



FACULTY INSTRUCTIONAL LEADERSHIP THROUGH QUADRANT INTELLIGENCE (QI) MODEL FOR TEACHER EDUCATION CONTENT VALIDITY IN PUBLIC UNIVERSITIES IN RIVERS STATE

¹Thank God James Nwuke
thankgod.nwuke@ust.edu.ng

&

²Somiari Tamunoyalla
gitams4globe@gmail.com

¹Institute of Education, Rivers State University & ²Department of Educational Management, Ignatius Ajuru University

Cite this article:

ThankGod J & Somiari T (2024), Faculty Instructional Leadership Through Quadrant Intelligence (QI) Model For Teacher Education Content Validity In Public Universities in Rivers Stater. International Journal of Contemporary Education Research, 2(1), 17-34.

Manuscript History

Received:21 Mar 2024

Accepted: 14 Apr 2024

Published: 19 Apr 2024

Copyright © 2024 The Author(s).

This is an Open Access article distributed under the terms of Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND4.0), which permits anyone to *share, use, reproduce an* redistribute in any medium, *provided the original author and source are credited.*

ABSTRACT

The study investigated faculty instructional leadership through quadrant intelligence (QI) model for teacher education content validity in public universities in Rivers State. The study was guided by three research questions and three corresponding null hypotheses. A descriptive survey design was adopted in the study, and the population of the study consisted of 2985 lecturers from the three public universities in Rivers state. The sample for this study was 746 respondents; the respondents were stratified into male and female academic staff of the three universities in Rivers State. The instruments used for data collection of data for this study was design by the researcher titled ‘Faculty Instructional Leadership Through Quadrant Intelligence (QI) Model for Teacher Education Content Validity Questionnaire’ (FILQITECVQ) The reliability of the instrument was ascertained using Cronbach Alpha method. The reliability index yielded a result of $\alpha = 0.87, 0.78$ and 0.77 respectively which showed that the responses were consistent and the instrument considered reliable and adopted for the study. Mean and Standard Deviation Statistics was used to answer the research questions while t-test inferential statistics was used to test the null hypotheses at 0.05 level of significance. The study found that the use of curriculum improves teacher education content validation through the QI model in public universities in Rivers State. It concluded that the findings underscore the effectiveness of integrating the QI Model into curriculum design and pedagogical practices, enhancing content validation and aligning with the diverse needs of teacher education. It was recommended among others that public universities in Rivers State should establish interdisciplinary curriculum development teams comprising faculty members, curriculum specialists, and educational policymakers to ensure the integration of QI Model principles into teacher education curricula

Keywords: Quadrant Intelligence (QI) Model, Curriculum, pedagogical approaches, professional development and instructional leadership



INTRODUCTION

Education is still philosophically framed on social relevance, knowledge creation, and preservation of values for societal development. Essentially, education is for the benefit of any democratic society wishing to develop its citizenry as a workforce towards self-reliance. In this case the teacher is at the center in the creation and moulding of valuable human assets, societal values, and relevant skills in solving societal problems. In practice the teacher assumes leadership, well-endowed with knowledge creation, and should demonstrate skill sets to meet societal needs that support sustainable change efforts across a teacher's career. (Buchanan, Mills, & Mooney (2020).

The curricula in the teacher education institutions are supposed to be designed to develop teachers academically, socially, and technically for social relevance. Teachers' pedagogical content knowledge significantly improves student progress in secondary-level, through the activation of the cognitive domain and the input of the learner towards achieving success. Such institutions are to engage in pre-service training of teachers with intended outcomes on knowledge creation and skills building, transmission of a valuable sense of citizenry, and develop teachers to possess significant abilities that demonstrate a high sense of leadership in the classrooms, instructionally and pedagogically (Baumert et al., 2010)

Faculty instructional leadership plays an important role in shaping the quality of teacher education programs in public universities. In the context of Rivers State, Nigeria, where the demand for well-prepared educators is ever-increasing, the need for robust and valid teacher education content cannot be overstated. This research delves into the evaluation of teacher education content validity in public universities in Rivers State, employing the Quadrant Intelligence (QI) Model as an effective framework to examine faculty instructional leadership and its impact on the quality of teacher education.

