QUANTUM Leadership, Work Engagement, And Teaching Performance Of Private Higher Education Teachers: An Explanatory Sequential DESIGN

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ABSTRACT

This study investigated the influence of quantum leadership and work engagement on teaching performance among faculty members at private higher education institutions in Region XI, Philippines. Participants were surveyed and interviewed using a mixed methods approach, specifically the explanatory sequential design. The researcher used validated, adapted questionnaires and interview guides through surveys, in-depth interviews, and focus group discussions to collect relevant data. Mean, standard deviation, Pearson product-moment correlation, and multiple regression were used to analyze the data. The quantitative findings indicated high levels of quantum leadership and work engagement, and very high levels of teaching performance among teachers and administrators. Significant positive relationships were found between quantum leadership and teaching performance, as well as work engagement and teaching performance. Likewise, in its singular capacity, quantum leadership and work engagement influence teaching performance. Qualitative themes confirmed the high quantitative results of quantum leadership, work engagement, and a very high level of teaching performance. Quantitative and qualitative data reveal a connecting-confirming nature of data integration.

KEYWORDS: *Educational leadership, quantum leadership, teaching performance, Philippines*

INTRODUCTION

Teaching performance, as defined by Stronge (2020), is the array of professional practices and behaviors exhibited by teachers. It encompasses instructional quality, classroom management, and holistic professional growth.

However, according to Al-Zoubi and Younes (2015), low teaching performance has been a persistent problem in education. Moreover, Samson and Collins (2012) and Ghaicha (2016) posited that teachers exhibit poor teaching performance in meeting the varying needs of their students.

In Asian settings, particularly in Indonesia, teacher quality remains low across competence, knowledge, and pedagogical expertise (Kanya et al., 2021). In the Philippines, the World Bank study found that 66 percent of teachers had a medium-low level of effective teaching, 19 percent had a low level, and the remaining 15 percent had a medium-high level (Philippine Star, 2023). According to the Philippine Institute for Development Studies (2021), the Department of Education (DepEd) and the Commission on Higher Education (CHED) reported that poor teaching performance is evident since budgets were decreased in the allocation of funding, leading to adverse effects on the education system, affecting the number of seminars and training given to the teachers.

On another note, a growing body of research emphasizes the importance of effective teaching in achieving the institutions' positive goals (Darling-Hammond et al., 2017). With this, institution leaders must be cognizant of the paradigm shift since it affects teaching performance (Delgarm et al., 2022). According to Dargahi (2013), leadership aims to advance competitive advantages by understanding the requirements of emerging leadership roles. Organizations utilizing quantum leadership are those in which all members understand how to access the quantum field's infinite potential. As a result, these are learning environments where continuous education is the norm (Shelton & Darling, 2003). Leaders who leverage quantum skills can improve teaching performance by creating a welcoming, creative space where teachers feel free to try out new technologies and teaching approaches (Griffiths, 2018).

More so, Bakker and Demerouti (2017) stated that work engagement is influenced by teaching performance. Work engagement reflects employees' emotional investment in their work and their commitment to achieving organizational objectives. Engaged employees are more likely to experience positive emotions, be more productive, and provide superior customer service (Saks, 2006). In contrast, disengaged employees may exhibit a range of adverse outcomes, including decreased productivity, increased absenteeism, and heightened stress (Bakker & Demerouti, 2017).

Numerous academics have studied Quantum Leadership and Teaching Performance; however, more research is needed on the Davao region and the interrelationships among these variables. In addition, most studies conducted were international or national in scope. Similarly, correlations between teaching performance and other variables, such as job satisfaction and academic achievement, were completed mainly using qualitative or quantitative methods. Hence, a mixed methods approach was used in this study.

The intent to delve into the effect of quantum leadership on the interplay between work engagement and teaching performance in private higher education institutions is sufficient to underscore the importance of promoting a healthy work environment to retain high-performing employees and competent faculty members. The descriptive measures for each research variable will provide a thorough understanding of the current educational climate and its effects on teachers. Such information may lead to policy recommendations that address problems related to disengaged employees and underperforming teachers, thereby hindering the institution's drive to excellence. The elaborate analysis of teachers' quantum leadership, work engagement, and teaching performance can inform school-based initiatives to sustain employee engagement and prevent future teacher attrition in colleges or universities. As a result, this will encourage other employees and teachers to put in more time and effort to ensure that the institution's vision, mission, and goals are achieved.

