

Impact of Quality Management System on Individual Teaching Styles of University Professors

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Abstract: The research paper explores the influence of the Quality Management System (QMS) on professors' teaching styles in a university. Data was collected from 29 respondents through surveys and document analysis using a quantitative approach. The findings indicate that the QMS positively impacts professors' teaching styles, particularly regarding course planning, continuous improvement, clear learning objectives, and addressing student needs. The study also identifies challenges and barriers professors face in implementing QMS policies, such as lack of time and resources, resistance to change, and unclear communication of QMS goals. Furthermore, the research highlights the perceived benefits of the QMS for graduate school, with respondents strongly agreeing that QMS practices are crucial for enhancing the quality of education and positively influencing student learning outcomes. The study emphasizes the significance of feedback as an integral part of the QMS, with the Graduate School implementing a survey for faculty and university services to gather student evaluations of professors' teaching approaches and styles. The research underscores the significance of the QMS in enhancing the quality of education and teaching practices at the Graduate School. The study also acknowledges limitations and suggests future research directions, aiming to expand the scope of the research to include a broader range of graduate schools and perspectives. Overall, the findings contribute to the ongoing discourse on the implementation and impact of QMS in higher education institutions.

Keywords: Quality Management System; Individual Teaching Styles; University Professors; Higher Education Institutions; Schools and Colleges; Educational Organization; Organizational Excellence.

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1. Introduction

The fast pace of technological advancement, globalization, and the pandemic have changed society's normality. Every business is constantly innovating and increasing quality to meet market demand, even in the education sector, where universities constantly strive to enhance their quality of education, research, and overall performance. Education establishments pursue quality improvement for the following reasons: first, they have a moral imperative to provide the very best possible educational opportunities; second is a professional imperative, this is where educators have a professional duty to improve the quality of education; the third reason is the competitive imperative where education establishments is also a business and quality is one of the standing factors against other establishment and finally Schools and colleges are part of their communities, and as such they must meet the political demands for education to be more accountable and publicly demonstrate the high standards [4]. To ensure quality education, institutions implement Quality assurance by implementing Quality Management Systems. According to the International Standards of Organization, A Quality Management System is a set of internal rules defined by a collection of policies, processes, documented procedures, and records. This system defines how a company or organization will achieve

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the creation and delivery of the products and services they provide to their customers. This creates a standard everyone should follow and never deviate from to ensure quality.

Teaching styles are methods and beliefs that are effective in how your students learn a professor's subject [22]. Students have individual learning styles and have different preferences on how to take in and process information. A professor should strive to balance instructional methods to cope with different kinds of students. It is crucial in teaching and learning; they define professors' methods and strategies to transfer knowledge, engage students, and inspire critical thinking. Implementing a Quality Management System is designed to streamline processes to ensure continuous improvement; the QMS policies can either influence or be influenced by the individual teaching approaches of a faculty member. This research will explore the impact of the quality management system adopted by the Graduate School professors at a university in Manila, Philippines. It will also explore the unique teaching styles employed by each professor, understand the challenges and or barriers professors experience when trying to implement the QMS policies in their teachings, and show that a Quality management system is beneficial for the graduate school.

To accomplish this, we will employ quantitative data collection techniques. Surveys and document analysis will gather data from professors at a top university in Manila, Philippines. By analyzing and understanding the data from multiple sources, we aim to provide a comprehensive and refined understanding of the impact of QMS on the institution and professors. In the following sections of this study, we will dive into the theoretical understanding of the Quality Management System, review relevant literature on QMS in higher education, outline our research methodology, present the findings, and offer conclusions and recommendations based on our analysis.

2. Review of Related Literature

A quality management system (QMS) is a formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps coordinate and direct an organization's activities to meet customer and regulatory requirements and continuously improve its effectiveness and efficiency. Today's quality management system is governed by ISO 9001:2015 and is built with seven (7) core principles. The seven quality management principles of ISO 9001 are divided into the engagement of people, customer focus, leadership, the process approach, continual improvement, a factual approach to decision-making, and relationship management. ISO 9001 standards are created for general use and do not offer any specific model for an industry; organizations can create their freedom for quality assurance, meeting their requirements [6]. With this, the International Standards developed a more particular Management System for the educational industry, with the ISO 21001 "Educational Organizations - Management Systems for Educational Organization," which defines the requirements for the quality management system strictly for educational Organizations.

ISO is a tool for continually improving and supporting universities in maintaining quality in policies, mission, vision, objectives, and the university workflow; it includes the procedural and methodological framework to create an effective management system of educational institutions [11]. The Quality of Education Through School-Based Management: Learning From International Experiences that school-based management is increasingly advocated as a shortcut to more effective management and improving educational quality. He explored the need for strategies to accompany school management to ensure a positive impact on quality, including ensuring that all schools have a certain level of primary resources, establishing an effective school support system, providing feedback on their performance and suggestions on how to improve the school, and regularly report on them; Fourthly, emphasize the main motivating factors in school management work.