As noted by Blase, & Blase (2000), Faculty instructional leadership is integral to the enhancement of teacher education content, as it directly influences curriculum design and pedagogical practices" (p. 34). The significance of this investigation cannot be underestimated, given that the quality of teacher education programmes that have direct bearing on the preparedness of future educators. According to Adeyemi and Adeyinka (2018), "quality teacher education is essential to produce competent and effective teachers who can meet the demands of the education system" (p. 52). Public universities in Rivers State are instrumental in this regard, as they are key institutions responsible for preparing the next generation of educators. However, the need for rigorous assessment and validation of the content of teacher education programs in these institutions is evident, as highlighted by Ogunniyi and Osunade (2017), who noted that "a comprehensive and systematic approach to evaluating teacher education content is essential to meet the changing demands of the teaching profession enacted in the Teachers Registration Council of Nigeria handbook " (p. 112).

To address this need, the Quadrant Intelligence (QI) Model presents a holistic framework that enables the evaluation of faculty instructional leadership through the examination of four distinct quadrants, which encompass curriculum, pedagogy, assessment, and professional development. This approach provides a structured and systematic means of assessing the content validity of teacher education programs in Rivers State's public universities. The Quadrant Intelligence (QI)



Model is designed to help organizations make strategic decisions by assessing their competitive positions in a two-dimensional space.

The curriculum as a quadrant model ensures that teacher education programs encompass a robust understanding of subject matter knowledge, pedagogy, and educational theory which in turn embrace the domains in educational system. This knowledge base equips future teachers with the tools they need to excel in their respective fields. Through the QI model, teacher education content emphasizes the development of practical teaching skills which include classroom management, lesson planning, assessment techniques, and the integration of technology into teaching practices. The curriculum also fosters positive attitudes towards the teaching profession, lifelong learning, cultural diversity, and inclusive education. It encourages aspiring educators to cultivate empathy, patience, and a commitment to student success.

Again, Onu (2018) pointed that in public universities, various pedagogical approaches are employed to validate teacher education content through the Quadrant Intelligence (QI) model. These approaches play a critical role in shaping the effectiveness and relevance of teacher education programs. One prominent pedagogical approach is active learning, where students engage in hands-on activities, discussions, and problem-solving exercises. Through active learning strategies, such as case studies and group projects, aspiring teachers apply theoretical knowledge to real-world events, enhancing their understanding of key concepts and their ability to analyze educational issues within the QI framework.

Faculty members participate in workshops, seminars, and conferences focused on instructional leadership and the implementation of the QI model in teacher education. These professional development opportunities provide them with the knowledge, strategies, and resources necessary to effectively integrate the QI model into curriculum development, course design, and instructional practices. Furthermore, faculty members collaborate with colleagues within and outside their institutions to share best practices, explore innovative teaching strategies, and address challenges related to teacher education content validation. Through collaborative professional networks, they leverage collective expertise and experiences to continuously improve the quality and relevance of teacher education programs within the QI framework.

Ekpo, and Okafor, (2019), investigated considering primal teacher leadership through quadrant intelligent (qi) model for teacher education content validity in Ghana. It recommended that the adoption of Qi model by the GES/ Teacher Education Division in Pre-service and In-service training of teachers. Teacher performance assessment should include the assessment of Qi levels and should lead to certification and partly based on evidence of such C21st multiple intelligence. Again, Qi model should be given serious consideration in policy decisions and scholarship. The study contributes to a new paradigm in skills set for teacher education and professional development. These skills set includes but not limited to social, emotional, strategic, and entrepreneurial intelligences.

Yusuf, (2017) investigated Faculty Instructional Leadership in Teacher Education Programs: A Content Validity Assessment of the Quadrant Intelligence (QI) Model. This research critically examines faculty instructional leadership within teacher education programs in public universities in Rivers State, utilizing the Quadrant Intelligence (QI) Model as the guiding framework. The primary focus is on ascertaining the content validity of the QI Model through a



comprehensive review of related studies. The researcher critically evaluates the key concepts, principles, and applications discussed in these works to draw connections and identify patterns. The research is positioned to make a significant contribution to the academic discourse on teacher education by offering valuable insights into the applicability and effectiveness of the QI Model in shaping instructional practices among faculty members in public universities in Rivers State. The anticipated outcomes of this study have the potential to inform curriculum development, faculty training, and institutional policies to enhance the quality of teacher education programs in the region.

This study will shed light on the existing strengths and weaknesses in teacher education content in public universities in Rivers State and more importantly, provide actionable insights for improvement. It is crucial that the faculty and education stakeholders work collaboratively to ensure that teacher education programs are in line with the dynamic needs of the educational system in Rivers State.