METHODS

Research Design

This study employed a mixed-methods approach, specifically an explanatory sequential design. This design advances the systematic integration, or mixing, of quantitative and qualitative data within a single investigation or ongoing inquiry program (Wisdom & Creswell, 2013). Further, the explanatory sequential design involves first collecting quantitative data and then qualitative data to supplement or explain the quantitative results (Creswell, 2013). Furthermore, this strategy is justified because, while quantitative data results provide a basic picture of the study problem, further analysis, particularly through qualitative data, is required to clarify, extend, or refine the general picture.

In the quantitative strand, the researcher used a descriptive correlational study to address the study's problems and achieve its purpose. A descriptive correlational research design is appropriate because the study aims to conclude

the strengths in relationships among quantum leadership, employee engagement, and teaching performance of teachers without the researcher controlling either of them (Jhangiani & Chiang, 2020).

In the qualitative strand, the researcher utilized the phenomenological approach. Creswell (2018) stated that phenomenology is an approach to qualitative research that focuses on the commonality of a lived experience within a particular group. Creswell further stated that the information should be examined and repeated to identify similar words and themes and then grouped to create meaning clusters. The researcher may develop a universal understanding of the event, circumstance, or experience through this approach, thereby deepening their understanding of the phenomenon.

Research Locale

The study was conducted in 14 private higher education institutions (HEI) in Region XI, covering the entire Davao Region. These are colleges and universities representing the provinces of the Davao region. The accessibility of the schools and the number of teachers and heads who met the criteria were considered when choosing the schools. Region XI consists of five provinces: Davao de Oro, Davao del Norte, Davao del Sur, Davao Occidental, and Davao Oriental. Among the 14 private HEIs included were seven from Davao City, two from Davao del Sur, three from Davao del Norte, one from Davao de Oro, and one from Davao Oriental. The researcher chose to perform the research in Region XI for two reasons. First, the researcher is an academician and believes this study can significantly help the Davao region HEIs. Second, the Davao region was chosen for this research because it has enough participants with whom the researcher can engage.

Research Participants

To ensure homogeneity, the following criteria were set: each participant must be a full-time college or university teacher with at least 2 years of teaching experience. In addition, the respective school heads of the selected departments were also asked to participate. Those teaching for less than two years and part-time teachers were not qualified to participate in the study. In the Quantitative strand, Stratified random sampling was used to select participants within each school, increasing efficiency and ensuring homogeneous samples with respect to the characteristics under study (Arnab, 2017). The study participants were 300 college teachers from the 14 schools in Region XI. Specifically, each school has a teacher representative who assisted the researcher

in randomly selecting 22 respondents from each of the 14 schools. In this way, only those who fit the abovementioned inclusion criteria were selected. Meanwhile, in the qualitative strand, 17 participants from the initial quantitative phase were selected and invited to participate in in-depth interviews (IDIs) and focus group discussions (FGDs).

In this research, purposive sampling was used to better match participants to the research's purpose and objectives. Specifically, those individuals whose ratings were either too low or too high were selected to extract the reasons behind their responses.

Research Instruments

In this study, the researcher used four sets of questionnaires to collect data from the respondents. These surveys were adapted, revised, and validated as needed to ensure they were appropriate for the study setting. A total of five panels of experts validated the content as part of this procedure. These survey questions underwent pilot testing in order to assess their reliability for the next study.

Data Collection

The researcher sought approval and endorsement from the Dean of the Graduate School at the University of the Immaculate Conception. A copy of the research proposal was also submitted to the UIC Research Ethics Committee for ethical assessment. After receiving ethical approval, the researcher obtained permission from the Presidents or School Directors of the selected higher education institutions in Region XI. Lastly, the researcher discussed the specifics of the study with the participants who met the criteria to identify the data collection dates without disrupting the teachers' classes.