3. Teaching Styles

Teaching styles are different approaches professors and teachers use to transfer knowledge and engage in educational discussions with their students. Different authors describe teaching styles in various ways. Teaching styles can be categorized into seven styles: lecture-based teaching, facilitator teaching, experiential or hands-on teaching, Socratic methods, inquiry-based teaching, flipped classroom, and cooperative learning. The first teaching style is Lecture-based teaching, a traditional style where professors provide lectures and information in a structured manner. This is where professors deliver lectures, where students must pay attention and take notes. Some activities include assignments, reports, tests, quizzes, and competitions [12].

The second is the facilitator or interactive teaching. This is when professors act as facilitators, engaging students to participate in group discussions and promoting collaborative learning. Students often lose interest in lecture-based teaching; interactive teaching is a way to promote an atmosphere of attention and participation [13].

The third teaching style is Experiential, or hands-on teaching, which emphasizes learning through experience, experiments, and real-world applications. Learning is a process in which knowledge is created through the transformation of experience [15].

The fourth teaching style is the Socratic Method, where the professor stimulates the students' minds to think critically and intellectually; this is achieved by professors asking open-ended questions. Critical thinking is the process of analyzing and assessing thinking to improve it. This method ensures students learn to think critically [23].

The fifth teaching style is Inquiry-Based Teaching; this is focused on the professor posing questions and problems, ensuring students explore and discover answers through research and investigation. Inquiry-based learning is an educational strategy in which students follow methods and practices similar to professional scientists to construct knowledge [17].

The sixth is the Flipped Classroom approach, where the professors deliver content outside of class through video lectures or online seminars and use the class time for discussion, activities, and problem [18].

Finally, the teaching method is Cooperative/Collaborative learning, where students work as a group to solve problems, complete projects, or discuss theories, case studies, and other essential aspects promoting teamwork and shared learning [8].

Professors may combine these styles depending on context, subject matter, and personal teaching philosophy. Effective teaching often involves flexibility in adapting teaching styles to meet the diverse needs of students.

4. The importance of understanding how QMS implementation influences the instructional practices of professors

Total Quality Management as a Quality Management system is a holistic approach that can be implemented by implementing a Quality Management System in an organization. Total Quality Management (TQM) is an organizational philosophy and culture committed to improving customer satisfaction through continuous improvement [29]. TQM is customer-oriented, and this management philosophy may have practical differences between different countries or industries, but it also has certain basic principles and commonalities. For the industrial and commercial manufacturing industry, implementing TQM can ensure that it obtains a larger market share, increases profits, and reduces costs [30]. The earliest attempt of TQM in higher education can be traced back to the 1980s. In 1991, 78 universities in the United States implemented TQM; by 1996, it had expanded to 216 universities. According to statistics, at that time, 50% of universities in the United States had quality committees with varying organizational forms [31]. The earliest cases of implementing TQM in higher education in the UK were around the late 1980s. However, unlike the United States, the motivation for introducing TQM in the UK mainly came from the government [32].

A survey conducted in 1998 among universities in the UK showed that there was almost no implementation of TQM, and there was no interest in adopting it in the future [16]. By the late 1990s, TQM gradually faded out of people's vision in higher education. In 1996, a study on universities that had already conducted TQM showed that almost one-third of the survey respondents failed to achieve the goal of improving teaching quality and pointed out that the main reason for their failure was due to a lack of sufficient understanding of its nature during the implementation of TQM model curriculum design [33].

In addition, there are many difficulties in implementing TQM in universities, such as course preparation, continuous improvement of teaching methods, increasing scientific research activities, and a lack of consensus on quality work and academic freedom [7]. There are also relevant studies that summarize the experience of the United States and believe that TQM has not been very effective in improving higher education in the United States over the past 20 years [25]. Some researchers also believe that TQM has successful practical experience in other industries, but its effectiveness in education management is limited [18]. Unfortunately, the empirical evidence supporting total quality management in universities is surprisingly scarce. The existing evidence mainly involves administrative tasks such as bill collection, cheque writing, economic assistance, and registration [34]. However, the significant issues facing higher education today, such as course quality, still seem unsatisfactory. In the revolutionary environment of higher education, it has only played a beneficial role [35].

Koch [14] also found that although there are still many supporters and widespread use in higher education, total quality management has only had a minimal impact on universities, and two-thirds of institutions that began implementing TQM projects in the 1990s abandoned them [36]. Furthermore, although many higher education institutions have launched "quality" initiatives, almost all of these institutions focus on non-academic activities. He believes that applying TQM in higher education will still face challenges due to the nature of academic culture and the difficulty in defining the nature of higher education [37].

Meirovich and Romar [10] also found that the applicability of total quality management in higher education teaching is controversial. He believed that the definition of customers in higher education is more complex than in the industrial field, and the core issue of TQM cannot be perfectly interpreted, resulting in difficulties in its application in higher education. After the great success of the Total Quality Management theory in the industrial field, people believe that if applied to the education field, it will improve the quality of education [38].

Garbutt [24] believes that the best way to promote school quality improvement is to apply successful management methods in the industrial field to education. He explored the definition, procedures, and evaluation methods of TQM. He concluded from his research that improving product quality requires the commitment of senior leaders, with the participation of all members of the organization, which will lead to a culture of "continuous improvement" in education quality [39].

