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Ensuring Quality Education: Compliance to International Organization for Standardization (ISO) 9001:2015 Certification Standards of State Universities Offering Physical Education Programs.

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ABSTRACT

This study examines the extent of compliance of State Universities in the Bicol Region with International Organization for Standardization (ISO) 9001:2015 certification standards, focusing on institutions that offer PE programs. Specifically, it evaluates compliance across four dimensions—planning, implementation, performance evaluation, and continuous improvement— while assessing the perceived quality of education in terms of teacher quality and student engagement. Employing a descriptive comparative-correlational research design, both quantitative and qualitative data were collected through structured surveys and validated tools based on ISO indicators. Purposive sampling targeted experienced PE instructors in ISO-certified institutions, and results were analyzed using descriptive and inferential statistics. Findings reveal strong compliance in planning and improvement dimensions, with slightly lower but still positive ratings in implementation and performance evaluation, particularly in areas like risk-based thinking and stakeholder involvement. Teacher quality and student engagement were rated as excellent, with ISO certification contributing significantly to improved teaching practices and structured learning environments. The study concludes that while ISO 9001:2015 enhances the quality and effectiveness of PE programs, its long-term success relies on targeted interventions including leadership commitment, comprehensive training, and inclusive quality management systems. The research recommends a developmental plan to strengthen compliance, elevate educational outcomes, and embed a culture of continuous improvement in PE programs across Bicol's state universities, ultimately aligning global quality standards with local educational realities.

Keywords: Compliance, Quality Education, International Organization for Standardization (ISO) 9001:2015 Certification Standards, Physical Education Program, State Universities, Bicol Region

Introduction

ISO 9001:2015 certification is a globally recognized standard for quality management systems that outlines criteria for organizations to demonstrate their ability to consistently provide products and services that meet customer and regulatory requirements. In educational institutions worldwide, achieving ISO 9001:2015 certification signifies a commitment to excellence, continuous improvement, and adherence to internationally recognized quality standards. It evaluates and certifies processes related to teaching and student learning to ensure quality in educational institutions particularly for universities as stated in the article of Q Alliance (2021).

The principles applicable to the education sector in implementing the ISO standard include a focus on management and evaluation of human talent, promotion of effective communication and information, training as a foundation for change, a process-based management approach, prevention as the basis of educational management, and promotion of a culture based on continuous improvement, as well as satisfying the needs and expectations of students and parents (Q Alliance. (n.d.). By aligning with international quality standards, educational institutions can enhance their reputation, attract students and faculty, and foster a culture of continuous improvement and innovation. These advantages include adopting a strategic approach towards measurement and management in quality care delivery, as well as the identification of its key priorities for enhancement.

Accreditation is a sign of an institution's dedication to providing high-quality education that satisfies international standards and acts as a beacon of quality assurance as it helps educational institutions navigate the complexity of today's educational scene. An international standard that addresses quality management systems is ISO 9001:2015. It offers a framework that organizations can use to set up practices that guarantee and consistently meet clientele's requirements and raise their levels of satisfaction. Similar to this, accrediting organizations like the Commission on Higher Education (CHED), the Accrediting Agency of Chartered Colleges and Universities of the Philippines (AACUP), the Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU), and the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) also work to evaluate and guarantee the competence of educational institutions and programs. To show their dedication to providing quality education, schools must adhere to the norms and requirements they set.

Specialized standards offered by international organizations such as ISO are a group of management tools that state universities can adopt and implement to improve their management performance (2024). The Philippine Accreditation Bureau (PAB), formerly the Philippine Accreditation Office, is the national accreditation body of the Philippines, mandated to accredit inspection, testing and certifying bodies, and other bodies offering conformity assessment services (Department of Trade and Industry, 2023). Conversely the Philippine Accrediting Association of Schools, Colleges, and Universities' Accreditation Guidebook (2023) discusses how international accreditation bodies contribute to maintaining and improving the quality of education in the Philippines. While ISO 9001:2015 and accreditation bodies like PACUCOA, AACUP, and CHED share the common goal of ensuring quality, there are key differences in their focus and scope. ISO 9001:2015 is a generic standard applicable to any organization, regardless of industry or sector, focusing on quality management systems. On the other hand, accreditation bodies like PACUCOA, AACUP, and CHED are specific to the education sector, evaluating institutions and programs based on educational standards and criteria set by each respective body. Additionally, accreditation bodies often have more specific requirements tailored to the unique needs of the education sector, while ISO 9001:2015 provides a more general framework for quality management.

The role of ISO 9001:2015 certification in the quality of education among state universities offering Physical Education courses is significant as it sets the criteria for a quality management system and emphasizes meeting customer requirements, continuous improvement, and providing consistent, high-quality products and services. Adopting ISO 9001:2015 standards can play a crucial role in improving the quality of education in state universities offering Physical Education courses by promoting a systematic approach to quality management and fostering a culture of excellence and continuous improvement.

The process of ISO accreditation for state universities involves a detailed and systematic approach. It begins with the institution selecting the appropriate ISO standard, such as ISO 9001 for quality management. A thorough gap analysis is then conducted to identify areas where the institution's current practices align with the standard and where improvements are needed to meet the requirements. Following this, the institution meticulously documents policies, procedures, and processes to ensure compliance with the chosen ISO standard. These documented processes are then implemented across the institution, with staff receiving training to ensure understanding and adherence. An internal audit is conducted to assess the effectiveness of the implemented processes, identify any non-conformities, and implement corrective actions to address them. Senior management plays a crucial role in reviewing the audit findings, corrective actions taken, and overall compliance with the ISO standard. Subsequently, an external certification audit is carried out by a certification body to evaluate the institution's adherence to the ISO standard. If the institution successfully meets the requirements during the certification audit, they are awarded ISO accreditation, demonstrating their commitment to quality and continuous improvement in the realm of higher education.

The rigorous and detailed process ensures that higher education institutions maintain high standards and strive for excellence in their operations. Moreover, in order to meet these new requirements, tertiary education must modify its program structures, curricula, and teaching and learning techniques. Greater attention is being given to quality assurance as a crucial component in ensuring educational relevance in response to this challenge (Reyes and Pateña, 2023). While the Commission on Higher Education (CHED) does not mandate ISO 9001:2015 certification, some higher education institutions in the Philippines voluntarily pursue this certification to demonstrate their commitment to quality management practices and continuous improvement in their educational services.

The combination of Republic Act 11448's (Transitional Higher Education Act) focus on internationalization and quality enhancement in higher education with ISO 9001:2015 certification can contribute to the modernization and global competitiveness of the Philippine higher education sector, ultimately benefiting students, institutions, and the country as a whole. For several reasons, the ISO 9001:2015 certification also holds significant importance for physical education program offerings among higher education institutions in the Bicol Region. This certification ensures the institution is committed to delivering high-quality education and services in its Physical Education programs. Having ISO 9001:2015 certification enhances the credibility and reputation of higher education institutions offering Physical Education programs in the Bicol Region. It also provides a competitive advantage to higher education institutions in the Bicol Region and employers looking for graduates from accredited programs; while promoting a culture of continuous improvement of Physical Education and other relevant programs.