1.2 Statement of the Problem

The quality of teacher education programs in public universities in Rivers State is of paramount importance for the education system. The content validity of these programs determines the preparedness and competence of future educators. However, several critical issues surround this area. One of the primary challenges is the absence of a comprehensive evaluation framework. As it stands, there is no systematic and standardized approach to assess the content validity of teacher education programs in public universities within Rivers State. This lack of a structured framework makes it difficult to effectively gauge how well the curriculum, pedagogy, assessment methods, and professional development opportunities align with the evolving needs of the education system.

Another pressing problem lies in the realm of faculty instructional leadership. Faculty members play a pivotal role in shaping the content and direction of teacher education programs. Their expertise and leadership are essential for ensuring that these programs meet the necessary standards and produce competent teachers. However, it is imperative to investigate whether faculty members are effectively guiding these programs.

Furthermore, the ever-changing landscape of education, with emerging technologies, evolving teaching methodologies, and shifting curriculum standards, presents a challenge. The content validity of teacher education programs should be dynamic, adapting to these changes to produce educators who are not only well-versed in traditional teaching methods but also equipped to meet the demands of modern classrooms. Moreover, the alignment between teacher education programs and the specific needs of Rivers State's education system is a critical concern. Each region may have unique requirements and challenges in its educational landscape. Therefore, it is essential to explore whether teacher education programs in Rivers State adequately address the specific needs of the local community and the broader state educational goals.

In light of these challenges, there is a need for a comprehensive examination of faculty instructional leadership and its impact on the content validity of teacher education programs in public universities in Rivers State. This research will not only shed light on the existing issues but also pave the way for potential improvements that can enhance the quality of teacher education in the state.



1.3 Aim and Objectives of the Study

The aim of this study is to investigate faculty instructional leadership through quadrant intelligence (QI) Model for teacher education content validity in public universities in Rivers State. Specifically, the study seeks to achieve the following objectives:

1. Determine the use of curriculum for teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.
2. Analyze the pedagogical approaches used and their impact on teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State
3. Assess the involvement of faculty members in ongoing professional development on instructional leadership for teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

1.4. Research Questions

The following research questions were raise to guide this study:

1. How does the use of curriculum improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?
2. How does pedagogical approach used to improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?
3. How does the involvement of faculty members in ongoing professional development on instructional leadership improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?

1.5 Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

H₀₁: There is no significant difference between male and female academic staff on the curriculum used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

H₀₂: There is no significant difference between male and female academic staff on pedagogical approaches used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

H₀₃: There is no significant difference between male and female academic staff on the involvement of faculty members in ongoing professional development on instructional leadership and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

2.2 Conceptual Framework

Quadrant Model

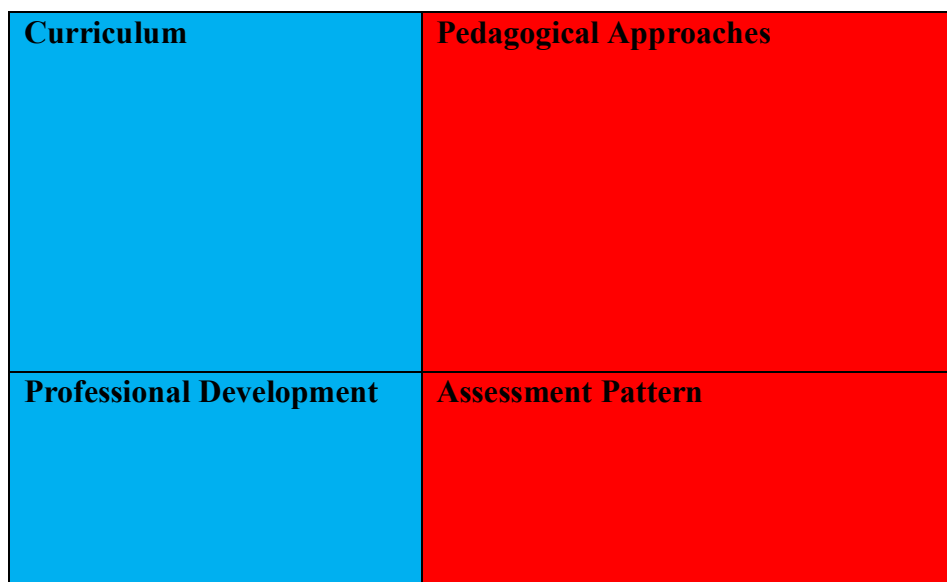


Fig. 1: Quadrant Graph of Teacher Education <http://adm.rdd.edu.iq/>

Various Quadrant Intelligence Approach for Faculty Instructional Leadership Practices

Faculty instructional leadership practices within teacher education programs in public universities in Rivers State encompass a range of dynamic and context-specific approaches, influenced by institutional culture, educational policies, and the socio-economic landscape. These practices are integral to shaping the quality of teacher education and, consequently, impacting the effectiveness of future educators. Drawing on existing literature and considering the unique context of Rivers State, this discussion explores diverse framework that enables the evaluation of faculty instructional leadership through the examination of four distinct quadrants, which the researcher will limit it to only curriculum, pedagogy and professional development QI models.

