines and the educational and competency standards stipulated by the Washington, Sydney, and Dublin Accords. Identify specific areas where the curricula closely adhere to international accreditation benchmarks and pinpoint any gaps or discrepancies.

2. Investigate the various strategies, methodologies, and approaches adopted by SUCs to integrate the principles of the Washington, Sydney, and Dublin Accords into their engineering curricula. Analyze the effectiveness of these strategies in achieving alignment with global engineering education standards and identify best practices.

3. Explore and categorize the challenges and barriers encountered by SUCs while aligning their engineering curricula with international accreditation standards. Gain in-depth insights into the specific obstacles hindering seamless integration and identify common patterns that impede the process.

4. Examine the impact of curricular alignment on engineering students' competencies, skills, and knowledge acquired throughout their education. Evaluate how well their learning experiences correspond to the expectations set by the international accords, and investigate any variations in outcomes among SUCs.

5. Identify areas within the engineering curricula where improvements, innovations, or adjustments can be made to enhance alignment with international standards.

6. Explore opportunities to incorporate emerging technologies, interdisciplinary collaborations, and industry partnerships, while considering the evolving needs of the global engineering landscape.

LITERATURE REVIEW

The literature review examines the significance of international accords in promoting uniformity and recognition of engineering qualifications. It discusses the historical context and objectives of the Washington Accord, Sydney Accord, and Dublin Accord, along with their roles in enhancing the mobility of engineers, technologists, and technicians. Previous research on curriculum alignment, challenges, and best practices are synthesized, highlighting the need for a comprehensive study in the Philippine context (Garousi et al., 2019).

METHODOLOGY

The research methodology is detailed, encompassing a mixed-methods approach. Quantitative data was collected through surveys to assessed curricular alignment, while qualitative insights are gathered through interviews with curriculum developers. Document analysis were conducted to evaluate program outcomes and content. The research design ensures a comprehensive exploration of curricular alignment and its various dimensions.

1. Research Design: This research utilized a mixed-methods approach that combined qualitative and quantitative research methods. The research involved surveys, interviews, document analysis, and comparative analysis to comprehensively address the objectives.

2. Data Collection: Data collection involves systematically gathering and recording relevant information from various sources for analysis and decision-making purposes.

Quantitative Phase:

Survey: Developed a survey questionnaire to collect quantitative data on the alignment of SUC engineering curricula with the standards of the Washington, Sydney, and Dublin Accords. The survey was administered to faculty members involved in curriculum development.

Qualitative Phase:

Interviews: Conduct semi-structured interviews with curriculum developers, educators, and administrators from select SUCs. These interviews will explore the strategies, challenges, and adaptations related to aligning curricula with international accords.

Document Analysis: Review and analyze curriculum documents, course syllabi, and program outcomes to understand the extent of alignment and integration of international standards.

3. Data Analysis:

Quantitative Analysis:

Analyzed survey data using descriptive statistics to quantify the degree of alignment between SUC engineering curricula and international accreditation standards. This analysis were reveal areas of strength and gaps in alignment.

Qualitative Analysis:

Conduct thematic analysis of interview transcripts and document content. Identify themes

related to strategies, challenges, adaptations, and best practices in aligning curricula with international accords.

Comparative Analysis:

Compare survey results and qualitative findings to identify commonalities and differences among SUCs. Explore variations in alignment strategies, challenges, and outcomes.

Environment

The history of an educational institution encompasses a range of crucial elements that collectively define its trajectory:

Establishment: Through careful examination of official records and historical sources, the founding date of the campus is unveiled, often disclosed within documents such as founding resolutions and official announcements.

Origins: Understanding the catalysts that spurred the campus's inception is key. Investigation uncovers whether it was established to meet a specific educational demand or to provide opportunities within a particular region.

Key Figures: Identifying pivotal figures who played indispensable roles in the campus's establishment and growth is imperative. This includes founders, administrators, faculty members, and community leaders who contributed significantly.

Growth and Development: Tracing the evolution of the campus over time involves considering factors like fluctuations in student enrollment, expansions in infrastructure, introduction of new academic programs, and collaborations with external entities.

Notable Milestones: Celebrating noteworthy accomplishments, awards, and commendations granted to the campus during its history reflects its achievements and contributions.

Challenges and Overcoming Obstacles: Analyzing challenges and how they were surmounted sheds light on the campus's resilience. Financial obstacles, leadership transitions, and significant events are explored.

Contributions to the Community: Investigating the ways in which the campus has enriched its local community, such as through outreach programs, community engagement, and partnerships, highlights its broader impact.

Alumni Success Stories: Showcasing alumni who have graduated and achieved significant accomplishments in their respective fields demonstrates the institution's influence on shaping successful individuals.

Changes in Leadership: Documenting shifts in leadership, including changes in presidency, dean roles, or other key administrative positions, and assessing their influence on the institution's path.

Evolution of Programs: Tracing the evolution of academic offerings over time gauges the institution's responsiveness to industry shifts and educational trends.

Partnerships and Collaborations: Exploring collaborations with local industries, businesses, and other educational institutions that have molded the campus's identity and offerings underscores its collaborative ethos.

Current State: Presenting a contemporary snapshot of the CTU Pinamungajan Campus encapsulates its current academic portfolio, facilities, faculty composition, student demographics, and other pertinent aspects. Utilizing official publications, historical records, interviews with key figures, and online resources contributes to a comprehensive history.

Instrument

A survey questionnaire focused on curricular alignment with international accords is a research tool designed to gather information about how well educational institutions or programs align their curricula with internationally recognized standards or agreements. This type of questionnaire aims to assess whether educational offerings are in line with global educational benchmarks, standards, or accords that have been established to ensure quality, relevance, and consistency across various educational contexts.

Importance of Curricular Alignment: In an increasingly interconnected world, ensuring that educational curricula align with international accords is crucial. International accords might encompass frameworks such as the United Nations Sustainable Development Goals (SDGs), UNESCO guidelines, or professional standards developed by international organizations. Curricular alignment with these accords not only enhances the quality of education but also prepares students to be globally competent and engaged citizens.

Research Objectives: The survey questionnaire aims to collect data that assesses the extent of alignment between educational curricula and specific international accords. It seeks to identify whether institutions have integrated the principles, goals, or competencies outlined in these accords into their curriculum design and delivery.

Question Design: The questionnaire's questions are tailored to the specific international accords being considered. For instance, questions might explore how well the curriculum addresses topics related to sustainability, human rights, cultural diversity, or global citizenship. They might also inquire about the inclusion of interdisciplinary approaches, experiential learning opportunities, or cross-cultural perspectives.

Assessment of Pedagogical Approaches: The questionnaire might inquire about the pedagogical methods and instructional strategies used to convey the concepts and principles of the international accords. It could delve into whether active learning, project-based assignments, case studies, or real-world applications are integrated to foster a deeper understanding of global issues.

Institutional Barriers and Strategies: The questionnaire could also seek insights into any challenges institutions face when aligning curricula with international accords. This might include limitations in resources, faculty development, or institutional policies. Additionally, it could explore strategies employed to overcome these challenges, such as collaborative partnerships, faculty training, or curriculum review processes.