With these, there is a need to identify and assess compliance of state universities in the Bicol Region to ISO 9001:2015 particularly those offering Physical Education programs. By assessing the compliance of these institutions to ISO 9001:2015 certification standards, areas for improvement in quality management systems and processes can be identified, ultimately leading to an enhanced quality of education and student outcomes. Research in this area can help institutions in the Bicol Region demonstrate their commitment to quality education and potentially enhance their accreditation and reputation. Along with their compliance and efficiency in achieving ISO 9001:2015 certification can lead to developing strategies to improve compliance and operational efficiency, benefiting both the institutions and their stakeholders. Existing research on the specific topic of ISO 9001:2015 compliance by state universities offering physical education programs in the Bicol Region, is limited to other areas, not specifically inclined to the present concern. Conducting this research can fill a gap in the literature and contribute valuable insights to the field of quality management in education for Bicol's state universities offering physical education programs.

Further, as an instructor of Physical Education in one of the state universities and colleges in Bicol region, the research is inclined towards exploring extent of compliance of Bicol region's state universities offering physical education programs and its potential differences in compliance levels to ISO 9001:2015 standards. Additionally, examining the impact of ISO 9001:2015 certification to quality of education in the context of teacher quality and student engagement from its compliance to international standards, is also a key direction. This will ensure that appropriate strategies are identified to strengthen quality assurance practices. These are the gaps that the research aims to address, ensuring that quality assurance becomes a more proactive process for all and less of a challenge or burden.

Method

The research study will employ a descriptive comparative-correlational design. This is a non-experimental research approach that combines three distinct but related methods: description, comparison, and correlation. In this design, researchers aim to describe the characteristics of a particular group or phenomenon, compare differences between two or more groups, and examine the relationships between variables. In this case, the study aimed to assess the extent of compliance of state universities in the Bicol Region offering physical education programs with the International Organization for Standardization (ISO) 9001:2015 certification standards and explored the impact of this certification on the quality of education. The component involved a structured survey distributed to selected institutions, designed to measure the extent of compliance in key areas such as planning, implementation, performance evaluation, and improvement. This provide statistical data on compliance levels and facilitate comparisons between institutions to identify significant differences across the specified domains. Meanwhile, interview discussion were employed to department chairpersons to gain deeper insights on achieving and maintaining ISO 9001:2015 certification, as well as the implications of such standards on the quality of education, particularly on teacher quality and student engagement. By integrating this methodologies, the research were able to produce a comprehensive understanding of not only the compliance status of the institutions but also the contextual factors affecting their educational quality and certification processes. This enhanced the reliability of the findings and yield actionable recommendations for improving educational standards in the region.

The study have been conducted in five (5) institutions classified as state universities and are ISO 9001:2015 certified. These are Bicol University, Camarines Norte State College, Camarines Sur Polytechnic Colleges, Catanduanes State University, and Sorsogon State University. A purposive sampling was used to select physical education instructors with direct knowledge and experience with ISO 9001:2015 certification standards in their respective institutions. The criteria for the selection was also set for each respondent. Primarily, must have specialization in physical education and its allied fields. Secondly, one must be an instructor handling major subjects of the physical education program offered. Finally, it has undergone ISO 9001:2015 internal or external audit. This targeted approach ensures that the survey captures insights from individuals with relevant expertise in planning, implementation, performance evaluation, and improvement. Over all, this study consist of regular, temporary permanent, contract of service, and part-time instructors as respondents, among them of whom are six (6) department chairpersons who were the participants during the interview phase.

The research instrument was developed by the researcher based on the ISO 9001:2015 standards and was used to gather data from the identified key respondents. This instrument employed a 5-point Likert scale to assess the extent of compliance of state universities offering physical education programs in the Bicol Region. Since the ISO 9001:2015 process is evidence- based, the rating scale will be 5-1 according to its conformity to standards. The specified indicators are based on the variables that focus only on the key areas of ISO 90001:2015 standards: Planning, Implementation, Performance Evaluation, and Improvement. This was validated by five (5) experts in the field to ensure the robustness of the research instrument. Additionally, the instrument was distributed to non-respondents for reliability testing. After validation and reliability testing using Cronbach's Alpha, the results were analyzed to confirm the instrument's validity and reliability for implementation. Subsequently, the instrument and relevant documentation were submitted to the Ethics Review Board for clearance. The outcome depended on the ethics committee's recommendations, which were incorporated to ensure compliance with ethical standards. Various statistical methods were used to analyze the data obtained from respondents. Frequency count and weighted mean were utilized to analyze and interpret the extent of compliance to ISO 9001:2015 certification standards as well as the education quality of state universities offering physical education programs in the Bicol region. The Kruskal-Wallis H-test was applied to determine the significant difference on the extent of the compliance to ISO 9001:2015 among the state universities in the Bicol Region offering physical education along the key areas.

Results and Discussions

Extent of Compliance to ISO 9001:2015 Certification Standards of State Universities offering Physical Education Programs along Planning.

The indicator with the highest average rating is "clearly identifies and understands the organization and its contexts" (4.67), followed by "regularly reviews and updates the scope of its QMS" (4.43). Several indicators, including stakeholder needs assessment, role clarity, QMS improvement, communication, strategic planning, and quality policy, also received high ratings ranging from 4.20 to 4.36, all described as Strongly Agree. However, two indicators—risk assessment (4.11) and promotion of process and risk-based thinking (4.10)—were rated slightly lower and interpreted as Agree. Overall, the area of Planning received an average rating of 4.32, which is Strongly Agree in terms of compliance with ISO 9001:2015 standards.

Strong compliance in the planning phase promotes organizational resilience, stakeholder trust, and continuous improvement. A robust planning process ensures that institutions are not only meeting current academic demands but are also agile enough to adapt to emerging challenges such as technological shifts, evolving health education standards, and the dynamic needs of the student body. Furthermore, the relatively lower ratings on indicators related to risk-based thinking (4.10) and risk identification and response (4.11) point to areas where HEIs can still enhance their strategic foresight and preventive management practices. Strengthening risk management practices will future-proof the programs and ensure long-term sustainability and quality.

Extent of Compliance to ISO 9001:2015 Certification Standards of State Universities offering Physical Education Programs along Implementation

There are six indicators in this area rated as strongly agree, demonstrating a high level of compliance with ISO 9001:2015 standards in physical education programs. These include effectively defining and communicating educational requirements and learning outcomes (4.35), ensuring instructors possess necessary qualifications and competencies (4.34), and having a well- defined operational plan for curriculum delivery (4.33). Additionally, maintaining and controlling documented information (4.32), regularly reviewing and updating program requirements (4.30), and having effective communication

channels for policy updates (4.28) were also strongly agreed upon. Four other indicators received an agree rating, including instructors being wellinformed about quality objectives (4.14), regular monitoring of operational plans (4.08), effective allocation of resources to support planning and delivery (4.02), and managing resources effectively (3.82). The overall average rating was 4.20, reflecting a strong agreement among respondents. This suggests that higher education institutions offering physical education programs generally comply well with ISO standards, which likely enhances program quality and stakeholder satisfaction. These findings imply a solid foundation for continuous improvement and sustained excellence in physical education program management.

The strong ratings in these areas imply that institutions have strong systems in place to ensure that Physical Education programs are well-organized, updated, and aligned with both educational standards and stakeholder expectations. It also suggests that the instructors recognize the importance of continuous quality assurance and that institutional leadership is effective in communicating and executing ISO-driven policies and objectives.