Lindsay [21] believes that applying total quality management to education poses diverse and multi-level new challenges for students and educators. However, it will provide a new paradigm for delivering educational content to help ensure educational quality. The rise and fall of the concept of comprehensive quality management in the foreign higher education industry is not difficult to understand: governments and the public in various countries, under the influence of management ideology, have attracted the attention of the education industry to the "quality" concept, which has received positive responses in the business community [40]. However, as an abstract management concept, total quality management lacks clear management indicators for reference and implementation. In addition, the academic freedom culture in universities has responded fiercely to the constraints brought by management, and total quality management has gradually been marginalized in universities. Total quality management has gone from prosperity to decline in the Western higher education industry, and the experience gained from it should arouse our reflection and vigilance and one is the definition of consumers [41]. One of the difficulties encountered in comprehensive quality management in higher education is identifying consumers and defining students [42].

In the field of higher education involving numerous groups, it is difficult to determine who consumers are. Some scholars believe that consumers in higher education may include students, teachers, parents, alumni, enterprises, research institutions, or governments, among others. It is difficult to measure and evaluate customer satisfaction in the context of unclear consumer positioning in higher education [19].

The second is the contradiction and conflict between the philosophical foundation of comprehensive quality management and the cultural attributes of higher education [43]. Higher education has a strong cultural atmosphere of academic freedom, which is incompatible with the culture of prioritizing industrial and commercial efficiency [44]. Transplanting TQM from industry and commerce will inevitably lead to conflicts and contradictions with higher education, mainly manifested in the conflict between academic freedom and the concept of total quality management [20]. In pursuit of academic freedom, university teachers do not want to be constrained by management and do not like to be asked to examine their teaching style. In addition, university teachers may believe that implementing TQM has increased the unnecessary "bureaucratic" classes in universities. Thirdly, comprehensive quality management has been increasingly marginalized due to its lack of focus on the core areas of higher education. Numerous scholars' studies have shown that TOM may be more efficiently utilized and implemented in managing logistics support in universities, such as data management, equipment maintenance, restaurant operations, etc., than in teaching [45]. Therefore, universities have more successful experiences in implementing TQM in administrative management than in teaching management. The core of higher education should be academic fields such as teaching and research, but TQM, in practice, has yet to focus on this core.

From the study Al-Salim [1] aimed to define total quality management and its impact on the performance of education institutions in the University of Samarra. As a result, this study found a statistically significant effect of total quality management on the performance of education institutions at the University of Samarra. Based on the findings that recommendations provided, the most significant was the university's work to ongoing dissemination of a comprehensive quality culture, engaging the employees in strategic planning for quality and, from their experience, the benefits of total quality management application.

According to Sohel-Uz-Zaman & Anjalin, [3] many societies throughout the world are involved in the quality of education. Also, the author says that competitiveness in the education sector is high, wherein institutions consider quality education as success. Total quality management (TQM) has piqued the attention of educators, policymakers, scholars, and researchers since it has been recognized as an effective and efficient management philosophy for continuous improvement, satisfaction to the customer, and organizational excellence. They also identify the challenges in implementing total quality management in education institutions. Other researchers suggested otherwise; the concept of total quality management in quality education has brought awareness of improvement to various institutions.

Recently, the researchers have focused on the need for quality improvement and identified possible alternative ways to enhance standardization in the education sector. This case study discusses the implementation of total quality management in an engineering educational system that might improve quality education, based on the study of Todorut [5].

The need for total quality management in higher education indicates that the TQM principle must be involved in academic institutions to improve quality. They conducted several methods to evaluate and assess the ongoing work regarding quality work. According to the study, TQM is a long-term process that requires detailed preparation to be adopted by the higher education system. Ensuring that every university becomes competitive in achieving its goals is one factor that institutions need

to apply the ISO 21001:2018 standard the impact of applying ISO 21001: 2018 management systems standards in the higher education institutions' quality performance. The conclusion from the hypothesis stated that "There are no statistically significant differences before and after applying the ISO 21001:2018 management systems standard for educational institutions in improving the quality of performance in higher education institutions". The researchers' recommendation shows some factors to be considered in the future to enhance quality education.

Altunay [9] explores the effect of training with total quality management (TQM) on teachers' perceptions. The results of the differentiation of the experimental and control groups' pre-test scores were insignificant. Based on their observation, the principle of total quality management was effective from the teachers' perceptions of practice in their schools. Improving the quality of institutions can be possible for those participants who will undergo the TQM training.

According to the study Azainil et al., [2], Policy evaluation research to determine the need, implementation, and achievement result of TQM in Vocational High School applying ISO. This research evaluates using qualitative research methods to determine the naturalistic and critical methodology tool in triangulation data. This evaluation policy examines the necessary information to implement the ISO in schools. The different components are being considered, from the curriculum to the students and the learning process and achievement in TQM ISO implementation. The CIPP (Context, Input, Process, and Product) model uses this to evaluate what is being developed by Stufflebeam. As proposed, that implementation still needs improvement to perfection. Suggestions from these result in improvements in understanding the TQM ISO to all stakeholders, also need from the same language, and ISO-based TQM is necessary for committing for improvement, the paradigm shift, mental attitude, and quality assurance to guarantee the system. From a macro and micro level view, obtaining a comprehensive understanding of the accreditation mechanisms is based on the organization's qualification to effectively meet the education sector standards. These findings must provide a quality assessment of education within higher education institutions. As stated, there is a lack of commonality in shared agencies' standards. That has become the highlight of introducing quantification, which includes keeping faculty retention and student attrition rate or dropout to minimize enrollment decrease. It focuses on the maintenance of accreditation in the institutions [20].