Curriculum Design in Improving Teacher Education Content Validation through Quadrant Intelligence (QI) Model

The design of a curriculum is a crucial aspect influencing the effectiveness of teacher education programs, particularly in terms of ensuring the validity of the content being delivered. The research contends that a thoughtfully designed curriculum positively impacts content validity by aligning educational objectives with the specific needs and demands of the teaching profession (Ogunlade, 2017). Taking a deeper dive into curriculum design within the realm of teacher education, the study highlights that a curriculum meticulously crafted with a focus on clear learning outcomes and pedagogical strategies significantly contributes to the overall validity of teacher education content (Adeleke, 2019). The findings suggest that a curriculum customized to align with the cultural and contextual nuances of the region enhances not only the relevance but



also the validity of teacher education content, especially for local educators (Adewale, 2018). Additionally, this research underscores the transformative impact of technology integration on content validity, providing innovative and dynamic approaches to instruction (Afolayan, 2016). The study emphasizes the importance of adapting curriculum design to incorporate advancements in educational technology, further enhancing the validity of teacher education content.

Curriculum design, when viewed as a Quadrant Intelligence model, emerges as a dynamic and multifaceted process that profoundly shapes the quality and efficacy of teacher education programs (Okonkwo, 2017). Within the Quadrant Intelligence framework, this aligns with the concept that a curriculum serves as a pivotal element in organizing educational information into meaningful quadrants, each contributing to the overall intelligence and effectiveness of the system.

The study underscores that a curriculum, meticulously crafted with a focus on clear learning outcomes and pedagogical strategies, becomes a vital component contributing to the overall validity of teacher education content (Nwachukwu, 2019). In the context of Quadrant Intelligence, this underscores the importance of strategically structuring curriculum elements within different quadrants to optimize their impact on the educational system. Olumide, (2018). The findings suggest that a curriculum customized to align with the cultural and contextual nuances of the region enhances not only the relevance but also the validity of teacher education content. In the Quadrant Intelligence framework, this could be seen as an effort to ensure that the curriculum covers diverse aspects of knowledge, catering to different quadrants of educational needs.

Pedagogical Approach in Improving Teacher Education Content Validation through Quadrant Intelligence (QI) Model

Pedagogical approaches employed in teacher preparation programs in public universities in Rivers State play a crucial role in shaping the competencies and effectiveness of classroom teachers. These approaches are influenced by various factors, including educational philosophies, cultural contexts, and the evolving nature of the school system. This discussion explores different pedagogical approaches used in teacher preparation and their impact on the development of aspiring teachers. Traditional lecture-based approaches have long been a staple in teacher preparation programs, providing a structured and systematic means of delivering content. These lectures typically cover theoretical aspects of pedagogy, subject knowledge, and educational psychology, aiming to establish a foundational understanding of educational concepts (Bligh, 2000). In Rivers State, the use of traditional lectures is a common practice, often complemented by other pedagogical approaches to ensure a well-rounded and comprehensive learning experience for aspiring teachers (Ezeji, 2016). The utilization of traditional lectures in teacher preparation serves the purpose of imparting essential knowledge and theoretical frameworks to future educators. These lectures offer a structured format that allows for the organized presentation of information, ensuring that aspiring teachers receive a comprehensive overview of the foundational principles of education. By covering pedagogical theories, subject-specific content, and principles of educational psychology, traditional lectures aim to equip pre-service teachers with the necessary theoretical underpinnings to excel in their future roles. While traditional lectures play a crucial role in establishing foundational knowledge, their impact on promoting active engagement and practical application of knowledge may be limited. Lectures,



by nature, are often characterized by a one-way flow of information from the instructor to the students, leaving minimal room for interactive discussions or hands-on activities. This limitation can hinder the development of critical thinking skills, problem-solving abilities, and the practical application of theoretical knowledge – all of which are essential for effective teaching.