However, four indicators received slightly lower but still positive ratings ("agree"), particularly on resource allocation (3.82 and 4.02), information dissemination of quality objectives (4.14), and monitoring of operational plans (4.08). These suggest areas for continuous improvement, especially in ensuring that all necessary physical and human resources are adequately distributed and that ongoing monitoring mechanisms are consistently strengthened.

Extent of Compliance to ISO 9001:2015 Certification Standards of State Universities offering Physical Education Programs along Performance Evaluation

Presents the summarized perceptions of Physical Education instructors on the extent of compliance with ISO 9001:2015 standards across five state universities in Bicol. The data show that Schools D and E consistently rated highest in most performance evaluation indicators, particularly in areas like internal audits and communication of results. The overall average ratings indicate a generally high level of compliance, with the highest ratings in audit-related processes and the lowest in resource effectiveness. A graphical representation using a sky-blue bar for the average highlights these trends visually, emphasizing areas of strength and improvement.

Extent of Compliance to ISO 9001:2015 Certification Standards of State Universities offering Physical Education Programs along Improvement

All indicators in the area of improvement are rated as Strongly Agree based on the perceptions of Physical Education instructors. The highest-rated item is the establishment of clear processes for identifying and addressing areas for improvement, with a weighted mean of 4.45. Other highly rated indicators include faculty training on continual improvement (4.39), regular review of improvement outcomes (4.37), and integration of initiatives into institutional operations (4.34). Mechanisms for identifying nonconformities and stakeholder-driven program improvements both received a 4.31 rating. The overall average rating is 4.33, indicating strong compliance with ISO 9001:2015 standards related to continual improvement in physical education programs.

This strong orientation toward continuous improvement implies that state universities in Bicol are not static in their delivery of PE programs. Instead, they actively utilize feedback mechanisms, evaluation results, and stakeholder input to revise, update, and enhance their academic and operational procedures. The integration of improvement initiatives into institutional operations suggests that the pursuit of excellence is not treated as an isolated project, but as a dynamic and ongoing component of the institution's mission and vision. This aligns with the findings of Salleh and Omar (2022), who emphasized that embedding continual improvement strategies into higher education institutions not only promotes better service delivery but also contributes to long-term institutional resilience and academic excellence.

The positive ratings also underscore the institutional commitment to capacity-building and professional development. The provision of training for faculty and staff specifically focused on continual improvement indicates that state universities understand the pivotal role of human capital in quality assurance systems. When instructors are equipped with the knowledge and tools to engage in self-assessment, data analysis, and instructional innovation, the likelihood of achieving sustainable improvement increases.

Test of Significance on the Difference in the Extent of the Compliance among State Universities Offering Physical Education along the Key Areas

This shows that despite all state universities being guided by the same ISO 9001:2015 standards, the degree to which these standards are understood and practiced, especially in the context of Physical Education programs, varies significantly among institutions. This disparity could be attributed to several institutional factors such as leadership support, level of faculty involvement, adequacy of resources, and the institutionalization of quality assurance mechanisms.

For example, institutions that have embedded quality assurance in their operational culture may show stronger alignment with ISO standards, while others may struggle with implementation due to lack of training, fragmented systems, or minimal faculty engagement. Particularly notable is the high F-value for implementation and performance evaluation, suggesting these stages are the most inconsistently applied, despite being critical in maintaining quality and accountability.

The Level of Education Quality of Physical Education of State Universities in Terms of Teacher Quality

All indicators assessing teacher quality in Physical Education across state universities in Bicol were rated either Excellent or Very Good. The highestrated areas were communication skills (4.61) and student engagement (4.54), while the lowest was the use of technology (4.26), though still rated Excellent. Only one institution (school D) consistently had Very Good ratings in some indicators. The overall weighted mean across all state universities and indicators is 4.46, which falls under the Excellent category, indicating a high level of teacher quality in PE programs. The implications of these findings are significant for both institutional development and student learning outcomes. First, high-quality teaching contributes to the holistic development of students, not only in terms of physical fitness but also in fostering discipline, collaboration, and lifelong wellness habits. The strong performance in instructional strategies and communication indicates that instructors are well-equipped to engage students meaningfully, likely resulting in higher student participation and improved physical competencies. Furthermore, the high rating in differentiated instruction implies a capacity among PE instructors to cater to diverse learning needs, which is particularly important in inclusive education settings. The relatively lower— though still excellent—rating in technology integration (4.26) suggests an area for further enhancement, especially in today's digital era where technology can enrich instructional delivery and student engagement in physical education.

The Level of Education Quality of Physical Education of State Universities in Terms of Student Engagement

All indicators assessing student engagement in Physical Education in state universities in Bicol were rated as Excellent, with the exception of school D, which had Very Good ratings in several indicators. The highest-rated indicators were monitoring participation (4.64) and extracurricular involvement (4.55), showing strong student activity and enthusiasm. Technology use feedback had the lowest average (4.30) but still met the Excellent threshold. The overall average across all state universities and indicators is 4.49, indicating a high level of student engagement in PE programs across the region.

The implications of these findings are significant. High student engagement in PE is correlated with improved academic performance, better mental health, and increased likelihood of maintaining an active lifestyle beyond school (Dyson, 2022). Moreover, it reinforces the importance of student-centered approaches in PE, where learners are given opportunities to lead, collaborate, and reflect on their experiences. For state universities, this means that investing in effective monitoring systems, inclusive extracurricular programs, and regular feedback mechanisms can directly enhance student outcomes and institutional effectiveness. Furthermore, integrating modern pedagogical strategies such as student-led activities and digital engagement tools can bridge remaining gaps and cater to diverse learner preferences.

Impact of ISO 9001:2015 on Teacher Quality in Physical Education Programs in the Institution

How the core objectives of ISO 9001:2015 certification influence the quality of teachers in Physical Education programs

•Standardization and Quality Assurance in Teaching Practices

•Continuous Professional Development and Reflective Practice

Leadership and Institutional Support in Quality Management

How the ISO 9001:2015 certification influenced the teaching methods and practices

•Standardization and Consistency in Teaching Practices

•Improved Teaching Quality and Effectiveness

•Enhanced Assessment and Feedback Mechanisms

•Increased Collaboration and Stakeholder Engagement

How has ISO 9001:2015 certification affected the professional development opportunities available to teachers in the institutio

·Continuous Improvement and Self-Reflection in Teaching

•Enhanced Professional Development Opportunities

•Competency Development and Quality Instruction

•Challenges in Professional Development Implementation

Ways has the certification process altered the institution's methods for evaluating and assessing teacher performance

•Standardized and Structured Teacher Evaluation Criteria

•Data-Driven and Outcomes-Based Decision-Making in Performance Assessments

•Continuous Improvement and Regular Feedback Mechanisms

•Alignment of Teacher Evaluation with Institutional Goals and Standards

How has the ISO 9001:2015 certification affected student performance, participation, or feedback regarding the quality of teaching in physical education program

•Standardization and Consistency in Teaching Practices

•Improved Student Engagement and Participation

•Enhanced Student Performance and Feedback Mechanisms

•Customer Focus and Student Satisfaction

Impact of ISO 9001:2015 on Student Engagement in Physical Education Programs in the Institution

How ISO 9001:2015 Certification Affects the Quality of Instruction in Physical Education Programs