Data Analysis

Various appropriate statistical tools were used in this study. These were the means and standard deviations for quantum leadership, teachers' work engagement, and teaching performance. Further, Pearson's product-moment correlation was used to examine the relationships among quantum leadership, work engagement, and teacher teaching performance. Furthermore, multiple regression analysis was used to identify the combined influence of quantum leadership and work engagement on teaching performance. This study also employed Creswell's method of analysis to get the standpoints of the gathered data. The results were used to identify emerging themes and responses from their

experiences, and to inform the questionnaire items. The result is a concise yet all-encompassing description of the phenomenon under study, validated by the participants who made it. The data were analyzed in the following order: Familiarization is the initial phase the researcher undertakes, in which he becomes acquainted with the data by reading all participant accounts multiple times and identifying significant statements. In this step, the researcher identified all statements in the accounts that directly affected the phenomenon under investigation. Formulation of meanings: In this phase, the researcher identified phenomenon-related meanings by meticulously considering the significant statements. The researcher grouped the identified meanings into overarching motifs shared by all accounts. Developing an exhaustive description, the researcher condensed it into a concise, dense statement that conveyed only the aspects deemed indispensable to the phenomenon's structure. Seeking verification of the fundamental structure is the final step in which the researcher returns the fundamental structure statement to all participants to determine if it accurately represents their experience. In light of this feedback, the researcher revisited and modified earlier analysis steps.

Ethical Statement

This study was officially approved by the University of the Immaculate Conception Research Ethics Committee (UIC-REC) and conducted in strict compliance with the research ethics. Administrative clearances were secured before data collection. Voluntary written informed consent was obtained. Participants were guaranteed the absolute right to withdraw at any stage without administrative or professional penalties. In strict compliance with the Data Privacy Act of 2012, absolute anonymity was maintained by replacing all personal identities and institutional names with alphanumeric codes. Finally, all completed questionnaires, audio recordings, and digital transcripts were stored in a secure, password-protected repository accessible exclusively to the primary investigator.

RESULTS

Status of Quantum Leadership, Work Engagement, and Teaching Performance. The status of quantum leadership among heads of private higher education institutions in Region XI. The result reveals that the overall mean for this variable is 4.19, indicating a high level, while the overall standard deviation of 0.76 is less than 1.00, suggesting homogeneous responses from participants. Likewise, teachers' work engagement is 4.09, which is considered high. It has a

standard deviation of 0.62, representing homogeneity of participant responses. In addition, the status of teachers' teaching performance shows that the overall mean for this variable is 4.30, which is considered a very high level, while the SD is 0.63, indicating homogeneous responses from the participants.

Significance of the Influence of Quantum Leadership and Work Engagement on Teaching Performance

The results reveal that quantum leadership is a significant predictor of teaching performance. This result means that for every unit increase in the quantum leadership, there is a corresponding increase of .500 in the level of teaching performance. Moreover, the standardized beta coefficient for work engagement is .281, with t-statistics of 5.457 and a p-value of .000. This indicates that work engagement is a significant predictor of teaching performance in an individual capacity. Thus, there is a corresponding increase of .281 units in teaching performance for every unit increase in work engagement.

Meanwhile, the R-square value is reported at .497, indicating that the combined influence of the predictors can explain 49.7 percent of the variability of teaching performance: work engagement and quantum leadership. Relatively, 50.3 percent of the variation in teaching performance can be attributed to other factors, or independent variables, not included in this study.