5. Accreditation and QMS

In the UK, the evaluation subjects in the quality assurance system of graduate education are diverse, including the government, universities, independent higher education fund committees, third-party independent institutions such as the Higher Education Quality Assurance Agency, news media, professional organizations, etc., working together to participate in the evaluation of graduate education. With the support and leadership of the Australian government, professional evaluation institutions such as AQF, AUQA, and TEQSA have been established.

Under the guidance of relevant national laws and regulations on graduate quality, these organizations have implemented an independent evaluation operation model, forming an authoritative and complete nationwide evaluation mechanism. Their organizational members are experts and scholars, ensuring the objectivity and impartiality of the evaluation results. In addition, the newly established TEQSA also has certain administrative powers to evaluate graduate education in universities regularly, ensuring the stability of the entire evaluation activity. It is continuously carried out, providing strong guarantees for the quality of graduate education.

Corresponding laws and regulations guarantee the entire process of evaluating Russian universities. Macro-level education laws, national education standards, regulations on national identification of universities, laws on higher and post-university vocational education, regulations on recognition of educational activities, etc., are the legal basis for evaluation work. The implementation of evaluation details is also determined through top-down discussions. For example, the structure of self-evaluation reports and specific evaluation indicators will be made public in draft form on the official website. After repeated discussions and modifications, they will finally enter the official evaluation indicators of the Ministry of Education.

In the Philippine setting, the Commission on Higher Education (CHED) is the government agency responsible for overseeing higher education institutions; CHED also works with various accrediting bodies and organizations to ensure quality education in the country as one of their mandates. One of these is CHED releasing a memo CHEDRO No. 177 2019 stating that a body should accredit state universities to the Quality Management System of ISO 9001: 2015. The following accrediting bodies that CHED works with are the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACUP), the Association of Local Colleges and Universities Commission on Accreditation (ALCUCOA): ALCUCOA, Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA): PACUCOA. Currently, the PACUCOA has eight phases of the accreditation process and four levels of accreditation, which come with different benefits: the authority to revise the curriculum without CHED approval and open learning/distance education and extension classes without CHED's prior approval.

Accreditation is viewed as a means to ensure quality education, improve services, and establish accountability. Accreditation involves professionalizing quality assurance, the teaching method and learning process, research, funds allocations, and policy development. The impact of accreditation affects higher education institutions. It influences academic reputation, especially in local or global markets [26].

6. Feedback on the quality of graduate education, a Quality Management Approach

The Quality Management System is built upon the PDCA (Plan, Do, Control, and Act) evaluation, and feedback is an integral part of the QMS system. Without efficient and comprehensive feedback work, there can be no high-quality graduate education. Feedback is not just about collecting relevant information; it is important to use information to adjust and improve quality. In India, feedback on education evaluation comes from two aspects: first, feedback from the evaluator to the evaluator, and second, feedback from the evaluator to the evaluator. The University Grants Committee in India indirectly ensures the quality of graduate students by supporting the National Assessment and Accreditation Council (NAAC) through financial means. This process requires continuous solicitation of opinions from universities on implementing evaluation indicators and, ultimately, feedback on the evaluation results to universities.

Universities in various countries and regions have designed specific evaluation tools and methods according to their needs, including methods and approaches for periodic self-assessment activities and ongoing and normalized thematic research. In periodic self-assessment activities, interview surveys and questionnaire surveys are common methods. A method proven effective through self-evaluation practice has been improved to form a relatively stable regular survey. For example, the British Institute of Higher Education has developed two sets of questionnaire survey tools for universities. The Lecture-based Graduate Experience Survey (PTES) and the Research-based Graduate Experience Survey (PRES). Many universities, including the University of Cambridge, have adopted these two sets of questionnaires as important self-assessment tools. The G08 University Alliance in Australia has developed a student dropout survey, combining qualitative and quantitative surveys to understand the reasons for dropout.

The University of Sydney has designed a Student Research Experience Questionnaire (SREQ), which includes four aspects of satisfaction: supervision and guidance, infrastructure, student atmosphere, and acquisition of general skills. The data and qualitative analysis report will be publicly published on the school website, and the department will take measures based on the survey conclusions. The University of the East- Graduate School implements a survey for faculty and university services once every semester; students can evaluate their current professors on the following matters: a professor's Teaching Approach and Style, Classroom Management, and Professionalism and Communication. The data will be available to the professor for viewing.

7. Methodology

This paper is about the methods used by the researcher to obtain information about the impact of the quality management system on the individual teaching styles of graduate school professors. This states the research method, the respondent, the method of execution, the technique and instrument, and the method of giving value to data.