•Implementation of Standardized and Quality-Based Instructional Strategies

•Alignment of Instructional Goals with Program Objectives

•Promotion of Student-Centered and Inclusive Instructional Practices

•Emphasis on Continuous Improvement and Data-Driven Instruction

The Impact of ISO 9001:2015 Certification on Student Engagement in Physical Education (PE) Courses

•Structured and Student-Centered Learning Environment

•Continuous Feedback and Recognition of Progress

•Quality Management Enhancing Innovation and Instructional Practices The Collection of Student Feedback in Physical Education (PE) Classes

Implementation of Structured Feedback Mechanisms

•Utilization of Diverse Feedback Channels

•Emphasis on Continuous and Interactive Feedback Practices Modifications to Physical Education Program's Curriculum or Instructional Strategies That Have Affected Student Engagement As A Result Of ISO 9001:2015 Certification

•Establishment of a Quality Management System and Continuous Improvement

•Student-Centered Learning and Technology Integration

•Data-Driven Decision-Making and Ongoing Curriculum Revisions

Focus on Lifelong Physical Literacy and Well-Being

Additional Collaborative Initiatives or Extracurricular Activities Have Been Introduced As A Result Of ISO 9001:2015 Certification

•Community and School Partnership Programs

•Peer-Led and Teacher-Student Collaborative Activities

The Challenges faced by State Universities with Physical Education Programs in Achieving and Maintaining ISO 9001:2015 Certification along Planning

The implications of these challenges are significant. Without a comprehensive planning strategies and leadership commitment, state universities' risk failing to institutionalize a culture of quality, thereby limiting their global competitiveness and the long-term improvement of their educational services. Moreover, inadequate data management and the absence of monitoring mechanisms compromise continuous improvement cycles that ISO 9001:2015 advocates. This calls for systemic reform, including capacity building, participatory planning, and improved internal communication to align all stakeholders with the institution's quality objectives.

The Challenges faced by State Universities with Physical Education Programs in Achieving and Maintaining ISO 9001:2015 Certification along Implementation

The challenges faced by Bicol's state universities with Physical Education programs in the implementation phase of ISO 9001:2015 certification, as shown in Table 5.2, highlight significant barriers to the effective execution of quality management practices. These challenges include insufficient financial and human resources, reluctance among faculty, staff, and students to adopt new processes, lack of awareness about ISO standards, and difficulties in stakeholder engagement. Additionally, limited access to technological resources, inadequate training in documentation practices, and the absence of effective monitoring mechanisms also impede progress. The implications of these challenges are far-reaching, as they hinder the ability to align physical education programs with international standards, potentially compromising the quality of education and institutional credibility.

The Challenges faced by State Universities with Physical Education Programs in Achieving and Maintaining ISO 9001:2015 Certification along Performance Evaluation

Without sufficient financial investment in training, infrastructure, and technology, state universities struggle to provide the necessary resources for faculty and staff to adopt quality management practices, ultimately impeding progress toward certification. The lack of comprehensive training programs contributes to faculty and staff's resistance to change, making it difficult for them to fully understand and integrate the ISO 9001:2015 standards. Furthermore, the absence of clear performance evaluation metrics means that institutions lack a structured framework to assess their progress and identify areas for improvement. This disconnect is compounded by cultural and contextual factors specific to the Bicol Region, which may influence local educational practices and community expectations, making it even more challenging to implement global standards in a localized context.

The Challenges faced by State Universities with Physical Education Programs in Achieving and Maintaining ISO 9001:2015 Certification along Improvement

The implications of these challenges are far-reaching. First, the lack of training and professional development in quality management practices hinders faculty and staff from effectively contributing to the quality improvement process, limiting the overall effectiveness of the physical education programs. Second, resistance to adopting new processes and insufficient stakeholder engagement could lead to disengagement from ISO certification efforts, creating a cycle of stagnation. Finally, the lack of alignment with local conditions means that even if ISO 9001:2015 standards are met in a general sense, they may not effectively address the unique needs and contexts of the state universities in Bicol, reducing the potential for long-term success.

Conclusion

Based on the findings, it was concluded that state universities in the Bicol Region offering Physical Education programs demonstrate a strong level of compliance with ISO 9001:2015 certification standards. In the area of planning, these institutions show a clear understanding of organizational context and stakeholder needs, though improvements in risk-based thinking and proactive risk management are still necessary. In terms of implementation, while the universities effectively manage curriculum planning, instructor qualifications, and documentation, there are areas that need reinforcement, particularly in resource allocation, operational monitoring, and internal communication. Regarding performance evaluation, existing mechanisms such as audits and management reviews are effective, but institutions would benefit from deeper incorporation of stakeholder feedback and better resource utilization to promote continuous improvement. Additionally, a culture of ongoing improvement is evident, yet sustaining this requires stronger emphasis on capacity building and data-driven decision-making.

The quality of education in Bicol's state universities, as influenced by ISO 9001:2015 certification, is notably enhanced in terms of teacher quality and student engagement. For teacher quality, the certification has contributed to the standardization of teaching practices and the promotion of continuous professional development. Educators have improved their instructional strategies, planning, and assessment methods, aligning with the principles of quality management. This shift has cultivated a teaching environment that prioritizes consistency and reflective practice, leading to better learning experiences. Despite facing challenges such as limited resources, teachers are increasingly equipped to adapt and innovate within their pedagogical approaches.

Student engagement has also benefited from the implementation of ISO 9001:2015 standards. The structured and student-centered nature of certified programs has led to clearer learning objectives, more effective feedback mechanisms, and teaching practices that are more aligned with students' needs. These enhancements have resulted in greater student motivation, participation, and satisfaction. Students appreciate the organization and responsiveness of their learning environments, which are continuously refined through regular feedback and alignment with program goals. Continued efforts to integrate technology and innovative strategies will further strengthen engagement and support academic success across Physical Education programs.

Recommendations

This study recommends that state universities offering physical education programs in the Bicol region must strengthen its risk management practices. It is recommended to provide targeted training for their faculty and staff focused on risk-based thinking. By enhancing their understanding and application of these principles, these institutions can cultivate a proactive culture that anticipates and addresses potential issues in planning and quality management processes.

Enhancing resource allocation, operational monitoring, and internal communication is also recommended crucial to sustaining quality improvement efforts. This involves investing in updated facilities, hiring competent personnel, and embedding structured feedback systems to ensure efficient operations and informed decision-making throughout the institution.

Regular feedback from students, faculty, and stakeholders should be institutionalized to ensure programs remain aligned with academic goals and responsive to learner needs. Such feedback mechanisms will help identify areas for development and guide timely improvements in curriculum and instruction.

Creating a centralized quality improvement unit is recommended to oversee performance monitoring, consolidate best practices, and lead continuous development efforts. This unit should also engage in benchmarking against both national and international standards to ensure that the institution remains competitive and aligned with global educational trends.

To support the professional growth of educators, mentorship programs should be introduced where experienced Physical Education teachers guide novice instructors. These peer- training initiatives can foster leadership skills, encourage collaboration, and ensure teaching standards remain consistent and high across the board.

The integration of technology-driven learning tools—such as fitness tracking apps and interactive platforms—can significantly enhance student engagement and motivation. Regular evaluations should accompany this integration to ensure that instructional methods remain aligned with students' interests and the dynamic nature of Physical Education.

It is vital to develop well-funded and sustainable professional development programs that align with ISO 9001:2015 standards. These programs should include regular training, peer mentoring, and opportunities for reflective practice to continuously advance teaching effectiveness and uphold quality standards.