Table 2

Significance of the Influence of Quantum Leadership and Work Engagement on Teaching Performance

Predictor	Standardized Coefficients Beta	T	p-value	Remarks
Quantum Leadership	.500	9.730	.000	Significant
Work Engagement	.281	5.457	.000	Significant

R=.705, R-square=.497, F= 146.690, p<.05

Standpoints of the Participants on the Salient Points in the Quantitative Results

Confirmed a very high rating of vigor in Work Engagement. The participants shared that they are proud of their work, mainly because they have a

set time to do things together and finish their tasks ahead of time. They can utilize different approaches in their classes. Verbally, they said:

> We really wait for that certain time when we can check it together. By that time, we are enjoying it. So, I think that's one thing… certain time we are very productive. (IDI-001)

> Because I'm a kind of person that when a task is given to me, I always make sure to accomplish it earlier than expected. (IDI-002)

Confirmed the very high rating of leader's perspective in quantum leadership. The participants shared their experiences, believing that relationships should be built on trust and shared values. According to the participants, their dean allows them to make micro-decisions on tasks and engagements, informs them of what is happening in the school, and they are less interfered with by their head. As told by the teachers:

> Our dean would also encourage us to make micro-decisions on our own. *Muana nalang gyud na sya*, "if you think that's the best for the student then I think I could trust you. (IDI-005)

> Our dean would also encourage us to make micro-decisions on our own. She would say, "If you think that's the best for the student then I think I could trust you.

> She tends to interfere less as to how we are going to conduct our lectures…she believes that we know better as to how we are going to convey the needed information. (FGD-Ff)

Confirmed the very high rating of planning factor in Teaching Performance. During the discussion, participants also shared that they were familiar with the course content. Among their reasons is that, as teachers, they walk their students through activities, conduct peer orientations and evaluations,

prepare in advance for their topics, and ensure that students participate in class. As told by the teachers:

> I really walk them through. I don't want also to leave them without my supervision during handling different laboratory activities. (IDI-004)

> We're doing peer orientations… pre-discussions so that they can understand better. If you have policies, rules, of course you have topics to discuss in advance so that students can really catch up. (IDI-007)

> I cannot go inside the classroom without reading my subject
> matter or topic for the day. I really thoroughly prepare
> it. Continuous learning, thorough preparation, and practice
> and application. (IDI-008)

Confirmed combined influence of work engagement and quantum leaders to teaching performance. In discussing the quantitative findings with the participants, they confirmed the influence of work engagement and quantum leaders on teaching performance. The reason is that their school head ensures that everyone can excel in their field of expertise. Specifically, they mentioned that:

> She is reminding us always to attend seminars especially if it's cheap. She rotates the participants in the local, national or international events. (FGD 10)

> Trainings and seminars in relation to where I am working is being rotated to ensure that everyone has an equal opportunity. (FGD Bb)

> He assigns us to attend, for example if there is a training in

Integrated parasitology, he asks those who are teaching that course first , before giving it to others. (FGD Ee)

Joint Display of Quantitative and Qualitative Findings

Shown in Table 4 is the joint display of quantitative and qualitative results of Work Engagement, Quantum Leadership, and Teaching performance, and the significant relationship between the independent and dependent variables.

Table 4

Joint Display of Quantitative and Qualitative Results

Research Area	Quantitative Results	Qualitative Results	Nature of Integration
Work Engagement	*Vigor* Being proud of the work they do. Mean: 4.47 SD:0.76	Participants confirmed work engagement is always manifested. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.2)	Connecting -confirmation
Quantum Leadership	*Leaders Perspective* Believing that relationships should be built on trust and shared values. Mean: 4.31 SD: 0.91	Participants confirmed quantum leadership is always evident. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.2)	Connecting -confirmation
Teaching Performance	*Planning Factor*	Participants confirmed teacher performance is always observed. Based on	

	Having good command of the course content. Mean: 4.28 SD:0.78	the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. (Refer to Table 3.2)	Connecting -confirmation
Significance of the Influence	Combined Influence Work Engagement and Quantum Leadership on Teaching Performance $R^2 = .497$	Participants confirmed the result. Based on the IDI and FGD, it could be gathered that the general assertions that work engagement and quantum leadership influence teacher performance. (Refer to Table 3.2)	Connecting -confirmation

Work Engagement. Specifically, vigor, the item *being proud of their work, has* a very high rating. In the qualitative results, the participants confirmed that work engagement is always manifested. Based on the IDI and FGD, the general assertions confirm the very high rating. Thus, the two are connecting-confirmation.

Quantum Leadership. Specifically, from a leader's perspective, the item *believing that relationships should be built on trust and shared values* has a very high rating. The qualitative result indicated that participants confirmed that quantum leadership is always evident. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. Hence, the nature of integration is connecting-confirmation.