Benefits and Outcomes: By gathering data on the curricular alignment with international accords, the questionnaire aims to provide insights into the educational institution's commitment to global education and its efforts to prepare students for an interconnected world. It can highlight successful practices, areas for improvement, and opportunities for innovation.

Data Analysis: After collecting survey responses, researchers can analyze the data to identify trends, patterns, and discrepancies in curricular alignment with international accords. This analysis can guide decision-making processes within institutions, informing curriculum development, faculty training, and strategic planning.

In summary, a survey questionnaire focused on curricular alignment with international accords serves as a valuable tool to assess the extent to which educational institutions are integrating globally relevant content and competencies into their curricula. It helps institutions uphold their commitment to providing a well-rounded and internationally informed education while contributing to students' holistic development and their ability to address global challenges.

RESPONDENTS

Table 1 provides an overview of the distribution of respondents within a study's sample population, categorizing them based on their roles or positions within an educational institution.

Table 1: Respondents

Respondents	Sample Population	Percentage
	n	%
Faculty	60	81.08
Chairperson	10	13.51
Dean	4	5.41
Total:	**74**	**100**

The data in this table represents the participants who have taken part in the survey or research being conducted. Here's a discussion of the table's contents:

Categories of Respondents: The table is divided into three distinct categories of respondents, each representing a specific role within the educational institution. These categories are "Faculty," "Chairperson," and "Dean." These roles typically hold varying levels of responsibility and decision-making authority within the institution's academic structure.

Sample Population and Percentages: The "Sample Population" column provides the number of respondents within each category. For instance, there were 60 faculty members, 10 chairpersons, and 4 deans who participated in the survey or study. The "Percentage" column represents the proportion of each category's respondents relative to the total number of respondents. It gives insight into the distribution of roles among the participants.

Interpretation of Percentages: Looking at the percentages, we can observe that faculty members make up the largest portion of respondents, accounting for 81.08% of the total participants. Chairpersons, who often oversee specific departments or programs, constitute

13.51% of the respondents. Deans, who hold senior administrative positions, make up the smallest segment at 5.41%.

Total Respondents: The "Total" row at the bottom of the table sums up the number of respondents from all three categories. In this case, there were a total of 74 participants who took part in the survey or study.

Use of Table Data: This table's data helps researchers and readers understand the composition of the study's participants based on their roles within the institution. It provides an overview of the distribution of faculty, chairpersons, and deans who provided input for the research. This information can be crucial for analyzing and interpreting the survey results, as responses and perspectives might vary depending on the roles and responsibilities of the participants.

In conclusion, Table 1 provides a clear breakdown of the respondents' categories and their corresponding percentages within the sample population. It offers a snapshot of the distribution of roles among participants and serves as a foundation for further analysis and interpretation of the research findings.

FINDINGS AND DISCUSSION

The findings are presented based on each objective, showcasing the extent of curricular alignment, strategies employed by SUCs, challenges faced during alignment, impact on student outcomes, areas for improvement, and opportunities for innovation. The discussion contextualizes the findings within the broader landscape of engineering education, emphasizing their implications for quality enhancement and global recognition. A comprehensive research framework consisting of six distinct objectives. These objectives encompass evaluating the alignment of engineering curricula offered by State University and College (SUC) programs in the Philippines with international educational and competency standards, exploring strategies for integrating principles from the Washington, Sydney, and Dublin Accords, identifying challenges faced by SUCs during curricular alignment, examining the impact on students' competencies, pinpointing areas for improvement within curricula, and exploring opportunities for incorporating emerging technologies and collaborations to enhance engineering education on a global scale. Collectively, these objectives contribute to enhancing the alignment of SUC engineering curricula with international accreditation standards, thus improving their quality, relevance, and global recognition.

Assessment of Curricular Alignment: Present findings on the level of alignment between SUC engineering curricula and international accords. Discuss specific areas of congruence, as well as gaps or discrepancies, using both quantitative and qualitative data.

Strategies and Approaches: Describe the strategies, methodologies, and approaches adopted by SUCs to integrate international standards. Analyze the effectiveness of these strategies based on interview data and identify best practices.

Challenges and Barriers: Categorize challenges and barriers encountered by SUCs during the alignment process. Discuss patterns and common obstacles that hinder the seamless integration

of international standards.

Student Outcomes: Present findings on the impact of curricular alignment on engineering students' competencies, skills, and learning experiences. Discuss variations in outcomes among SUCs and their correspondence with international expectations.

Recommendations for Improvement: Based on findings from the analysis, propose specific areas within SUC engineering curricula that can be enhanced to better align with international standards. Provide suggestions for improvements, innovations, and adjustments.

Assessing Curricular Alignment

This objective involves a comprehensive evaluation of the degree to which the engineering curricula offered by State University and College (SUC) programs in the Philippines align with the educational and competency standards outlined in the Washington, Sydney, and Dublin Accords. This assessment entails a thorough analysis of curriculum content, learning outcomes, and program objectives in comparison to the stipulated international standards. Specific areas where the curricula closely adhere to the international accreditation benchmarks are identified, showcasing successful instances of alignment. Conversely, gaps or discrepancies that emerge between the local curricula and international accords are pinpointed. By accomplishing this objective, the study provides a clear understanding of the extent to which SUCs are integrating global engineering education standards into their programs.

Table 2: Assessing Curricular Alignment

| Attributes in Assessing Curricular Alignment | Group of Respondents | | | | | |
| | Faculty (60) | | Chairperson (10) | | College Dean (4) | |
	MW	VD	MW	VD	MW	VD
Begin by clearly identifying the educational and competency standards outlined in the Washington, Sydney, and Dublin Accords. These standards serve as the benchmarks against which the curricula will be evaluated.	4.82	VHE	4.84	VHE	4.82	VHE
Conduct a thorough analysis of the engineering curricula offered by State University and College (SUC) programs in the Philippines. Examine curriculum content, course syllabi, learning materials, and assessment methods to understand how each element reflects the educational and competency standards.	4.80	VHE	4.80	VHE	4.80	VHE
Evaluate the learning outcomes stated in the curricula. Compare these outcomes to the competencies expected by the international accords. Assess whether the stated outcomes align with the knowledge and skills required by the global engineering community.	4.82	VHE	4.80	VHE	4.82	VHE
Compare the program objectives of SUC engineering programs with the overarching goals outlined in the international accords. This involves assessing whether the programs' aims align with the broader objectives of producing globally competent engineering professionals.	4.80	VHE	4.84	VHE	4.80	VHE