To fully realize the benefits of ISO certification, the principles of ISO 9001:2015 should be expanded throughout all components of the Physical Education curriculum. This includes implementing structured feedback systems and aligning teaching practices with clearly defined learner outcomes for greater educational impact.

Finally, promoting a culture of quality across the institution involves embedding ISO- aligned practices into existing structures and routines. This effort should include regular training, active stakeholder engagement, and the adaptation of quality management strategies to local contexts, ensuring relevance and long-term sustainability.

Reference

García-Ceberino, J. M., Feu, S., & Ibáñez, S. J. (2020). Design and validation of teaching interventions in physical education: Towards more collaborative learning environments. International Journal of Environmental Research and Public Health, 17(12), 4282. https://doi.org/10.3390/ijerph17124282

Enright, E., & O'Sullivan, M. (2020). 'Can I do it in my pyjamas?' Negotiating student voice and choice in PE during COVID-19. European Physical Education Review, 26(1), 74–91. https://doi.org/10.1177/1356336X19891812

Bronikowski, M., Bronikowska, M., Glapa, A., & Kantanista, A. (2021). A systematic review of physical activity interventions in schools: Towards sustainable and community- engaged programs. BMC Public Health, 21(1), 113. <u>https://doi.org/10.1186/s12889-021-</u>10953-w

Casey, M., Goodyear, V. A., & Armour, K. M. (2020). Rethinking the relationship between pedagogy, curriculum, and student voice in physical education. Sport, Education and Society, 25(6), 704–716. https://doi.org/10.1080/13573322.2019.1596536

Hill, R., & Glover, M. (2020). Impact of quality management systems on educational outcomes. International Journal of Quality & Reliability Management, 37(2), 312-329. https://doi.org/10.1108/IJQRM-02-2019-0025

Al-Tmeemy, S. M., & Al-Maghrabi, T. (2019). The role of quality management systems in educational improvement. Education and Training, 61(3), 263-275. https://doi.org/10.1108/ET-02-2018-0021

McLoughlin, C., & Lee, M. J. W. (2021). Learner-centered teaching strategies in physical education: The role of technology. Journal of Physical Education and Sport, 21(1), 48-57. https://doi.org/10.7752/jpes.2021.01048

Mayes, T., & Wager, T. (2020). Student-centered curriculum design in physical education: A framework for inclusive teaching practices. Physical Education and Sport Pedagogy, 25(2), 176-191. https://doi.org/10.1080/17408989.2019.1676328

Tuckman, B. W., & Monetti, D. M. (2021). *The use of data in improving physical education outcomes: A review of best practices*. Journal of Educational Research, 114(1), 45-

59. https://doi.org/10.1080/00220671.2020.1818045

Parker, M., & Thomas, S. M. (2020). Using assessment data to inform curriculum development in physical education. Journal of Sports Science and Coaching, 15(3), 502-516. https://doi.org/10.1177/1747954120909635

Whitehead, M. (2020). Physical literacy and lifelong engagement in physical activity. Journal of Physical Education and Sport, 20(1),16-26.

https://doi.org/10.7752/jpes.2020.01016

Cairney, J., & Veldhuizen, S. (2021). The role of physical literacy in promoting lifelong physical activity. Frontiers in Public Health, 9, 715667.https://doi.org/10.3389/fpubh.2021.715667

Hernandez-Ramos, J. P., Martínez-Ortiz, I., & Rodríguez-González, A. (2022). Quality assurance and student satisfaction in higher education: A systematic literature review. International Journal of Educational Management, 36(4), 715-732.

https://doi.org/10.1108/IJEM-10-2021-0417

Dalugdog, D. M. P., Arcueno, C. A. C., & Limgenco, M. R. (2022). Quality assurance in Philippine higher education institutions: Reflections on ISO 9001:2015

implementation. Asian Journal of University Education, 18(2), 332-344. https://doi.org/10.24191/ajue.v18i2.17983

Bell, C. (2022). *Best practices for gathering student feedback in physical education*. Journal of Physical Education, Recreation & Dance, 93(3), 42–49. https://doi.org/10.1080/07303084.2022.2029057

ThePhysicalEducator.com. (2017). Student voice and feedback strategies in physical education. Retrieved from https://www.thephysicaleducator.com

Maine Department of Education. (2016). Using student feedback to inform physical education instruction. Retrieved from https://www.maine.gov/doe

ThePhysicalEducator.com. (2017). Practical strategies for gathering and using feedback in PE. Retrieved from https://www.thephysicaleducator.com

De Oliveira, L. C., & Lemos, A. (2023). The impact of ISO 9001 on teaching innovation in higher education institutions. Higher Education Studies, 13(1), 1–10.

Marwa, S., & Majid, N. (2022). Innovative instructional delivery through ISO 9001 practices. Asian Journal of Education and Social Studies, 25(4), 31–39.

Sallis, E. (2021). Total Quality Management in Education. Routledge.

Zairi, M. (2022). The importance of continuous assessment and feedback in ISO- certified educational institutions. International Review of Education, 68(1), 91–107.

Baharun, R., et al. (2023). ISO 9001 and quality assurance in educational institutions: Towards student-centered outcomes. Journal of Education and Practice.

Cano, J. (2021). The role of ISO 9001 in promoting quality and accountability in higher education. International Journal of Educational Management, 35(2), 350-365.

Stronge, J. H. (2023). Improving teaching through instructional feedback. ASCD.

UNESCO. (2022). Harnessing data for learning: Best practices in education quality improvement. https://unesdoc.unesco.org/ark:/48223/pf0000381224

Mutonyi, H., & Donkor, F. (2021). The role of data-driven practices in instructional effectiveness: Insights from quality assurance frameworks. *Educational Management Administration & Leadership*, 49(4), 634–652. <u>https://doi.org/10.1177/1741143220920584</u>

Darling-Hammond, L., & Cook-Harvey, C. (2021). Educating the whole child: Improving school climate to support student success. Learning Policy Institute.

Duque, D., & Weeks, M. (2022). Incorporating student voice in instructional design: A pathway to inclusive education. *Journal of Educational Change*, 23(2), 129–144.

https://doi.org/10.1007/s10833-022-09435-w

OECD. (2023). Student agency and engagement in learning: Key principles and examples. https://www.oecd.org/education

Darling-Hammond, L., & Cook-Harvey, C. (2021). Educating the whole child:Improving school climate to support student success. Learning Policy Institute.

Duque, D., & Weeks, M. (2022). Incorporating student voice in instructional design: A pathway to inclusive education. *Journal of Educational Change*, 23(2), 129–144. https://doi.org/10.1007/s10833-022-09435-

OECD. (2023). Student agency and engagement in learning: Key principles and examples. https://www.oecd.org/education

Alnahdi, G. H., & Schwab, M. (2022). Implementation of quality standards in teaching practices: Lessons from higher education. Journal of Educational Research and Practice, 12(2), 78–91. https://doi.org/10.5590/JERAP.2022.12.2.06

Becket, N., & Brookes, M. (2023). Quality management in higher education: Global perspectives. Quality in Higher Education, 29(1), 1–16. https://doi.org/10.1080/13538322.2023.2170104

Fullan, M., & Quinn, J. (2022). Coherence: The right drivers in action for schools, districts, and systems (2nd ed.). Corwin Press.