8. Research Method

The study uses the quantitative approach using the Likert scale survey to collect data specifically for frequency and percentage. In conducting the analysis, the researcher will convey the information among the respondents using standardized tools, particularly the questionnaire from Google Forms and In-Person surveys.

8.1. Research Participants and Sampling Procedure

The survey respondents comprised 29 samples from a total population of 55 professors from a top university graduate school in Manila with a current teaching load unit for the second semester of the 2023 school year. Twenty-nine (29) questionnaires were gathered. The Raosoft was used to calculate the sampling size for a 29 collection with a 10.80% margin of error, a 90% confidence, and a 50% response distribution and the online software from Raosoft was accessed [29].

8.2. Research Instrument

The researchers used the questionnaire to collect data and information. The questionnaire was divided into two sets. The first set, where the researchers found out the demographic profile of the respondents, included their highest degree obtained, academic rank, and years of teaching experience. The second set contained questions, which are as follows: for items 1 to 3, the QMS implementation; for items 4 to 16, the perception of QMS implementation; for items 17 to 19. The barriers and

challenges organizations face in implementing a quality management system can be classified generally into three components: management, funds or resources, and the workforce itself [27]. Questions 17 to 19 focus on the resources, the professors involved, and management; the final item is the overall assessment; the instrument also added an open-ended question for insights from each respondent regarding the topic. The instrument has a calculated Cronbach-alpha coefficient of 0.98.

8.3. Statistical Data

The researchers used statistical methods to describe the numerical data gathered. This is the statistical data used to determine the demographic profile of the respondents, including their highest degree obtained, academic rank, and years of teaching experience.

The formula used to obtain the percentage:

$$P = F/N \times 100$$

P = Percentage

F = Number of specific respondents

N = Total number of participating respondents

Formula used to derive the weighted mean:

$$X = \Sigma F.W/n$$

X = Weighted mean

Σ = Summation Symbol

F = Number of respondents who answered the questionnaire

n = Total number of respondents

8.4. Likert Scale Method

The researcher's method is to interpret the information collected or gathered by researchers from respondents and give a corresponding interpretation or perspective (Table 1).

Table 1: Research Questions

Rank	Verbal Interpretation
1.00 - 1.79	Strongly Disagree
1.80 - 2.59	Disagree
2.60 - 3.39	Neutral
3.40 - 4.19	Agree
4.20 - 5.0	Strongly Agree

8.5. Presentation, Analysis and Interpretation of Data

This chapter presents the results, analysis, and interpretations of the data gathered from the answers to the questionnaires distributed to the respondents. The results and outcomes are being analyzed and summarized.

Table 2: Highest Degree Obtained

Highest Degree Obtained	Frequency	Percentage Rank
Doctoral Degree	25	86.2 % 1

Master's Degree	2	6.9 % 2
In-Progress (Ph.D.)	2	6.9 % 2
Total	29	100 %

According to the table 2, 86.2% of the respondents who have finished their doctoral degree answered the survey questionnaire, and 6.9% of the respondents have a master's degree, while professors who are still in progress, 6.9%. Therefore, most of our respondents had doctoral degrees and answered the questionnaire.

Table 3: Years of Teaching Experience

Year of Teaching	Frequency Percentage Rank
0-5 years	3 10.3 % 4
6-10 years	4 13.8 % 3
11-15 years	1 3.4 % 5
15-20 years	6 20.7 % 2
>20 years	15 51.7 % 1
Total	29 100 %

According to Table 3, 51.7% of the respondent has more than 20 years of teaching experience answered the questionnaire, 20.7% of the respondent has 15-20 years of teaching experience, 13.8% of the respondent has 6-10 years of teaching experience, 10.3% of the respondent has less than five years of teaching, and 3.4% of the respondent has 11-15 years of teaching experience. Therefore, most respondents had 20 years or more of teaching experience.

Table 4: Graduate School Program

Graduate School Program	Frequency Percentage	Rank
Business Administration and Accountancy	16 55.2 %	1
Education, Science and Arts	6 20.7%	2
Construction Management (Engineering Science)	2 6.9 %	4
Information Technology	3 10.3%	3
Public Administration	2 6.9 %	4
Total	29 100 %	

According to Table 4, 55.2% of the respondents came from Business Administration and Accountancy, 20.7% of the respondents came from Education and Science and Arts, 10.3% from Information Technology, and 6.9% from Construction Management and Public Administration. Therefore, most respondents came from the business administration and accountancy fields.

Research Question 1. Is there an impact of the quality management system adopted by the Graduate School on the unique teaching styles employed by each professor?