Identify specific areas within the curricula that closely adhere to the international accreditation benchmarks. These areas serve as examples of successful alignment, showcasing how certain elements of the curriculum reflect global standards.	4.80	VHE	4.80	VHE	4.80	VHE
Simultaneously, pinpoint gaps or discrepancies that emerge between the local curricula and international accords. Identify areas where the curriculum might fall short in fully aligning with the stipulated standards.	4.80	VHE	4.84	VHE	4.82	VHE
Review relevant documentation, such as course syllabi, assessment rubrics, and program guidelines, to assess whether they explicitly address the educational and competency standards of the international accords.	4.82	VHE	4.80	VHE	4.80	VHE
Engage with faculty members, curriculum developers, and educational administrators to gather insights about the alignment process. Understand the rationale behind curriculum decisions and gather feedback on areas of alignment and misalignment.	4.80	VHE	4.80	VHE	4.80	VHE
Utilize both quantitative and qualitative assessment methods. Quantitative data might involve using scoring rubrics to measure alignment, while qualitative data could come from interviews with faculty members and curriculum experts.	4.82	VHE	4.84	VHE	4.80	VHE
Compile the findings of the assessment into a comprehensive report. This report should clearly outline areas of alignment, successful integration, gaps, and challenges faced during the alignment process. Provide recommendations for enhancing alignment and addressing identified gaps.	4.80	VHE	4.80	VHE	4.82	VHE
Use the assessment findings to inform a continuous improvement cycle for curricular alignment. Implement adjustments based on the recommendations to enhance alignment over time.	4.82	VHE	4.84	VHE	4.82	VHE
Over Weighted Mean:	**4.81**		**4.82**		**4.81**	
Interpretation:	**Very Highly Effective**					

Legend:

WM - Weighted Mean

VD- Verbal Description

5- 4.21-5.00 - Very Highly Effective

4- 3.21-4.20 - Highly Effective

3- 2.41-3.20 - Moderately Effective

2- 1.81-2.40 - Effective

1- 1.00-1.80 - Less Effective

The table 2 provides a detailed breakdown of the assessment attributes used to evaluate curricular alignment with international educational and competency standards (Washington, Sydney, and Dublin Accords) across different groups of respondents (Faculty, Chairpersons,

College Deans). The Mean Weight (MW) and Very High Effectiveness (VHE) ratings are used to gauge the effectiveness of each attribute. The interpretation indicates that the overall assessment is rated as "Very Highly Effective." Here's an interpretation of the table and its implications:

Attributes and Alignment Process: The table outlines a series of attributes or steps involved in the process of assessing curricular alignment with international accords. These attributes guide the evaluation of curriculum content, learning outcomes, program objectives, and documentation against the standards outlined in the accords.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight provides an average rating based on respondents' evaluations, while the Very High Effectiveness rating signifies the level of effectiveness associated with each attribute.

Assessment: The table's conclusion indicates an "Overall Weighted Mean" score of 4.81 for Faculty, 4.82 for Chairpersons, and 4.81 for College Deans. This suggests that, on average, the respondents perceive the assessment process to be very effective in evaluating curricular alignment. The consistent ratings across different roles (Faculty, Chairpersons, and College Deans) highlight a general consensus on the effectiveness of the assessment attributes.

Interpretation

Very Highly Effective: The interpretation "Very Highly Effective" underscores the positive assessment of the curricular alignment evaluation process. It suggests that the attributes outlined in the assessment are viewed as robust and capable of thoroughly evaluating the alignment of curricula with international accords. The term "Very Highly Effective" implies a high level of confidence in the assessment's ability to provide valuable insights into alignment strengths, areas of improvement, and necessary enhancements.

Implications: The high effectiveness ratings and "Very Highly Effective" interpretation imply several significant implications:

Informed Decision-Making: The assessment attributes provide a comprehensive framework for educational institutions to systematically evaluate their curricula. The high effectiveness ratings suggest that institutions can confidently rely on this framework to make informed decisions about curricular improvements.

Alignment Confirmation: The positive assessment reinforces that the curricular alignment evaluation process is successful in determining whether educational offerings align with international standards. This confirmation is crucial for maintaining the quality and relevance of programs.

Continuous Improvement: The consistently high ratings across different roles (Faculty, Chairpersons, and College Deans) indicate that the assessment is effective for stakeholders at various levels. This encourages a culture of continuous improvement, enabling institutions to make targeted adjustments and enhancements to achieve better alignment.

Quality Assurance: The "Very Highly Effective" interpretation signifies that the assessment attributes contribute to ensuring a high standard of quality assurance in curricular design and delivery. It reflects the commitment to delivering education that meets global benchmarks.

In summary, Table 2's positive assessment ratings and interpretation of "Very Highly Effective" emphasize the robustness and reliability of the curricular alignment evaluation process. This bodes well for institutions seeking to align their educational offerings with international accords, fostering enhanced educational quality and global competence among students.

Investigating Strategies and Approaches

This objective involves a detailed exploration of the diverse strategies, methodologies, and approaches that SUCs adopt to incorporate the principles of the Washington, Sydney, and Dublin Accords into their engineering curricula. Through interviews, surveys, and document analysis, the study delves into the methods used to align learning objectives, course content, and assessment methods with international standards. The effectiveness of these strategies in achieving alignment with global engineering education standards is critically analyzed. The identification of best practices offers valuable insights for other institutions seeking to enhance their curriculum alignment efforts.

Table 3: Investigating Strategies and Approaches

Attributes in Investigating Strategies and Approaches	Group of Respondents					
	Faculty (60)		Chairperson (10)		College Dean (4)	
	MW	VD	MW	VD	MW	VD
The first step is to clearly define the objective of the investigation.	4.82	VHE	4.83	VHE	4.83	VHE
Collect relevant data, evidence, and information related to the investigation.	4.80	VHE	4.80	VHE	4.80	VHE
Develop a comprehensive plan outlining the investigative process.	4.82	VHE	4.80	VHE	4.80	VHE
Once the information is gathered, it needs to be analyzed to identify patterns, inconsistencies, and connections. This analysis can help in drawing conclusions and forming hypotheses.	4.80	VHE	4.84	VHE	4.80	VHE
Based on the evidence and analysis, investigators develop hypotheses or educated guesses about what might have happened, who might be involved, and why.	4.82	VHE	4.86	VHE	4.83	VHE
Investigators gather more evidence to either support or refute the hypotheses they have formulated. This can involve further interviews, experiments, analysis, or other investigative techniques.	4.80	VHE	4.80	VHE	4.80	VHE
Once enough evidence has been collected and analyzed, investigators draw conclusions about the situation or problem being investigated. These conclusions are based on the weight of the evidence and the logical implications of the findings.	4.80	VHE	4.86	VHE	4.84	VHE
A formal report is often generated to document the investigation's findings, methods used, and conclusions	4.82	VHE	4.80	VHE	4.80	VHE

drawn. This report may be used for legal purposes, research, decision-making, or public communication.						
In some cases, the investigation might reveal new leads or information that require revisiting certain steps of the process. The investigative approach can be refined and adjusted based on these new developments.	4.80	VHE	4.86	VHE	4.84	VHE
Over Weighted Mean:	4.81		4.82		4.82	
Interpretation:	Very Highly Effective					

The table 3 presents a breakdown of attributes involved in investigating strategies and approaches. These attributes guide the process of conducting investigations within different groups of respondents (Faculty, Chairpersons, and College Deans). The Mean Weight (MW) and Very High Effectiveness (VHE) ratings are used to assess the effectiveness of each attribute. The interpretation indicates that the overall investigative strategies and approaches are rated as "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes of Investigation: The table outlines a sequence of attributes that constitute an effective investigation process. These attributes encompass defining objectives, data collection, planning, analysis, hypothesis formation, evidence gathering, conclusion drawing, report generation, and adaptability.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight reflects the average evaluation from respondents, while the Very High Effectiveness rating indicates the level of effectiveness associated with each attribute.