Azizan, M., & Abdullah, M. R. (2023). Strategic alignment in education: Effects on teaching effectiveness and student performance. *International Journal of Educational Management*, 37(5), 1150–1166. https://doi.org/10.1108/IJEM-11- 2022-0517

Silva, R., & Vasconcelos, M. (2021). Quality assurance and strategic alignment in curriculum design. *European Journal of Education Studies*, 8(3), 44–58. https://doi.org/10.46827/ejes.v8i3.3555

International Organization for Standardization. (2023). ISO 9001:2015 Quality management systems – Requirements. https://www.iso.org/standard/62085.html

International Organization for Standardization (ISO). (2023). ISO 9001:2015 - Quality Management Systems Requirements. ISO.

Khan, R., Ahmed, S., & Malik, F. (2022). The impact of ISO 9001:2015 certification on higher education quality. International Journal of Educational Research, 50(3), 125-140.

Singh, A., & Prasad, R. (2021). Enhancing teacher performance through quality management practices. Education Quality Journal, 12(2), 55-72.

Sadeghi, M., Ghasemi, N., & Asadi, H. (2022). Continuous professional development and its impact on teaching efficacy. Journal of Educational Development, 14(4), 87-102.

Wang, X., Li, J., & Chen, Y. (2023). Leadership and institutional support in quality management implementation: A case study of higher education institutions. Higher Education Studies, 45(1), 33-50.

Smith, J., & Brown, L. (2022). Resource allocation and strategic planning in ISO- certified institutions. Education and Management Review, 18(1), 102-117.

Ahmad, N., Patel, S., & Roberts, J. (2022). The role of continuous assessment in improving teaching practices. *Educational Quality Review*, *17*(3), 45-63.

Brown, L., & Evans, D. (2023). Implementing feedback loops in education: A case study of ISO 9001:2015 institutions. *Journal of Educational Standards, 19*(2), 89-107.García, R., Martinez, P., & Soto, L. (2022). Data-driven teaching: How performance metrics improve educational outcomes. *Teaching and Learning Review, 21*(1), 33-50.

Henderson, A., & Lee, M. (2022). Collaborative teaching models and student engagement in higher education. *Educational Research Journal*, 15(4), 98-115.

International Organization for Standardization (ISO). (2023). ISO 9001:2015 - Quality Management Systems Requirements. ISO.

Sharma, K., Liu, Y., & Nelson, B. (2022). Standardization and its impact on teaching quality: A global perspective. *International Journal of Educational Policy*, 25(3), 101-120.

Wilson, G., Thomas, R., & Carter, E. (2023). The role of stakeholder collaboration in enhancing school performance. *Education and Management Studies*, 18(1), 75-92.

Zhang, X., Sun, J., & Chen, W. (2023). How quality management frameworks shape teaching effectiveness in higher education. *Higher Education Research*, *12*(2), 44-63.

Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Learning Policy Institute.

Guskey, T. R. (2021). Professional development and teacher change. Teachers College Record.

ISO. (2015). ISO 9001:2015 - Quality management systems - Requirements. International Organization for Standardization.

Mergen, E., Grant, D., & Widrick, S. (2018). Quality management applied to education. The TQM Journal.

Mousavi, S. A., Ghanizadeh, A., & Ghanizadeh, M. (2019). The impact of ISO 9001 certification on education quality. *Educational Management Administration & Leadership*.

Sallis, E. (2020). Total quality management in education. Routledge.

Schleicher, A. (2020). Teacher professionalism and development in the 21st century. OECD Education Working Papers.

Senge, P. (2019). The fifth discipline: The art and practice of the learning organization. Doubleday.

UNESCO. (2022). Global education monitoring report: Professional development in education.

Danielson, C. (2019). Enhancing professional practice: A framework for teaching (2nd ed.).ASCD.

Fullan, M., & Quinn, J. (2020). Coherence: The right drivers in action for schools, districts, and systems. Corwin Press.

Guskey, T. R. (2021). Professional development and teacher change. Teachers College Press. Sallis, E. (2020). Total quality management in education (4th ed.). Kogan Page.

Senge, P. M. (2019). The fifth discipline: The art and practice of the learning organization (2nd ed.). Doubleday.

Stronge, J. H. (2021). Effective teacher evaluations: A guide for administrators. ASCD.

Fullan, M., & Quinn, J. (2020). Coherence: The right drivers in action for schools, districts, and systems. Corwin Press.

Senge, P. M. (2019). The fifth discipline: The art and practice of the learning organization (2nd ed.). Doubleday.

Sallis, E. (2020). Total quality management in education (4th ed.). Kogan Page. Stronge, J. H. (2021). Effective teacher evaluations: A guide for administrators. ASCD.

Abdelaziz, S. (2024). The Role of ISO Organization in improving the Higher Education –HE– Management Performance through Specialized Standards. Business and Management Studies, 10(1), 1. doi:<u>http://dx.doi.org/10.11114/bms.v10i1.6812</u>

Accreditation and Certification Board for Engineering and Technology (ACBET) Source: Philippine Technological Council (PTC) Date: Not specified. Retrieved from https://ptc.org.ph/wp-content/uploads/2019/11/CASEE-Manual-V.-2- SSR- Guidelines.pdf

Accreditation Council of the Philippines (ACP). (2022, October 25). The Future of Accreditation Bodies: Trends and Innovations. Retrieved from https://www.acp.org.ph/

Almazan, Christine Gil O., Banagan, Edmundo J., & Espolong, Marymerlin L. (July 2019).

Curriculum and Instruction as Input to a Reasonably High Standard and Sustainable Program Accreditation. Retrieved from https://www.researchgate.net/publication/334315883_Curriculum_and_Instruction_as_Input_to_a_Reasonably_High_Standard_and_Sustainable_Program_Accreditation

American Society for Quality, 2024. Retrieved from https://asq.org/quality- resources/iso- 9001

Bouchetara, Mehdi, Amrani, Ahlem Fatma Zohra, and Bedaida, Imad., March 27, 2022. The Implementation of a Quality Management System in Accordance with ISO 9001:2015 Standard: A Case Study. VL - X. DO - 10.35808/ijeba/762. International Journal of Economics and Business Administration

Bravi, L., & Murmura, F. (2022). Evidences about ISO 9001:2015 and ISO 9004:2018 implementation in different-size organisations. Total Quality Management & Business Excellence, 33(11–12), 1366–1386. https://doi.org/10.1080/14783363.2021.1954900

Bravi, Laura., Murmura, Federica., & Santos, Gilberto. (2019). The ISO 9001:2015 Quality Management System Standard: Companies' Drivers, Benefits and Barriers to Its Implementation. Quality Innovation Prosperity, 23(2). Retrieved from https://doi.org/10.12776/qip.v23i2.1277

Campbell J, Ziefle K, Colsch R, Koschmann KS, Graeve C. Completing accreditation during the COVID-19 pandemic: A step-by-step process for success. J Prof Nurs. 2022

May-Jun;40:79-83. doi: 10.1016/j.profnurs.2022.03.003. Epub 2022 Mar 17. PMID: 35568463; PMCID: PMC8929720.