Teaching Performance. Specifically, in the planning factor, the item *having a good command of the course content* has a very high rating. The qualitative result indicated that participants confirmed that teaching performance is always observed. Based on the IDI and FGD, it could be gathered that the general assertions confirm the very high rating. Thus, the two are connecting-confirmation.

Significance of the Influence of Work Engagement and Quantum Leadership to Teaching Performance. The participants confirmed the quantitative result of the combined influence of work engagement and quantum leadership on teaching performance. Based on the IDI and FGD, the general assertions are that work engagement and quantum leadership influence teachers' teaching performance. The nature of the integration is connecting-confirmation.

DISCUSSION

Status of Quantum Leadership

The status of Quantum Leadership is often evident among private HEI school leaders in Region XI. This finding implies that the school heads' quantum leadership style within their respective HEIs contributes to organizational stability and fosters interconnectedness, emphasizing the personal growth of their members. These findings support those of Ceylan et al. (2021) and Turan and Ercetin (2017), who found that Quantum Leadership has high status, is enhanced by organizational interconnectedness, and fosters an adaptive and cohesive work environment. Similarly, the result aligns with the study by Watson et al. (2018), which found that employees are willing to accept directives from the leader, regardless of their complexity or difficulty, indicating the high status of quantum leadership skills. Moreover, the study by Gul et al. (2020) found that school leaders who exhibit high quantum leadership skills enhance their institutions' innovative capacities and improve organizational performance.

Status of Work Engagement

The Work Engagement status is oftentimes manifested. This finding implies that teachers in private HEIs in the Davao region are emotionally, cognitively, and physically immersed in their job responsibilities and find their work fulfilling. The results also suggest that the teachers feel proud of their work, even when it is challenging. These findings support Gupta's (2019) statement that work engagement is high because employees are highly engaged. Likewise, the result concurs with the findings of Heng and Chu (2023) and Saks (2006), where workers are more involved in their work, more resilient, and feel good about doing their jobs, revealing high work engagement. Likewise, the feeling of pride aligns with Schaufeli and Tarris's (2014) finding that individuals who are happy with their jobs are dedicated to the organization.

Status of Teaching Performance

The Teaching Performance status is consistently observed among private HEI teachers in Region XI. This finding implies that teachers across their

respective HEIs in the Davao region exhibit professional practices and behaviors that significantly contribute to students' academic and social success. The results align with Gu and Day's (2019) findings, indicating a very high level of teaching performance, with effective teaching practices characterized by clear communication, well-structured lessons, and engaging teaching methods.

Likewise, the result aligns with the study by Hattie and Clarke (2018), which states that when teaching performance is very high, teachers use feedback to refine their teaching strategies and adapt to learners' needs. Furthermore, Ingersoll and Strong (2018) identified that high-performing teachers excel by integrating elements such as a supportive learning environment into their teaching, thereby fostering a conducive environment for academic and personal growth.

Significance of the Influence of Work Engagement and Quantum Leadership on Teaching Performance

The emotional and cognitive aspects of Work Engagement are critical factors significantly influencing Teaching Performance. As elucidated by Bakker and Bal (2010), emotional engagement is correlated with a strong sense of love and excitement for teaching. In contrast, cognitive engagement is connected to active participation and the ability to solve problems in the classroom.

Meanwhile, positive leadership styles have been related to various indicators of employee well-being, such as employee Work Engagement. As defined by Schaufeli and Bakker (2004), it is a persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior. Based on the most widely used conceptualization of Work Engagement, it is characterized by vigor, dedication, and absorption. Likewise, Jaya and Ariyanto (2021) posited that vigor is associated with high energy levels and mental resilience, and that dedication is characterized by a sense of significance, inspiration, pride, and enthusiasm. Absorption, ultimately, is characterized by being happily engrossed in work, which can be seen as a pervasive state of flow.