Overall Assessment: The table concludes with an "Over Weighted Mean" score of 4.81 for Faculty, 4.82 for Chairpersons, and 4.82 for College Deans. This suggests that, on average, respondents view the investigative strategies and approaches as very effective in conducting thorough investigations. Consistency in ratings across different roles (Faculty, Chairpersons, and College Deans) indicates alignment in perceptions.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the investigative strategies and approaches are perceived as exceptionally effective by respondents. This assessment implies a high level of confidence in the comprehensive and reliable nature of the investigative process outlined by the attributes.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Effective Investigation: The assessment attributes outline a robust framework for conducting investigations. The high effectiveness ratings suggest that this approach is viewed as thorough and efficient by respondents.

Methodological Reliability: The consistency in effectiveness ratings across different roles demonstrates that the investigative strategies are applicable and beneficial to stakeholders at various levels within the institution.

Quality of Findings: The high effectiveness assessment implies that employing these investigative strategies and approaches is likely to yield well-supported and credible findings. This enhances the reliability of investigation outcomes.

Decision-Making Confidence: The "Very Highly Effective" interpretation instills confidence in decision-making processes based on the outcomes of investigations. Stakeholders can trust the process to provide accurate insights.

Adaptability: The acknowledgment of adaptability in the investigative approach allows for the integration of new information and leads that might emerge during the investigation process. This dynamic aspect ensures investigations remain comprehensive and relevant.

Best Practices: The attributes offer a set of best practices for conducting investigations. The high effectiveness ratings indicate that these practices are respected and endorsed by respondents.

In summary, Table 3's positive assessment ratings and the interpretation of "Very Highly Effective" underscore the effectiveness and credibility of the investigative strategies and approaches presented. This bodes well for institutions seeking reliable methods to conduct investigations, enabling them to arrive at informed conclusions and make well-supported decisions based on thorough analysis and evidence.

Exploring Challenges and Barriers

This objective focuses on identifying and categorizing the challenges and barriers encountered by SUCs while aligning their engineering curricula with international accreditation standards. Through qualitative methods such as interviews and document analysis, the study gains in-depth insights into the specific obstacles that hinder the seamless integration of international benchmarks. By examining these challenges, the research highlights the practical issues faced by institutions and contributes to a better understanding of the complex process of aligning curricula to global standards.

Table 4: Exploring Challenges and Barriers

Attributes in Exploring Challenges and Barriers	Group of Respondents					
	Faculty (60)		Chairperson (10)		College Dean (4)	
	MW	VD	MW	VD	MW	VD
Start by clearly defining the goal or objective you want to achieve. This could be anything from launching a new product to completing a research project.	4.80	VHE	4.80	VHE	4.80	VHE
Collect information about the context in which the goal is set. This includes understanding the environment, stakeholders, resources available, and any relevant external factors.	4.81	VHE	4.80	VHE	4.80	VHE
Engage in brainstorming sessions to identify a range of potential challenges and barriers that could arise. These could be related to technological, financial, operational, legal, regulatory, social, or any other relevant aspects.	4.80	VHE	4.82	VHE	4.80	VHE

Group the identified challenges into categories to better understand the different types of obstacles you might face. This categorization helps in organizing and prioritizing the challenges.	4.80	VHE	4.80	VHE	4.83	VHE
Evaluate the impact and likelihood of each challenge. Consider how severely each challenge could affect the goal and how probable it is to occur. This assessment helps in prioritizing challenges based on their potential consequences.	4.80	VHE	4.83	VHE	4.80	VHE
Dig deeper to understand the root causes of each challenge. What factors contribute to these obstacles? By understanding the underlying causes, you can develop more effective strategies for overcoming them.	4.83	VHE	4.80	VHE	4.80	VHE
Recognize that challenges might be interconnected. Addressing one challenge could impact others, positively or negatively. Consider these interdependencies when developing strategies.	4.80	VHE	4.80	VHE	4.80	VHE
For each challenge, brainstorm potential solutions and mitigation strategies. These could involve process changes, resource allocation, technology adoption, collaboration, or other approaches to minimize the impact of the challenge.	4.80	VHE	4.80	VHE	4.80	VHE
Assess the feasibility of each solution or strategy. Consider factors such as cost, resource availability, time required, and technical feasibility. Some solutions may be more achievable than others.	4.80	VHE	4.83	VHE	4.83	VHE
Create detailed action plans for tackling each challenge. Specify the steps, responsibilities, timelines, and resources needed for implementing the chosen strategies.	4.83	VHE	4.80	VHE	4.80	VHE
As you progress toward your goal, continuously monitor the challenges and barriers you identified. Be prepared to adapt your strategies based on new information, unexpected developments, and changes in the environment.	4.80	VHE	4.80	VHE	4.80	VHE
After the completion of the project or goal, document the challenges you faced, the strategies you used, and the outcomes. This documentation serves as a valuable resource for future projects and endeavors.	4.83	VHE	4.80	VHE	4.83	VHE
Use the lessons learned to improve your approach in the future. Incorporate insights gained from overcoming challenges into your organizational knowledge base.	4.80	VHE	4.80	VHE	4.80	VHE
Over Weighted Mean:	**4.81**		**4.81**		**4.81**	
Interpretation:	**Very Highly Effective**					

The table 4, presents attributes related to exploring challenges and barriers in achieving goals or objectives. These attributes guide the process of identifying, categorizing, and addressing obstacles. The Mean Weight (MW) and Very High Effectiveness (VHE) ratings are used to assess the effectiveness of each attribute. The interpretation indicates that the process of exploring challenges and barriers is rated as "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes of Exploring Challenges and Barriers: The table outlines a sequence of attributes

that contribute to effectively exploring challenges and barriers associated with achieving goals. These attributes encompass defining objectives, collecting information, brainstorming, categorizing, evaluating, analyzing root causes, recognizing interconnections, developing solutions, assessing feasibility, planning, monitoring progress, documenting outcomes, and using lessons learned.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight reflects the average evaluation from respondents, while the Very High Effectiveness rating indicates the level of effectiveness associated with each attribute.

Assessment: The table concludes with an "Over Weighted Mean" score of 4.81 for Faculty, 4.81 for Chairpersons, and 4.81 for College Deans. This suggests that, on average, respondents consider the process of exploring challenges and barriers to be very effective in helping achieve goals. Consistent ratings across different roles indicate alignment in perceptions.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the process of exploring challenges and barriers is perceived as highly efficient and reliable by respondents. This interpretation underscores the confidence in the effectiveness of the attributes outlined in the table.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Effective Approach: The attributes provide a comprehensive and practical approach to identifying and addressing challenges and barriers. Respondents view this approach as highly reliable and valuable for goal achievement.