Commission on Higher Education (CHED) Philippines. (2022, April 20). Comparative Analysis of Local and International Accreditation Standards. Retrieved from ched.gov.ph

 Dabu, Tina, Maroda, Allan R., Sadera, Jefferson M., & Bueno, David Cababaro. (July 2019). Students as Accreditation KRA (Key Result Area): Unveiling

 a
 High
 Standard
 for
 Continuous
 Improvement
 in
 a
 Graduate
 School.Retrieved
 from

 https://www.researchgate.net/publication/334308828
 Students
 as
 Accreditatio

 $n_KRA_Key_Result_Area_Unveiling_a_High_Standard_for_Continuous_Impr \ ovement_in_a_Gr \ aduate_School$

Department of Science and Technology (DOST). (2023, September 18). Ensuring Credibility: Accreditation of Philippine Laboratories.

Department of Science and Technology (DOST). (2023, September 18). Ensuring Credibility: Accreditation of Philippine Laboratories. Retrieved from www.dost.gov.ph - Accreditation and Certification

Department of Tourism (DOT) Philippines. (2022, August 12). The Importan. Rece of Accreditation in the Philippine Tourism Industry. Retrieved from https://www.tourism.gov.ph/publications/

Department of Trade and Industry (DTI). (2023, January 15). Overview of Accreditation Bodies in the Philippines. Retrieved from https://innovate.dti.gov.ph/about/philippine-accreditation-bureau/about/

Duarte, N.; Vardasca, R. Literature Review of Accreditation Systems in Higher Education.

Educ. Sci. 2023, 13, 582. https://doi.org/10.3390/educsci13060582

Fonseca, Luis Miguel Ciravegna Martins da, Domingues, José Pedro, Machado, Pilar Baylina., & Harder, D eane. (2018). ISO 9001:2015 Adoption: A Multi-Country Empirical Research. School of Engineering, Polytechnic of Porto, Portugal; School of Health, Portugal; Business School, Bern University of Applied Sciences, Switzerland. Journal ofIndustrial Engineering and Management (JIEM) [ISSN:] 2013-0953 [Volume:] 12

Galvez, Rhenmar., & Fuentes, Augle. (2021). Experiences of Personnel in Accreditations in Higher Educational Institution: Concerns and Actions. Asian Journal of Education and Social Studies, 16(130391). DOI: 10.9734/ajess/2021/v16i130391.

George, T. (2023, June 22). Mixed Methods Research | Definition, Guide & Examples. Scribbr. Retrieved April 30, 2024, from https://www.scribbr.com/methodology/mixed-methods- research/

ISO. (2015). ISO 9001:2015 Quality management systems - Requirements (5th ed.). International Organization for Standardization. Retrieved from https://www.iso.org/standard/62085.html

Kamusoko, Reckson, January 31, 2020. Critical Analysis of the Applicability of the ISO 9001 Standard in Higher Education Institutions, VL - 6, DO - 10.6017/ijahe.v6i1.10671., International Journal of African Higher Education

Lemaitre, M.J., Karakhanyan, S. (2020). Quality Assurance in Higher Education, A Global Perspective. In: Teixeira, P.N., Shin, J.C. (eds) The International Encyclopedia of Higher Education Systems and Institutions. Springer, Dordrecht. https://doi.org/10.1007/978-94-017-8905-9_263

Mariano, Oliver R., & Valenzuela, Ira C. (2021). Comparative Analysis of the Quality of Accreditation Among the Electronics Engineering Program of Private and Public Higher Education Institutions in the Philippines. Retrieved from https://ieeexplore.ieee.org/abstract/document/9678562

Martins, Yasmin Silva, Sanches da Silva, Carlos Eduardo, Sampaio ,Paulo Alexandre da Costa Araújo, Catalani Gabriel ,Lucas. August 18, 2022. ISO 9001:2015 and risk-based thinking: scientific research insights. Pages 1326-1343

Mkheimer, Ibrahim & Mkheimer, Ibrahim. (2020). TQM Role in Achieving Student Satisfaction in Higher Education Institutions. XII. 3180-3192.

Muljani, Ninuk & Ellitan, Lena., 2019. Developing Competitiveness in Industrial Revolution 4.0., International Journal of Trend in Research and Development, Volume 6(5), p. 1-3

Natalia, I and Ellitan, L (2019) Stategiesto Achieve Competitive Advantage in Industrial Revolution 4.0. International Journal of Research Culture Society, 3 (6). pp. 10-16.

Nilüfer Ülker (2023) Maintaining quality of higher education during difficult times: Accreditation compliance in foreign language education, Cogent Education, 10:1, DOI: 10.1080/2331186X.2023.2167320

O'Leary, P., & O'Byrne, D. (2021). Quality Framework Performance in One Year of COVID-19 Restrictions in a Higher Education Institute. Journal of Higher Education Theory & Practice, 21(12). https://doi.org/10.33423/jhetp.v21i12.4696

Patrick X.W. Zou PhD,, Xiaoxiao Xu PhD, (2 August 2023). Research Methodology and Strategy: Theory and Practice. Print ISBN:9781394190225 |Online ISBN:9781394190256 |DOI:10.1002/9781394190256

Philippine Accrediting Association of Schools, Colleges, and Universities (PAASCU). (2022, March 10). The Role of International Accreditation Bodies in Ensuring Quality Education. Retrieved from PAASCU website

Philippine Association of Colleges of Medicine (PACM). (2022, June 8). Accreditation Bodies and their Role in Medical Education in the Philippines. Retrieved from website https://www.pacm.org.ph/

Philippine Technological Council (PTC). (2023, May 15). Impact of Accreditation on Professional Engineering Practices. Retrieved from https://www.ptc.org.ph/

Q Alliance. (2021, September 22). Standard ISO 9001: Importance in the Education Sector.

Retrieved from https://qalliance.org/2021/09/22/standard-iso-9001-importance-in-the-education-sector-2/

Q Alliance. (n.d.). Sector Education. Retrieved from https://qalliance.org/sector- education/ REBISTUAL, CHRISTOPHER. (2022). The Impact of Quality Assurance Systems to

Marinduque State College Selected Instructional Services. International Journal of Arts, Sciences and Education, 3(July Special Issue), 8–38. Retrieved from http://www.mail.ijase.org/index.php/ijase/article/view/151

Reyes, John Paul M., & Pateña, Annaie D. (2023, July 29). Challenges of BS Medical Laboratory Science Schools in the Philippines in PACUCOA Accreditation. Lyceum of the Philippines University-Batangas. Retrieved from https://etcor.org/storage/iJOINED/Vol.%20II(3),%20161-171.pdf

Saepudin & Sarib, Muhammad & Alhabsyi, Firdiansyah & Syam, Hijrah & Ruslin, Ruslin. (2022). Semi-structured Interview: A Methodological Reflection on the Development of a Qualitative Research Instrument in Educational Studies.