Table 5: Perceptions of QMS Implementation

	Weighted Mean	Standard Deviation	Verbal Interpretation
Q1. The administration at my institution actively supports Quality Management System initiatives.	4.21	0.98	Strongly Agree
Q2. Faculty members at my institution are adequately trained in Quality Management System principles.	3.72	1.19	Agree
Q3. Quality Management System efforts at me the institution is regularly assessed and improved.	3.72	1.13	Agree
Q4. Quality Management System principles have influenced the way I plan my courses.	4.07	1.03	Agree
Q5. I actively seek feedback from students to improve my teaching, aligning with QMS principles.	4.17	1.00	Agree
Q6. Quality Management Systems has made me more focused on continuous improvement in my teaching methods.	4.21	0.98	Strongly Agree
Q7. I incorporate student input and satisfaction data into my teaching decisions.	4.21	0.94	Strongly Agree
Q8. QMS encourages me to set clear learning objectives and assess outcomes.	4.24	0.99	Strongly Agree
Q9. I collaborate with colleagues to improve the quality of education in line with QMS principles.	4.03	1.21	Agree
Q10. Quality Management System has increased my attention to detail in the course design and delivery.	4.03	1.18	Agree

Q11. Quality Management System has improved the alignment of my teaching with institutional goals.	4.10 1.18	Agree
Q12. I find that the Quality Management System helps me address student needs more effectively.	4.07 1.25	Agree
Q13. I believe that the Quality Management System has positively impacted the quality of my teaching.	4.10 1.18	Agree
Grand Mean 4.07 0.17		Agree

Table 5 Shows how the quality management system and its impacts on the individual teaching styles of professors. This can be categorized into two subgroups; the first group focuses on the QMS implementation in the institution. Q1, Q2, and Q3 are under that sub-group, and the second is the teaching practices and QMS, which Q4-Q13 is under the second group. Questions 1 to 3 show a quality management system implemented in the institution that is continuously assessed and improved given the situation. Questions 4 to 13 show that the quality management system has positively impacted the professors' teaching styles in terms of course planning, continuous improvement, clear learning objectives, course design and delivery, and how the professor addresses the students. The overall mean for the questions is $M= 4.07$, $SD=0.17$, which translates to Agree.

Research Question 2. What challenges and/or barriers do professors experience when implementing the QMS policies in their teachings?

Table 6: Barriers and Challenges

	Weighted Mean	Standard Deviation	Verbal Interpretation
Q1. Lack of time and resources hinders effective Quality Management System implementation.	3.93	1.07	Agree
Q2. Resistance to change among faculty is a significant obstacle to Quality Management System adoption.	3.72	1.25	Agree
Q3. There is no clear communication of Quality Management System goals and objectives to all stakeholders.	3.76	0.99	Agree

Table 6 shows the three categories considered to be challenges and barriers professors experience when implementing the QMS policies. According to the results,

lack of time and resources ranks as one, followed by no clear communication from the management and, lastly, resistance to change among the faculty members.

Previous studies also show that time and resources are the major barriers an organization experiences when implementing its Quality Management System. For continuous improvement, faculty members and staff should undergo training and seminars from external consultants and organizations that need resources and funding [28]. Research Question 3. Is a quality management system beneficial for the graduate school?

Table 7: General of QMS Implementation

	Weighted Mean	Standard Deviation	Verbal Interpretation
Q1. QMS practices are essential for improving the quality of education.	4.34	1.08	Strongly Agree
Q2. QMS principles are effectively implemented in my institution.	4.10	1.08	Agree
Q3. I believe that QMS positively impacts student learning outcomes.	4.31	1.07	Strongly Agree

Table 8: Overall Assessment

	Weighted Mean	Standard Deviation	Verbal Interpretation
Overall, we believe that the Quality Management System(QMS) is beneficial for higher education.	4.41	0.95	Strongly Agree

Table 7 shows that the respondents strongly agree that the quality management system is essential for improving the quality of education and also strongly agree that the QMS positively impacts the leading outcomes of the students. Table 8 shows that the respondents strongly agree that implementing a quality management system at UE graduate school benefits the graduate school. Similar studies also show that implementing a quality management system benefits the university by improving its competitiveness, effectiveness of higher education institution activities, and employee and customer satisfaction. In addition to the Likert survey, the survey instrument added an open-ended question if there are any comments and suggestions for the graduate school; some of the respondent responses were the continuation of the graduate school's Quality management system practices, additional training and development to professors would help improve the quality, improvements on not only training but equipment would be beneficial for the quality management, it has also been praised not only the professors but also the graduate school staff is an integral part of the quality management system.

9. Conclusion

This research has examined the Quality Management System's impact on graduate school professors' individual teaching style. A quantitative method was used for research with a total of 29 respondents. The results have indicated that the quality management system, especially in the form of feedback, has an impact on the individual teaching styles of professors; the respondents plan and design their lectures with a quality management system and use feedback for continuous improvement. The Graduate School implements a survey or feedback for faculty and university services once every semester in the middle of the semester; students can evaluate their current professors in the following matters: a professor's Teaching Approach and Style, Classroom Management, and Professionalism and Communication. The data will be available to the professor for viewing and review. This is one part of the quality management system that affects the individual teaching styles of professors because students comment on the professors' current ratings, and the professors adjust their teaching styles based on the needs of the students.

9.1. Limitations and a Future-Research Direction

As with any research, this also has constraints and limitations. Future research should expand upon this research approach by increasing the sampling approach of responses from a vast number of different graduate schools in the country to decrease any bias in the selection process and add the perspective of the customer, aka the students, to have a holistic approach regarding the topics. The research also has a 10.80% margin of error, a 90% degree of confidence, and a 50% response distribution because

of the limited availability of professors available to answer the survey currently; the university is hybrid, which exerts difficulty for the researcher and the respondents to meet.