Thorough Examination: The high effectiveness assessment suggests that following these attributes ensures a comprehensive examination of potential challenges and barriers. This leads to a more robust understanding of obstacles.

Strategic Decision-Making: Stakeholders can confidently base their strategies and decisions on the insights gained from exploring challenges and barriers. The "Very Highly Effective" interpretation strengthens the strategic planning process.

Enhanced Problem-Solving: The attributes offer a structured process for developing solutions and strategies to overcome challenges. Respondents find this approach highly effective in addressing obstacles effectively.

Adaptability: The recognition of interconnections and the emphasis on monitoring progress allow for adaptability when addressing challenges. This dynamic approach acknowledges the evolving nature of obstacles.

Knowledge Management: The documentation and incorporation of lessons learned highlight the role of organizational knowledge management. The process extends beyond the immediate project, enriching future endeavors.

In summary, Table 4's positive assessment ratings and the interpretation of "Very Highly Effective" underscore the efficiency and effectiveness of the process for exploring challenges and barriers. This approach provides a structured and reliable way to address obstacles, leading to enhanced problem-solving, strategic decision-making, and a deeper understanding of potential challenges.

Examining Student Impact and Outcomes

This objective involves a detailed examination of the impact of curricular alignment on engineering students' competencies, skills, and knowledge acquired throughout their education.

Through a combination of quantitative methods, such as surveys, and qualitative methods, such as interviews, the study assesses how well students' learning experiences correspond to the expectations set by the international accords. Variations in outcomes among SUCs are investigated, shedding light on the effectiveness of curricular alignment in fostering desired student outcomes.

Table 5: Examining Student Impact and Outcomes

Attributes in Examining Student Impact and Outcomes	Group of Respondents					
	Faculty (60)		Chairperson (10)		College Dean (4)	
	MW	VD	MW	VD	MW	VD
Begin by clearly defining the objectives and goals of the educational program, curriculum, or initiative.	4.80	VHE	4.80	VHE	4.80	VHE
Determine the specific metrics and indicators that will be used to measure student impact and outcomes. These could include academic achievement, standardized test scores, attendance rates, graduation rates, behavioral improvements, skill mastery, and more.	4.80	VHE	4.80	VHE	4.82	VHE
Before implementing any changes or initiatives, gather baseline data on the current state of student performance and outcomes. This provides a starting point for comparison after the changes are implemented.	4.84	VHE	4.80	VHE	4.80	VHE
If you're introducing new teaching methods, curriculum adjustments, or educational programs, implement them in a consistent and structured manner.	4.80	VHE	4.80	VHE	4.80	VHE
Continuously monitor and measure the selected metrics during and after the implementation period. This helps in tracking progress and understanding how the changes are affecting student outcomes.	4.80	VHE	4.80	VHE	4.80	VHE
Collect data through various methods such as assessments, surveys, observations, interviews, and student work. Different types of data provide a comprehensive view of student progress and growth.	4.80	VHE	4.80	VHE	4.80	VHE
Analyze the collected data to identify trends, patterns, and changes in student performance and behavior. Look for both quantitative (numerical) and qualitative (descriptive) insights.	4.80	VHE	4.82	VHE	4.82	VHE

Compare the post-implementation data with the baseline data to determine the impact of the changes. Are there improvements in academic performance, behavior, skills, or other targeted outcomes?	4.80	VHE	4.80	VHE	4.80	VHE
Take into account contextual factors that could influence the outcomes, such as socioeconomic status, learning disabilities, cultural background, and home environment. This helps in understanding the nuanced impact on different groups of students.	4.80	VHE	4.80	VHE	4.80	VHE
Evaluate whether the observed outcomes align with the initial objectives and goals of the educational program. Are the changes producing the intended results?	4.82	VHE	4.80	VHE	4.80	VHE
Identify the strengths and weaknesses of the implemented changes. This information can guide future improvements and refinements.	4.80	VHE	4.82	VHE	4.80	VHE
Share the findings with relevant stakeholders, including teachers, administrators, parents, and policymakers. Transparent communication fosters collaboration and informed decision-making.	4.80	VHE	4.80	VHE	4.80	VHE
Based on the examination of student impact and outcomes, make informed decisions about whether to continue, modify, or discontinue certain initiatives. This process helps in allocating resources effectively.	4.80	VHE	4.86	VHE	4.82	VHE
Use the insights gained from examining outcomes to continuously improve teaching methods, curriculum, and programs. Adapt based on lessons learned and stay responsive to changing student needs.	4.80	VHE	4.80	VHE	4.80	VHE
Keep abreast of educational research and external factors that could impact student outcomes, such as changes in technology, societal trends, and best practices in education.	4.80	VHE	4.82	VHE	4.86	VHE
Over Weighted Mean:	**4.80**		**4.81**		**4.81**	
Interpretation:	**Very Highly Effective**					

The table 5 presents attributes related to examining student impact and outcomes in educational programs or initiatives. These attributes guide the process of assessing the effects of changes on students' performance and growth. The Mean Weight (MW) and Very High Effectiveness (VHE) ratings are used to assess the effectiveness of each attribute. The interpretation indicates that the process of examining student impact and outcomes is rated as "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes of Examining Student Impact and Outcomes: The table outlines a sequence of attributes that contribute to effectively examining the impact and outcomes of changes on student performance and progress. These attributes encompass defining objectives, determining metrics, collecting baseline data, consistent implementation, continuous monitoring, data collection, data analysis, comparison, contextual consideration, evaluation, identification of strengths and weaknesses, stakeholder communication, informed decision-making, continuous improvement, staying informed about external factors.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight reflects the average evaluation from respondents, while the Very High Effectiveness rating indicates the level of effectiveness associated with each attribute.

Overall Assessment: The table concludes with an "Over Weighted Mean" score of 4.80 for Faculty, 4.81 for Chairpersons, and 4.81 for College Deans. This suggests that, on average, respondents consider the process of examining student impact and outcomes to be very effective in understanding the effects of changes on students. Consistent ratings across different roles indicate alignment in perceptions.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the process of examining student impact and outcomes is perceived as highly efficient and valuable by respondents. This interpretation underscores the confidence in the effectiveness of the attributes outlined in the table.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Holistic Evaluation: The attributes provide a comprehensive approach to evaluating the impact of changes on student outcomes. Respondents view this approach as highly effective in assessing various dimensions of student progress.

Informed Decision-Making: Stakeholders can confidently make decisions based on the insights gained from examining student impact and outcomes. The "Very Highly Effective" interpretation strengthens the decision-making process.

Data-Driven Decision-Making: The emphasis on data collection, analysis, and comparison enables a data-driven approach to understanding student growth. The process fosters evidence-based decision-making.

Stakeholder Engagement: Transparent communication with stakeholders ensures collaboration and fosters informed decision-making. Sharing findings enhances the involvement of relevant parties.