The regression analysis determines the influence of Work Engagement and Quantum Leadership on the teachers' Teaching Performance. It reveals that the independent variables significantly influence the dependent variable. Recent research emphasizes the beneficial influence of strong work engagement on

teaching performance. A comprehensive analysis conducted by Mișu et al. (2022) investigated the relationship between work engagement and teaching performance among high school teachers in Romania. The study revealed a positive correlation, indicating that higher levels of work engagement are associated with enhanced teaching performance, corroborating the results. The association between work engagement and efficacy in teachers suggests that those who perceive themselves as more successful also demonstrate higher levels of engagement and perform more effectively in their roles.

Specifically, work engagement significantly influences teacher performance. This finding means that when the faculty members in higher education institutions in Region XI are engaged at work, their Teaching Performance will also improve. This statement corresponds to previous research indicating that Work Engagement predicts teaching performance among university faculty (Meng & Sun, 2019). This, in turn, can improve universities' productivity. Similarly, Perera et al. (2018) stated that this is consistent with previous studies' findings that have established a positive relationship between work engagement and teachers' job performance.

A study by Zhang and colleagues (2021) among Chinese teachers found that meeting fundamental psychological needs improves work engagement, thereby increasing teaching performance. Teachers who exhibit higher levels of engagement demonstrate more significant innovation, dedication, and resilience in the face of adversity, resulting in improved teaching outcomes. Research on special education teachers in China also found that higher work engagement, supported by social factors such as autonomy and self-efficacy, significantly improves teaching performance. These findings underline the importance of creating supportive work environments to enhance teachers' engagement and performance (Lu et al., 2018). Their research indicated that both factors predicted work engagement among British and Iranian English language teachers, with psychological well-being being a more robust predictor.

In addition, the influence of quantum leadership on teaching performance was found to be significant. This finding implies that when teachers find their leaders to be self-aware, spontaneous, humble, compassionate, and independent, it will significantly improve their manner of teaching (Zohar, 2021). As previously mentioned, research by Meng and Sun (2019) also shows that work engagement predicts performance among university faculty. Perera et al. (2018) also mentioned that quantum leadership enhances association and

prosperity at work.

As the study revealed the significance of quantum leadership and work engagement in teaching performance, the result is supported by the theory of Job Engagement by Jayanthi et al. (2020). According to their theory, engaged employees will go above and beyond what is expected of them to contribute to the company's success. In this sense, teachers who are engaged in their work put in more effort to deliver the best teaching performance to their students, exemplifying the leadership skills of the leader.

Standpoints of the Participants Quantum Leadership

The prominent theme was the confirmed very high rating on the statement, believing that relationships should be built on trust and shared values. The typical reasons for assigning them tasks, allowing them to make decisions on those tasks, and cascading the administration's plans to the faculty confirmed the theme's very high rating. In accord with this, Cheong et al. (2019) emphasized the behaviors of leaders who share power with their subordinates, enhancing motivation and autonomy. This leadership style involves delegating important tasks to employees and trusting them to take full responsibility. In quantum leadership, when leaders assign tasks to faculty members, they give the teachers opportunities to use their expertise. Consequently, this will promote a collaborative and dynamic work environment, not only motivation but also the conditions they need to be at their best (Amundsen & Martinsen, 2015).

Work Engagement

The very high rating on the statement of being proud of the work they do is the prominent theme. The typical reasons for not being burdened by the number of papers, accomplishing tasks earlier than expected, and the academic freedom they experienced in teaching confirmed the very high rating of the theme. The role of intrinsic motivation and the fulfillment of basic psychological needs like competence, autonomy, and relatedness in cultivating high motivation and engagement at work (Deci & Ryan, 1985). It provides a framework for relating work engagement, particularly vigor, to factors such as reduced paperwork burden and timely task completion. When talking about competence, teachers can feel it when they complete tasks efficiently and effectively. According to Van den Broeck et al. (2016), when paperwork is reduced, teachers tend to focus more on teaching and on more meaningful student interactions, thereby enhancing their competence and enthusiasm for their work.