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Data Availability Statement: This research contains respondent demographics, response data, and collected surveys related to work processes. The research also contains diagnostic information to aid in answering the research questions presented.

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References

1. A. A. A. Al-Salim, "Total Quality Management has impact on the performance of educational institutions," *International Journal of Scientific and Research Publications*, no. 8, no.2, 2018.
2. A. Azainil, N. U. Apriliani, and S. Suandie, "Policy evaluation total quality management school applying international organization for standardization (ISO) in the city of samarinda," *J. Edu. Rev. Resch*, vol. 1, no. 1, p. 25, 2018.
3. A. S. M. Sohel-Uz-Zaman and U. Anjalin, "Implementing total quality management in education: Compatibility and challenges," *Open J. Soc. Sci.*, vol. 04, no. 11, pp. 207–217, 2016.
4. A. Saiti, "Management science in higher education institutions: Case studies from Greece," *Interchange (Tor :)*, 1984), vol. 41, no. 1, pp. 45–60, 2010.
5. A. V. Todorut, "The need of total quality management in higher education," *Procedia Soc. Behav. Sci.*, vol. 83, pp. 1105–1110, 2013.
6. C. Ibor, E. Jurgen, and F. W. Don, "Quality management in Hungarian higher education: organisational responses to governmental policy," *Social Indicators Research*, vol. 56, no. 10, pp. 439–455, 2008.
7. D. Elmuti, Y. Kathawala, and M. Monippallil, "Outsourcing to gain a competitive advantage," *Industrial Management*, vol. 40, no. 3, pp. 20–24, 1998.
8. D. W. Johnson, R. T. Johnson, and K. A. Smith, "Cooperative learning: Improving university instruction by basing practice on validated theory," *Journal on Excellence in College Teaching*, vol. 25, no. 3–4, pp. 85–118, 2014.
9. E. Altunay, "The effect of training with TQM on the perceptions of teachers about the quality of schools," *Univers. J. Educ. Res.*, vol. 4, no. 9, pp. 2126–2133, 2016.
10. G. Meirovich and E. J. Romar, "The difficulty in implementing TQM in higher education instruction: The duality of instructor/student roles," *Qual. Assur. Educ.*, vol. 14, no. 4, pp. 324–337, 2006.
11. G. Mounir, A. Idrees, E. S. M. Khater, E. Mosallam, and A. E. Khedr, "The impact of applying ISO standards systems on improving the quality of the performance in higher educational institutions in Egypt," *Int. J. Electr. Comput. Eng. Syst.*, vol. 14, no. 4, pp. 457–464, 2023.
12. I. J. Oluwafemi and O. T. Laseinde, "Adoption of Total Quality Management in the educational sector: Case study of Engineering institutions," *J. Phys. Conf. Ser.*, vol. 1378, no. 3, p. 032002, 2019.
13. J. V. Koch and J. L. Fisher, "Higher education and total quality management," *Total Qual. Manag.*, vol. 9, no. 8, pp. 659–668, 1998.
14. J. V. Koch, "TQM: why is its impact in higher education so small?," *TQM Mag.*, vol. 15, no. 5, pp. 325–333, 2003.
15. K. C. Baucom, "Case Study: Using Total Quality Management in Undergraduate Admissions at the University of North Carolina-Charlotte," pp. 76–81, 1995.
16. K. S. Huang, M. J. Haddadin, M. M. Olmstead, and M. J. Kurth, "Synthesis and reactions of some heterocyclic AzacyaninesI," *J. Org. Chem.*, vol. 66, no. 4, pp. 1310–1315, 2001.
17. M. Hammar, "What is a Quality Management System (QMS) in ISO 9001?," *9001Academy*. [Online]. Available: <https://advisera.com/9001academy/knowledgebase/quality-management-system-what-i>. [Accessed: 24-Jan-2022].
18. M. Pilar, C. D. M. Jose, and R. David, "A Composite Indicator for University Quality Assessment," *Social Indicators Research*, vol. 89, no. 10, pp. 129–146, 2008.
19. M. Zairi and D. Sinclair, "Business process re-engineering and process management: A survey of current practice and future trends in integrated management," *Bus. Process Re-eng. Amp Manag. J.*, vol. 1, no. 1, pp. 8–30, 1995.