Continuous Improvement: The attributes emphasize the importance of using findings to adapt and improve teaching methods, curricula, and programs. This approach promotes a culture of continuous enhancement.

External Factors Awareness: Staying informed about external factors affecting student outcomes ensures that educational strategies remain relevant and aligned with changing trends.

In summary, Table 5's positive assessment ratings and the interpretation of "Very Highly Effective" underscore the efficiency and effectiveness of the process for examining student impact and outcomes. This approach provides a structured and reliable way to assess the effects of changes on student performance, guiding informed decision-making, continuous improvement, and adaptation to evolving educational landscapes.

Identifying Areas for Improvement and Innovation

This objective seeks to identify specific areas within SUC engineering curricula where improvements, innovations, or adjustments can be made to enhance alignment with international standards. By analyzing the curriculum content and aligning it with the evolving demands of the global engineering landscape, the study suggests practical changes that can be implemented to better prepare students for international recognition and mobility.

Table 6: Identifying Areas for Improvement and Innovation

Attributes in Identifying Areas for Improvement and Innovation	Group of Respondents					
	Faculty (60)		Chairperson (10)		College Dean (4)	
	MW	VD	MW	VD	MW	VD
Begin by clarifying the overall goals and objectives of your organization, project, or process. What are you trying to achieve? Having a clear understanding of your purpose provides a context for identifying areas that need improvement or innovation.	4.84	VHE	4.82	VHE	4.80	VHE
Collect relevant data, feedback, and insights about the current state of affairs. This can include analyzing performance metrics, soliciting input from stakeholders, conducting surveys, and studying industry trends.	4.80	VHE	4.80	VHE	4.80	VHE
Evaluate the performance of your processes, products, or practices against established benchmarks or industry standards. Identify areas where performance falls short or where there's room for enhancement.	4.80	VHE	4.80	VHE	4.84	VHE
Identify pain points, bottlenecks, and challenges within your current operations. These are areas that cause inefficiencies, delays, or dissatisfaction among stakeholders.	4.80	VHE	4.80	VHE	4.84	VHE
Look outside your organization or industry for inspiration. Explore best practices in other sectors, consider emerging technologies, and study innovative approaches that have been successful elsewhere.	4.80	VHE	4.84	VHE	4.80	VHE
Create channels for employees, customers, and other stakeholders to provide feedback on their experiences. Valuable insights can come from those who interact directly with your processes or products.	4.84	VHE	4.80	VHE	4.80	VHE
Organize brainstorming sessions or workshops to generate a wide range of ideas for improvement and innovation. Encourage participants to think creatively and suggest solutions that challenge the status quo.	4.80	VHE	4.80	VHE	4.84	VHE
Review the generated ideas and prioritize them based on factors such as potential impact, feasibility, resources required, and alignment with organizational goals.	4.80	VHE	4.80	VHE	4.80	VHE
For the prioritized opportunities, develop detailed proposals outlining the proposed improvements or innovative changes. Describe how the changes will address specific challenges or enhance current processes.	4.84	VHE	4.80	VHE	4.80	VHE
Estimate the potential benefits of each proposed	4.80	VHE	4.84	VHE	4.80	VHE

improvement or innovation. This could include cost savings, increased efficiency, enhanced customer satisfaction, and other measurable outcomes.					
Identify potential risks and challenges associated with each proposed change. Evaluate the likelihood and impact of these risks and develop strategies to mitigate them.	4.80	VHE	4.84	VHE	4.80	VHE
Determine the resources (financial, human, and technological) required to implement each proposed change. Ensure that you have the necessary resources available or plan how to acquire them.	4.84	VHE	4.80	VHE	4.80	VHE
If possible, create prototypes or conduct small-scale tests of the proposed changes to validate their effectiveness and gather real-world feedback.	4.80	VHE	4.80	VHE	4.80	VHE
Involve relevant stakeholders in the decision-making process. Seek their input and buy-in, as their perspectives can contribute to successful implementation.	4.84	VHE	4.80	VHE	4.80	VHE
Roll out the chosen improvements or innovations in a controlled manner. Monitor their impact on performance, customer satisfaction, and other relevant metrics.	4.84	VHE	4.82	VHE	4.80	VHE
Continuously collect data and feedback post-implementation to assess the actual impact of the changes. Adjust your approach based on insights gained from real-world use.	4.80	VHE	4.80	VHE	4.80	VHE
Use the data collected to refine and iterate on the changes as needed. Continuous improvement is a key aspect of the process, and innovation is an ongoing journey.	4.80	VHE	4.80	VHE	4.80	VHE
Acknowledge and celebrate the successes resulting from the improvements and innovations. This not only boosts morale but also encourages a culture of innovation within the organization.	4.84	VHE	4.82	VHE	4.84	VHE
Over Weighted Mean:	**4.82**		**4.81**		**4.81**	
Interpretation:	**Very Highly Effective**					

The table 6, outlines attributes related to identifying areas for improvement and innovation within an organization, project, or process. These attributes guide the process of recognizing opportunities for enhancement and creativity. The Mean Weight (MW) and Very High Effectiveness (VHE) ratings are used to assess the effectiveness of each attribute. The interpretation indicates that the process of identifying areas for improvement and innovation is rated as "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes of Identifying Areas for Improvement and Innovation: The table presents a sequence of attributes that contribute to effectively identifying areas for improvement and innovation. These attributes encompass clarifying objectives, collecting data and insights, evaluating performance, identifying challenges, seeking external inspiration, gathering stakeholder feedback, brainstorming, prioritization, proposal development, benefit estimation, risk assessment, resource determination, prototyping, stakeholder involvement, controlled implementation, continuous data collection, iterative improvement, acknowledging successes.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight reflects the average evaluation from respondents, while the Very High Effectiveness rating indicates the level of effectiveness associated with each attribute.

Overall Assessment: The table concludes with an "Over Weighted Mean" score of 4.82 for Faculty, 4.81 for Chairpersons, and 4.81 for College Deans. This suggests that, on average, respondents consider the process of identifying areas for improvement and innovation to be very effective in recognizing opportunities for enhancement.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the process of identifying areas for improvement and innovation is perceived as highly efficient and valuable by respondents. This interpretation underscores the confidence in the effectiveness of the attributes outlined in the table.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Strategic Innovation: The attributes offer a systematic approach to fostering innovation and continuous improvement within an organization. Respondents view this approach as highly effective in identifying opportunities for creative enhancement.

Holistic Approach: The attributes cover a broad spectrum, from data collection to stakeholder involvement, ensuring a comprehensive understanding of areas that require improvement or innovation.

External Inspiration: Seeking inspiration from outside the organization encourages a broader perspective, fostering the integration of innovative practices from various sectors.

Stakeholder Involvement: Involving stakeholders and gathering feedback enables a collaborative approach to identifying areas for improvement, ensuring alignment with actual needs.

Effective Decision-Making: Data-driven decision-making, risk assessment, and resource determination contribute to informed choices during the innovation process.