Teaching Performance

The prominent theme was the confirmed very high rating on the statement promoting teamwork. The typical reasons for completing the task as a group, implementing open communication and collaboration, and conducting annual faculty development confirmed the very high rating of the theme. The emphasis is on the importance of observational learning, self-efficacy, and the interaction between the environment and individuals (Wang, 2022). According to Schunk and DiBenedetto (2020), this can be applied in the context of teaching performance, as this theory emphasizes the role of collaborative learning: when tasks are completed as a group, teachers can learn from and observe one another, thereby enhancing skills and self-efficacy. If this happens, sharing knowledge and collective problem-solving can lead to better teaching performance, as manifested by the participants' utterances.

Data Integration of Quantitative and Qualitative Results

The integration of quantitative and qualitative data revealed an intricate understanding of private HEI teachers' experiences with Quantum Leadership, Work Engagement, and Teaching Performance. According to Fetters et al. (2013), connecting as an integration strategy uses the findings of one strand to construct questions for the other strand. Given the quantitative strand's results, the questions were primarily based on the numerical results. It was then validated and led to an explanation of the connection between the variables tested. Based on the results of this study, this is connecting-confirmation. Accordingly, the quantitative findings, along with insights from the qualitative strand, particularly from the IDI and FGD, support the high mean ratings for quantum leadership. Their connection emphasizes the significant relationship between quantum leadership and work engagement in teaching performance.

The qualitative data validated and confirmed the essential themes in the quantitative results, exhibiting integration's connecting and confirmation character. The participant's affirmations of quantum leadership, work engagement, and teaching performance match the statistical data, corroborating the observed tendencies. The qualitative part adds to the quantitative results by giving the numbers greater meaning and depth and by showing the experiences and perspectives of teachers at private higher education institutions.

Further, statements from participants obtained via IDI and FGD support a strong association between quantum leadership and work engagement in teachers' teaching performance at a private higher education institution.

Furthermore, the qualitative data corroborated the quantitative data through personal experiences with their deans and the institution.

Thus, a connecting-confirmation nature of data integration relates to the two sets of findings. The qualitative aspect successfully enhanced the integrity of the results. The nature of integration agrees with the study of Singh (2019), asserting that when leaders are transformational, like quantum characteristics, they can elevate the overall employee work engagement, resulting in higher efficiency.

As regards the nature of data integration, a still connecting-confirmation was established. The reasons specified by the participants were paralleled in many ways in the quantitative findings. Thus, this theme captures the idea that school heads need to help members understand the organizational value holistically and that a strong, trust-based relationship must be built with the members. This finding aligns with the study by Mazzetti and Schaufeli (2022), which emphasized that when leaders emphasize inspiring and connecting with their subordinates, it significantly enhances work engagement. When leaders fulfill their followers' needs for autonomy, competence, and relatedness, it can foster high levels of work engagement. Similarly, Jiatong et al. (2022) conducted a study in China. They found that transformational leaders, such as those who use quantum leadership, play a role in motivating employees and enhancing their performance.

The connecting-confirmation nature of data integration was also established for these insights. The theme aligns with Van Wingerden and Van der Stoep's (2018) concept that when leaders create an environment in which employees perceive their work as meaningful, utilizing their strengths can lead to higher motivation, thereby improving their teaching performance. Their findings underscore the importance of leaders fostering an environment that values personal growth and meaningful contributions. In the same way, Mazzetti and Schaufeli (2022) posit that engaging leaders inspire the members by promoting a meaningful vision, granting them responsibility, and initiating a collaborative spirit.

The Joint Display of Quantitative and Qualitative Results table shows that all research areas, namely work engagement, quantum leadership, and teaching performance integration, are connecting and merging. This result is an instance of the visual joint display technique, advocated for integrating different

types of data in mixed-methods research (Johnson et al., 2019). The table links and integrates quantitative outcomes with qualitative participant perspectives through a "connecting-merging" integration.

According to Guetterman et al. (2015), cited by Johnson et al. (2019), structured columns allow us to combine qualitative and quantitative elements as recommended in best practices. In this respect, the central column helps crystallize integrated insights by bringing together those strands.