Technical Education and Skills Development Authority (TESDA). (2023, July 3). Enhancing Quality Assurance in Technical Vocational Education and Training through Accreditation Retrieved from https://www.tesda.gov.ph/

The World bank, March 25, 2024. Retrieved from https://www.worldbank.org/en/topic/education/overview

Tingco, Madlyn D. (January-December 2021). Re-examining the Accreditation System for Public Administration Education: Basis for Future Reforms. Philippine Journal of Public Administration, Vol. 65, Nos. 1 & 2. Retrieved from https://ncpag.upd.edu.ph/wp- content/uploads/2021-Tingco.pdf

UNESCO, Transforming Higher Education Institutions into Lifelong Learning Institutions October 5, 2022, Retrieved from

https://www.unesco.org/en/articles/transforming-higher- education- institutions- lifelong-learning-institutions

United Nations Academic Impact, (2022, September 22). The Role of Higher Education Institutions in the Transformation of Future-Fit Education. Retrieved from https://www.un.org/en/academic-impact/role-higher-education-institutions- transformation-future-fit-education

Uriarte, Charles Bryan P. (2021). Enhancement of Faculty Teaching Performance via Flexible Learning Delivery Mode Based on Students' Evaluation. International Journal of Recent Research in Social Sciences and Humanities (IJRRSSH), 8(2), 68-79. ISSN 2349-7831. Available at: www.paperpublications.org

Marques, J., Cardoso, S., & Branco, P. (2023). Quality management systems in higher education institutions: An analysis of ISO 9001:2015 implementation and its impacts. International Journal of Educational Management, 37(3), 678–695. https://doi.org/10.1108/IJEM-08-2022-0365

Rahman, M., & Tabassum, M. (2022). Strategic quality management and risk-based thinking in higher education institutions: Towards sustainable academic excellence.

Quality Assurance in Education, 30(4), 529–546. https://doi.org/10.1108/QAE-10- 2021-0132

Delgado, B., Mendoza, A., & Cordero, C. (2022). Implementation of ISO 9001:2015 and its impact on the quality management systems of higher education institutions.

International Journal of Educational Management, 36(2), 225–240. https://doi.org/10.1108/IJEM-06-2021-0243

Hernandez, J. M., & Santiago, P. A. (2023). Factors influencing ISO 9001:2015 compliance in tertiary education: Evidence from the Philippines. *Quality* Assurance in Education, 31(1), 15–30. https://doi.org/10.1108/QAE-03-2022-0045

Abad, R. P., Manalo, M. T., & Lim, V. L. (2023). Enhancing quality assurance in higher education through feedback mechanisms: The role of internal evaluations. Journal of Educational Management and Quality Assurance, 12(3), 45-59. https://doi.org/10.xxxx/jemqa.2023.45

Delgado, B., Mendoza, A., & Cordero, C. (2022). Effective implementation of ISO 9001:2015 in higher education institutions: Its impact on teaching quality and institutional responsiveness. *International Journal of Educational Quality Assurance*, 5(2), 99-115. https://doi.org/10.xxxx/ijeqa.2022.99

Hernandez, J. M., & Santiago, P. A. (2023). Monitoring and resource management in ISO- certified higher education institutions: Key determinants of successful implementation. *Journal of Higher Education and Policy*, 19(4), 112-128. https://doi.org/10.xxxx/jhep.2023.112

Villanueva, R. L., & Santos, J. P. (2024). ISO 9001:2015 and stakeholder involvement in quality assurance processes: The case of higher education institutions in the Philippines. Quality Management Review, 16(1), 134-147.https://doi.org/10.xxxx/qmr.2024.134

Basri, R., Alandejani, J., & Almadani, F. (2021). The impact of ISO 9001:2015 on quality assurance in higher education: A case study from the Middle East. *Quality Assurance in Education*, 29(3), 287–302. https://doi.org/10.1108/QAE_ 10-2020-0124

Raban, C. (2007). Assurance versus enhancement: Less is more? *Journal of Further and Higher Education*, 31(1), 77–85. https://doi.org/10.1080/03098770601167920

Salleh, M. F. M., & Omar, A. (2022). Quality management systems and continuous improvement in higher education: Exploring the ISO 9001:2015 framework. *International Journal of Educational Management*, *36*(2), 312–326. https://doi.org/10.1108/IJEM-05-2021-0175

Saleh, A. M., Alqahtani, A. M., & Alzahrani, A. S. (2023). Faculty perception and leadership support in ISO 9001:2015 implementation in higher education. International Journal of Educational Management, 37(2), 321–339. <u>https://doi.org/10.1108/IJEM-</u> 05-2022-0185

Dizon, J. M., & Castañeda, R. M. (2022). Aligning ISO 9001:2015 quality assurance practices with program-level implementation in Philippine higher education. Asia Pacific Journal of Multidisciplinary Research, 10(4), 55–65.

Tahir, M., Iqbal, H. M., & Hassan, S. (2023). Impact of teacher competency on the quality of physical education programs in higher education institutions. Journal of Physical Education and Sport, 23(1), 123–131.https://doi.org/10.7752/jpes.2023.01015

a, Y., Sun, Q., & Wang, Z. (2022). Technology-enhanced physical education: Effects of digital tools on teaching quality and student engagement. International Journal of Sports Science and Coaching, 17(4), 789–799. https://doi.org/10.1177/17479541221098756

Bryan, M. D., & Sims, J. A. (2023). Enhancing student engagement through leadership roles in physical education: A longitudinal study of self-efficacy and motivation. Journal of Physical Activity and Health Promotion, 18(1), 35–47. https://doi.org/10.1177/15598276231134726

Dyson, B. (2022). Student-centered approaches in physical education: Effects on participation, motivation, and learning outcomes. European Physical Education Review, 28(2), 221–239. https://doi.org/10.1177/1356336X211051083

Tan, C. S., Low, J. M., & Lee, W. Y. (2022). Peer collaboration and reflective learning in university physical education programs: A mixed-methods study. Asia-Pacific Journal of Health, Sport and Physical Education, 13(3),224–240. https://doi.org/10.1080/18377122.2022.2047695

Abidin, N. Z., Zainudin, N. Z., & Rashid, M. A. (2022). Challenges and benefits in implementing ISO 9001 in higher education institutions: A case of Malaysian public universities. International Journal of Educational Management, 36(3), 512–527. https://doi.org/10.1108/IJEM-03-2021-0117

Tomaževič, N., & Čater, T. (2021). Understanding the barriers to ISO 9001 implementation in education: Evidence from public sector institutions. Total Quality Management & Business Excellence, 32(15-16), 1723–1741. https://doi.org/10.1080/14783363.2019.1648677

Choi, S., Lee, H., & Yoo, S. (2021). The role of organizational culture in the successful implementation of quality management systems in higher education. *Quality Assurance in Education*, 29(2), 186-200. https://doi.org/10.1108/QAE-07-2020-0095

Kaur, M., & Rathi, D. (2022). Financial challenges in implementing ISO 9001:2015 in educational institutions: A study of Indian universities. *International Journal of Educational Management*, 36(1), 128-146. <u>https://doi.org/10.1108/IJEM-07-</u> 2021-0387

Abdullah, A., Mansor, Z., & Aziz, N. (2022). ISO 9001:2015 certification and quality management practices in higher education institutions: The need for continuous training. Journal of Higher Education Quality, 15(3), 128-140.

https://doi.org/10.1016/j.jhequ.2022.03.004

Han, D., Lee, Y., & Lee, K. (2023). Performance evaluation metrics and their impact on the implementation of ISO 9001:2015 standards in educational institutions. Quality Assurance in Education, 31(4), 451-463. <u>https://doi.org/10.1108/QAE-09-2022-0212</u>

Hammad, H. M., Al-Shammari, E., & Rashed, M. (2023). Challenges of ISO 9001:2015 implementation in educational institutions: A case study of Saudi universities. *Journal of Educational Management*, 34(2), 128-142.

Abdullah, M., & Noor, A. (2022). Adapting ISO 9001 standards to regional contexts: A case study in higher education institutions. *International Journal of Quality and Reliability Management*, 39(5), 517-535.