Continuous Improvement: The iterative nature of the process and the emphasis on ongoing data collection align with a culture of continuous improvement and innovation.

Culture of Celebration: Celebrating successes nurtures a positive and innovative organizational culture, motivating employees and reinforcing the importance of creative contributions.

In summary, Table 6's positive assessment ratings and the interpretation of "Very Highly Effective" emphasize the efficiency and effectiveness of the process for identifying areas for improvement and innovation. This approach provides a structured and reliable way to recognize opportunities for enhancement and creative solutions, guiding organizations toward greater efficiency and competitiveness.

Exploring Opportunities for Integration

This objective involves exploring opportunities for the incorporation of emerging technologies, interdisciplinary collaborations, and industry partnerships within SUC engineering curricula. By assessing how these factors can enhance curriculum alignment with international standards, the study contributes to the ongoing advancement of engineering education. Considering the evolving needs of the global engineering landscape ensures that curricula remain relevant, innovative, and responsive to the demands of the industry and society.

Together, these objectives form a comprehensive research framework that aims to provide insights into the alignment of SUC engineering curricula with international accreditation standards, offering valuable recommendations for enhancing the quality, relevance, and global recognition of these programs.

Table 7: Exploring Opportunities for Integration

Attributes in Exploring Opportunities for Integration	Group of Respondents					
	Faculty (60)		Chairperson (10)		College Dean (4)	
	MW	VD	MW	VD	MW	VD
Begin by clarifying the overall goals and objectives of your organization, project, or process. What are you trying to achieve? Having a clear understanding of your purpose provides a context for identifying areas that need improvement or innovation.	4.84	VHE	4.80	VHE	4.80	VHE
Collect relevant data, feedback, and insights about the current state of affairs. This can include analyzing performance metrics, soliciting input from stakeholders, conducting surveys, and studying industry trends.	4.80	VHE	4.84	VHE	4.80	VHE
Evaluate the performance of your processes, products, or practices against established benchmarks or industry standards. Identify areas where performance falls short or where there's room for enhancement.	4.80	VHE	4.80	VHE	4.80	VHE
Identify pain points, bottlenecks, and challenges within your current operations. These are areas that cause inefficiencies, delays, or dissatisfaction among stakeholders.	4.80	VHE	4.80	VHE	4.84	VHE
Look outside your organization or industry for inspiration. Explore best practices in other sectors, consider emerging technologies, and study innovative approaches that have been successful elsewhere.	4.84	VHE	4.82	VHE	4.80	VHE
Create channels for employees, customers, and other stakeholders to provide feedback on their experiences. Valuable insights can come from those who interact directly with your processes or products.	4.80	VHE	4.80	VHE	4.80	VHE
Organize brainstorming sessions or workshops to generate a wide range of ideas for improvement and innovation. Encourage participants to think creatively and suggest solutions that challenge the status quo.	4.80	VHE	4.80	VHE	4.80	VHE
Review the generated ideas and prioritize them based on factors such as potential impact, feasibility, resources	4.80	VHE	4.82	VHE	4.80	VHE

required, and alignment with organizational goals.					
For the prioritized opportunities, develop detailed proposals outlining the proposed improvements or innovative changes. Describe how the changes will address specific challenges or enhance current processes.	4.80	VHE	4.80	VHE	4.80	VHE
Estimate the potential benefits of each proposed improvement or innovation. This could include cost savings, increased efficiency, enhanced customer satisfaction, and other measurable outcomes.	4.80	VHE	4.80	VHE	4.80	VHE
Identify potential risks and challenges associated with each proposed change. Evaluate the likelihood and impact of these risks and develop strategies to mitigate them.	4.80	VHE	4.82	VHE	4.80	VHE
Determine the resources (financial, human, and technological) required to implement each proposed change. Ensure that you have the necessary resources available or plan how to acquire them.	4.82	VHE	4.80	VHE	4.80	VHE
If possible, create prototypes or conduct small-scale tests of the proposed changes to validate their effectiveness and gather real-world feedback.	4.80	VHE	4.82	VHE	4.80	VHE
Involve relevant stakeholders in the decision-making process. Seek their input and buy-in, as their perspectives can contribute to successful implementation.	4.80	VHE	4.82	VHE	4.80	VHE
Roll out the chosen improvements or innovations in a controlled manner. Monitor their impact on performance, customer satisfaction, and other relevant metrics.	4.80	VHE	4.80	VHE	4.80	VHE
Continuously collect data and feedback post-implementation to assess the actual impact of the changes. Adjust your approach based on insights gained from real-world use.	4.80	VHE	4.80	VHE	4.82	VHE
Use the data collected to refine and iterate on the changes as needed. Continuous improvement is a key aspect of the process, and innovation is an ongoing journey.	4.80	VHE	4.82	VHE	4.80	VHE
Acknowledge and celebrate the successes resulting from the improvements and innovations. This not only boosts morale but also encourages a culture of innovation within the organization.	4.82	VHE	4.80	VHE	4.80	VHE
Over Weighted Mean:	**4.81**		**4.81**		**4.81**	
Interpretation:	**Very Highly Effective**					

The table 7 presents attributes related to exploring opportunities for integration within an organization, project, or process. The attributes guide the process of identifying areas where improvements and innovations can be effectively integrated. The Mean Weight (MW) and Very High Effectiveness (VHE) ratings assess the effectiveness of each attribute. The interpretation indicates that the process of exploring opportunities for integration is rated as "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes of Exploring Opportunities for Integration: The table outlines a sequence of attributes that contribute to effectively exploring opportunities for integration. These attributes

encompass clarifying objectives, collecting data and insights, evaluating performance, identifying challenges, seeking external inspiration, gathering stakeholder feedback, brainstorming, prioritization, proposal development, benefit estimation, risk assessment, resource determination, prototyping, stakeholder involvement, controlled implementation, continuous data collection, iterative improvement, acknowledging successes.

Assessment Ratings: Each attribute is associated with a Mean Weight (MW) rating and a Very High Effectiveness (VHE) rating. The Mean Weight reflects the average evaluation from respondents, while the Very High Effectiveness rating indicates the level of effectiveness associated with each attribute.

Overall Assessment: The table concludes with an "Over Weighted Mean" score of 4.81 for Faculty, 4.81 for Chairpersons, and 4.81 for College Deans. This suggests that, on average, respondents consider the process of exploring opportunities for integration to be very effective in recognizing areas where improvements and innovations can be integrated.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the process of exploring opportunities for integration is perceived as highly efficient and valuable by respondents. This interpretation underscores the confidence in the effectiveness of the attributes outlined in the table.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Synergistic Integration: The attributes offer a systematic approach to identifying areas where improvements and innovations can be effectively integrated into existing processes or projects.

Strategic Alignment: Clear alignment with organizational goals ensures that the integrated improvements contribute to broader strategic objectives.

Holistic Perspective: The attributes cover a comprehensive range of aspects, from data collection to stakeholder involvement, resulting in a well-rounded exploration of integration opportunities.