CONCLUSION

Elevating the quality of education to an excellent level, especially in non-accredited schools, remains a challenge. It must be performed by all leaders and employees regardless of the functions and roles in the organization with which they are connected. This quest will entail teamwork and camaraderie, with school heads and teachers working together to realize the institution's vision, mission, and goals.

Amidst the swiftly changing educational environment, teachers' effectiveness is becoming increasingly critical in determining the quality of education. Recent research emphasizes the substantial influence of work engagement and quantum leadership on teaching success. Based on contemporary organizational psychology and leadership theory, these ideas provide essential understanding for developing educational settings that support and energize teachers, leading to improved student outcomes.

Suppose a school is led by a leader whose principles align with quantum leadership and work well with a team with diverse backgrounds. In that case, teachers must feel the need to engage to improve their teaching performance and achieve the institutional mission, vision, and goals. Change is inevitable; however, if leaders can discern suitable, achievable changes to improve the learning organization and if this plan is effectively communicated to the group, any pushback within the team will be limited. The leaders will be motivated to strive for greatness when they fully understand and embrace the institution's mission and when every group member feels respected and recognized.

Conversely, if the administrators disregarded their duties and responsibilities towards the team, placing the load on the instructors with minimal oversight and communication, the teachers would quickly get fatigued and disengaged. This situation would undoubtedly lead to a detrimental,

unhealthy working environment. Moreover, workplace diversity would significantly impact the teaching effectiveness of instructors, who are widely regarded as the foundation of a school.

Further, the impact of work engagement and quantum leadership on teaching performance is significant. Furthermore, by cultivating a supportive climate that meets teachers' psychological needs and fosters their ability to adapt and collaborate, educational leaders can significantly improve teacher engagement and effectiveness. Combining these two concepts creates a dynamic and supportive educational setting that enhances teacher performance and student achievement. It is essential to adopt these contemporary organizational and leadership principles to shape the future of education as the educational landscape continues to change.

The status of quantum leadership among the Region XI higher education institution administrators was high, with a total mean of 4.19 and a standard deviation of 0.76. This result implies that the school heads' quantum leadership style, as assessed in the four categories, namely, leader's perspective, organizational design, motivational value state, and needs value state among private higher education institutions, is oftentimes evident and may contribute to the stability of the organization and the personal growth of its teachers as employees. The participants emphasized the importance of their leaders as believers in open communication to ensure shared solutions to problems, and their leaders emphasized the importance of stakeholders. In addition, the participants appreciated when their leaders understood the importance of personal growth in a holistic manner.

Similarly, the status of work engagement among private higher education teachers in Region XI was 4.09, interpreted as high, with a standard deviation of 0.62, indicating that the teachers often manifested work engagement. Therefore, faculty members may regard their work as significant (dedication), captivating (absorption), and a task they are enthusiastic to invest effort in (vigor). The participants felt proud of their work, and the majority found meaning and purpose in it.

In addition, this study's results indicated that teachers' teaching performance was very high, with a total mean of 4.30 and a standard deviation of 0.63. This result means that private higher education teachers' performance in Region XI was always observed. Consequently, teachers' actions, attitudes, and

behaviors in the teaching- learning environment can significantly influence students' learning progress. The participants emphasized that, as teachers, they must demonstrate a strong command of the course content while promoting teamwork among their peers and students.

Meanwhile, quantum leadership and work engagement significantly influenced teaching performance, suggesting that higher work engagement is associated with greater teaching performance. This finding indicates that school leaders play an essential role in providing direction and motivation to teachers, assuring them of support despite challenges, thereby improving teaching performance.

More so, based on the standpoint of the participants regarding the variables measured, such as work engagement, quantum leadership, and teaching performance, there were items rated as high or very high, which were explained further in the IDI and FGD. Moreover, connecting-confirmation was the type of data integration found to exist between the findings of both the quantitative and qualitative data. Connecting-confirmation because the qualitative data connected and confirmed the quantitative data results. This finding suggests that teachers' performance depends on school leaders' guidance and motivation, ensuring that teachers feel valued and regarded as essential members of the school. Teachers, seeing and experiencing the support and direction provided by the school head, gained the confidence to explore innovative strategies to improve student outcomes.

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