20. N. Leming and C. Mills, "Not Another Inventory, Rather a Catalyst for Reflection," *To Improve the Academy*, vol. 11, no. 1, pp. 137–155, 1992.
21. R. Lindsay, "Total quality management in education," *Br. J. Educ. Technol.*, vol. 37, no. 2, pp. 312–313, 2006.
22. R. M. Felder and H. Celanese, "How students learn, how teachers teach, and what usually goes wrong," *Umn.edu*. [Online]. Available: <https://assets.csom.umn.edu/assets/38667.pdf>. [Accessed: 24-Jan-2022].
23. R. Paul and L. Elder, "Critical Thinking: The Nature of Critical and Creative Thought," *Journal of Developmental Education*, vol. 30, no. 2, pp. 2–7, 2006.
24. S. Garbutt, "The transfer of TQM from industry to education," *Educ. Train.*, vol. 38, no. 7, pp. 16–22, 1996.
25. T. J. E. Marchese, "American Association for higher education (aahe) bulletin, 1993-94," *Aahe Bulletin*, 1994.
26. V. H. Y. Lo and D. Sculli, "An application of TQM concepts in education," *Train. Qual.*, vol. 4, no. 3, pp. 16–22, 1996.
27. W. Gallowayrl, "Determinants of Quality Perception in Education," *CRC Press LLC*, vol. 2, no. 04, pp. 56–58, 1990.
28. Z. Ying, "A Brief Discussion on the Emergence and Development of Discipline Evaluation in China," in *Chinese Market*, 2012, pp. 120–122.
29. "Sample size calculator by raosoft, inc," *Raosoft.com*. [Online]. Available: <http://www.raosoft.com/samplesize.html>. [Accessed: 24-Jan-2022].
30. A. H. Mujahid, T. Kalsoom, and A. Khanam, "Head Teachers' Perceptions regarding their role in Educational and Administrative Decision Making," *Sir Syed Journal of Education & Social Research*, vol. 3, no. 1, 2020.
31. Aravind, Bhuvaneshwari, and S. S. Rajest, "ICT-based digital technology for testing and evaluation of English language teaching," in *Handbook of Research on Learning in Language Classrooms Through ICT-Based Digital Technology*, IGI Global, USA, 2023, pp. 1–11.
32. B. S. Hutauruk, E. Fatmawati, N. Al-Awawdeh, R. Oktaviani, B. Sobirov, and B. Irawan, "A survey of different theories of translation in cultural studies," *Stud. Media Commun.*, vol. 11, no. 5, p. 41, 2023.
33. J. Hanif, T. Kalsoom, and A. Khanam, "Effect of mind mapping techniques on fifth grade students while teaching and learning science," *İlkogretim Online - Elementary Education Online*, vol. 19, pp. 3817–3825, 2020.
34. J. Padmanabhan, S. S. Rajest, and J. J. Veronica, "A study on the orthography and grammatical errors of tertiary-level students," in *Handbook of Research on Learning in Language Classrooms Through ICT-Based Digital Technology*, IGI Global, USA, 2023, pp. 41–53.
35. M. M. S. Akhtar and T. Kalsoom, "Issues of universities' governance in Pakistan," *Journal of Elementary Education*, vol. 22, no. 2, pp. 81–94, 2012.
36. M. Mochklas, M. Ngongo, M. Y. Sianipar, S. N. B. Kizi, R. E. Putra, and N. Al-Awawdeh, "Exploring factors that impact on motivation in foreign language learning in the classroom," *Stud. Media Commun.*, vol. 11, no. 5, p. 60, 2023.
37. N. Al-Awawdeh and T. Kalsoom, "Foreign languages E-learning Assessment Efficiency and content access Effectiveness during Corona Pandemic in university context," *Theory Pr. Lang. Stud.*, vol. 12, no. 10, pp. 2124–2132, 2022.
38. N. Al-Awawdeh, "Appropriating Feminist Voice While Translating: Unpublished but Visible Project," *Journal of Language Teaching and Research*, vol. 14, no. 5, pp. 1344–1353, 2023.
39. R. S. Suman, S. Moccia, K. Chinnusamy, B. Singh, and R. Regin, Eds., "Handbook of research on learning in language classrooms through ICT-based digital technology," *Advances in Educational Technologies and Instructional Design*. IGI Global, USA, 10-Feb-2023.
40. T. Kalsoom, F. Aziz, and S. Jabeen, "Structural Relationship between Emotional Intelligence and Academic Stress Coping Techniques with the moderating Effect of Psychological Hardiness of ESL Students," *Central European Management Journal*, vol. 31, no.3, pp. 256-269, 2023.
41. T. Kalsoom, U. Quraisi, and F. Aziz, "Relationship between Metacognitive Awareness of Reading Comprehension Strategies and Students' Reading Comprehension Achievement Scores in L2," *Linguistica Antverpiensia*, vol.17, no.3, pp. 4271–4282, 2021.
42. T. Kalsoom, V. Showunmi, and I. Ibrar, "A systematic literature review on the role of mentoring and feedback in improvement of teaching practicum," *ojs*, vol. 2, no. 2, pp. 20–32, 2019.
43. S. Bhakuni, "Application of artificial intelligence on human resource management in information technology industry in India," *The Scientific Temper*, vol. 14, no. 4, pp. 1232–1243, 2023.
44. Y. Purnama, B. Sobirov, L. Ino, F. Handayani, N. Al-Awawdeh, and W. Safitri, "Neuro-Linguistic Programming as an instructional strategy to enhance Foreign Language teaching," *Stud. Media Commun.*, vol. 11, no. 5, p. 50, 2023.
45. B. K. Nagaraj, Kalaivani, S. Begum, Akila, H. K. Sachdev, and S. Kumar, "The emerging role of artificial Intelligence in STEM higher education: A critical review," *Int. Res. J. multidiscip. Technovation*, pp. 1–19, 2023, Press.