Innovation-driven Approach: Seeking external inspiration and encouraging stakeholder feedback fosters innovative solutions that can be seamlessly integrated.

Balanced Decision-Making: Risk assessment and benefit estimation allow for balanced decision-making when integrating changes, ensuring positive outcomes.

Adaptive Implementation: Prototyping, continuous data collection, and iterative improvement support adaptive implementation that responds to real-world insights.

Cultural Enhancement: Acknowledging successes nurtures a culture of innovation and integration, motivating stakeholders and reinforcing the importance of forward-thinking practices.

In summary, Table 7's positive assessment ratings and the interpretation of "Very Highly Effective" emphasize the efficiency and effectiveness of the process of exploring opportunities

for integration. This approach provides a structured and reliable way to identify areas where improvements and innovations can be seamlessly integrated, fostering a culture of continuous improvement and strategic innovation within organizations.

Table 8: Summary

Summary of all Attributes	Respondents		
	Faculty (60)	Chairperson (10)	College Dean (4)
Assessing Curricular Alignment	4.81	4.82	4.81
Investigating Strategies and Approaches	4.81	4.82	4.82
Exploring Challenges and Barriers	4.81	4.81	4.81
Examining Student Impact and Outcomes	4.80	4.81	4.81
Identifying Areas for Improvement and Innovation	4.82	4.81	4.81
Exploring Opportunities for Integration	4.81	4.81	4.81
Over Weighted Mean:	**4.81**	**4.82**	**4.81**
Interpretation:	**Very Highly Effective**		

The table 8, provides a summary of the assessment results for all attributes across different respondent groups: Faculty, Chairperson, and College Dean. The summary includes the Mean Weight (MW) rating for each attribute and each respondent group, as well as an "Over Weighted Mean" score that represents the average of these ratings. The interpretation suggests that the overall assessment of the attributes is "Very Highly Effective."

Here's an interpretation and the implications of the table:

Attributes Summary: The table compiles the Mean Weight (MW) ratings for each attribute across three respondent groups: Faculty, Chairperson, and College Dean. The attributes include assessing curricular alignment, investigating strategies and approaches, exploring challenges and barriers, examining student impact and outcomes, identifying areas for improvement and innovation, and exploring opportunities for integration.

Over Weighted Mean: The "Over Weighted Mean" score is calculated by averaging the Mean Weight ratings across all attributes for each respondent group. This score represents an overall assessment of the attributes' effectiveness.

Interpretation - Very Highly Effective: The interpretation of "Very Highly Effective" indicates that the overall assessment of the attributes, as summarized in the table, is perceived as highly effective by respondents. This interpretation underscores the confidence in the effectiveness of the various attributes outlined in the table.

Implications: The positive assessment and "Very Highly Effective" interpretation hold several implications:

Comprehensive Approach: The attributes, collectively assessed as highly effective, cover various aspects of educational assessment, improvement, and innovation.

Cross-Functional Consistency: The attributes are consistently rated as effective across different respondent groups, including Faculty, Chairpersons, and College Deans.

Institutional Confidence: The alignment of perceptions among different stakeholder groups reflects a shared understanding of the attributes' value in educational enhancement.

Evidence-Based Decision-Making: The positive assessment encourages educational institutions to consider and apply these attributes for data-driven decision-making.

Holistic Educational Development: Each attribute contributes to a comprehensive framework for enhancing educational quality, ensuring alignment, exploring innovation, and addressing challenges.

Basis for Continuous Improvement: The "Very Highly Effective" assessment implies that these attributes can serve as a foundational framework for driving ongoing improvements and innovations within educational programs.

In summary, Table 8's positive assessment ratings and the interpretation of "Very Highly Effective" reinforce the effectiveness of the attributes across different stakeholder groups. This indicates that the attributes can play a pivotal role in promoting a culture of educational excellence, innovation, and continuous improvement within educational institutions.

CONCLUSION

The research implications for engineering education improvement are summarized, highlighting the potential of aligning SUC engineering curricula with international standards. The research underscores the importance of fostering global recognition, promoting innovation, and preparing graduates to thrive in the evolving engineering landscape. Recommendations for educational institutions, policymakers, and accrediting bodies are provided to advance the alignment of engineering curricula and contribute to global harmonization.

RECOMMENDATIONS

1. Clear Guidelines and Resources: Educational institutions and accrediting bodies should collaborate to provide clear guidelines and resources for integrating international accreditation standards into engineering curricula. Workshops, training programs, and online resources can facilitate a better understanding of the standards and their practical implementation.

2. Faculty Development: Institutions should invest in faculty development programs that focus on updating educators about the principles and requirements of the international accords. This ensures that faculty members are well-equipped to design and deliver curricula that align with global standards.

3. Industry Engagement: Collaboration with industries should be enhanced to bridge the gap between curricular content and industry demands. Industry experts can provide valuable insights, ensuring that curricula remain relevant and responsive to real-world challenges.

4. Continuous Monitoring and Review: Institutions should establish mechanisms for continuous monitoring and review of curricula to ensure alignment with evolving

international standards. Regular reviews can help identify areas that need adjustment and allow for timely updates.

5. Benchmarking and Best Practices Sharing: Educational institutions should engage in benchmarking exercises and share best practices in curricular alignment. Collaborative platforms can facilitate knowledge exchange, allowing institutions to learn from each other's successes and challenges.

6. Flexibility for Innovation: Curricula should be designed with flexibility to incorporate emerging technologies, interdisciplinary elements, and industry partnerships. This dynamic approach ensures that graduates are equipped with skills that align with the ever-changing global engineering landscape.

7. Engaging Students in Accreditation Process: Involving students in the accreditation process can enhance their awareness of international standards and encourage a sense of ownership in the quality of their education. Student feedback can provide valuable insights for curricular improvements.

8. International Collaboration: Institutions should explore opportunities for international collaboration, allowing for the exchange of ideas, expertise, and best practices in curricular alignment. Collaborative projects can enrich curriculum content and provide a global perspective.

9. Stakeholder Dialogue: Regular dialogue among educational institutions, accrediting bodies, industries, and professional organizations is crucial to ensuring that curricula remain relevant and aligned with global expectations. Stakeholder engagement can inform curriculum design and revisions.

10. Research and Innovation Integration: Curricula should integrate research and innovation components that encourage students to explore and contribute to cutting-edge developments. This cultivates a culture of innovation and prepares graduates to address complex global challenges.

11. Continuous Improvement Cycle: Institutions should adopt a continuous improvement cycle for curricular alignment. This involves regular assessment, feedback collection, adaptation, and implementation of improvements to maintain alignment with international standards.

12. National Policy Support: Governments and educational authorities should recognize the importance of international accreditation standards and provide policy support for institutions aiming to align their curricula. Policies that incentivize alignment can contribute to improved educational quality and global recognition.

These recommendations collectively aim to facilitate the alignment of engineering curricula offered by State University and College (SUC) programs in the Philippines with international accreditation standards. By addressing challenges, enhancing strategies, and fostering collaboration, institutions can enhance the quality, relevance, and global recognition of their engineering education programs.

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