The involvement of faculty members in ongoing professional development on instructional leadership in Improving Teacher Education Content Validation through (QI) Model

Instructional leaders in Rivers State's public universities actively promote and participate in professional development initiatives for faculty members. This includes workshops, seminars, and academic conferences focused on pedagogical advancements, curriculum updates, and emerging trends in education like digitalization of teaching methods and the use of AI in teaching and learning. By fostering a culture of continuous learning, faculty members contribute to the overall enhancement of teacher education programs. Professional development initiatives align with the notion that instructional leaders should prioritize their own growth and stay abreast of current educational trends (Leithwood & Riehl, 2003). The impact of faculty engagement in professional development extends beyond individual growth, positively influencing the collective instructional capacity within teacher education programs.

Instructional leaders in Rivers State's public universities often engage with local communities and establish partnerships with schools, providing students with practical, real-world experiences. This community engagement extends the learning beyond the university campus and reinforces the application of theoretical knowledge in actual teaching environments. The importance of community engagement in teacher education is emphasized by Akinbote (2013), who underscores the need for educators to be well-connected with the communities they serve. Faculty members who actively seek out and foster such partnerships demonstrate instructional leadership by enriching the learning experiences of their students.

The impact of instructional leadership training extends to student learning outcomes. Faculty members well-versed in effective instructional leadership practices are more likely to contribute to improved student learning experiences within the framework of the QI Model. This, in turn, aligns with the overarching goal of enhancing the quality and effectiveness of teacher education programs in Rivers State. The involvement of faculty members in ongoing professional development on instructional leadership serves as a catalyst for the successful integration of the QI Model in public universities in Rivers State. It not only aligns faculty members with the principles of effective leadership but also enhances their capacity to implement and sustain the QI Model within the unique context of teacher education programs.

Methodology

A descriptive survey design was adopted in the study, and the population of the study consisted of the three public universities located in Rivers State, namely: University of Port Harcourt (UNIPORT), Rivers State University (RSU) and Ignatius Ajuru University of Education (IAUE). There were a total of 2985 lecturers from the three public universities in Rivers state. This consists of 1462 academic staff from University of Port Harcourt, 1099 staff from Rivers State University and 424 staff from Ignatius Ajuru University of Education. The sample for this study was 746 respondents; the respondents were stratified into male and female academic staff of the three tertiary institutions in Rivers State. The instruments used for data collection of data for this study was design by the researcher titled 'Faculty Instructional Leadership Through Quadrant



Intelligence (QI) Model for Teacher Education Content Validity Questionnaire” (FILQITECVQ) The reliability of the instrument was ascertained using Cronbach Alpha method. Twenty (20) copies of the instrument were administered to 20 respondents who are outside the sample of the study but were part of the population of the study. The reliability index yielded a result of $\alpha=0.87, 0.78$ and 0.77 respectively which showed that the responses were consistent and the instrument considered reliable and adopted for the study. The researcher administered 746 copies of the instrument to the respondents with the help of three (3) trained research assistants who were trained on the modalities of administering instruments. However, due to poor accessibility and availability on several visits to the respondents for collection, only 612(82% rate) were retrieved and this proportion was used for the analysis. Data analysis for this study was done using Mean and Standard Deviation Statistics to answer the research questions while t-test inferential statistics was used to test the null hypotheses at 0.05 level of significance.

Results

The results of the study are presented below in Tables:

Research Question 1: How does the use of curriculum improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?

Table 1: Summary of descriptive statistics on how the use of curriculum improve teacher education content Validation through quadrant intelligence (QI) model in public universities in Rivers State

S/N		SA	A	D	SD	X	SD	Decision
1	Curriculum design plays a role in enhancing teacher education content validation through the QI model.	393	202	10	7	3.60	0.58	Agreed
2	QI model is integrated into the curriculum design process for teacher education.	340	240	31	1	3.50	0.60	Agreed
3	Curriculum contribute to the validation of teacher education content within the QI model.	322	259	24	7	3.46	0.63	Agreed
4	Curriculum designed align with the specific needs and objectives of teacher education within the QI framework.	356	203	52	1	3.49	0.66	Agreed
5	Cultural and contextual factors in Rivers State are considered in the curriculum design to enhance content validation through the QI model.	352	233	27	0	3.53	0.58	Agreed
Grand mean						3.52	0.46	Agreed

The data in table 1 indicates a high level of agreement among respondents regarding the role of curriculum in improving teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State. in item 1 majority of respondents agreed that curriculum design enhances teacher education content validation through the QI model, with a mean score of (3.60) and a standard deviation of (0.58), item 2 a significant majority agreed that the QI model is integrated into the curriculum design process for teacher education, with a mean score of (3.50) and a standard deviation of (0.60), item 3 respondents generally agreed that the curriculum contributes to the validation of teacher education content within the QI model, with a



mean score of (3.46) and a standard deviation of (0.63), item 4 respondents agreed that the curriculum is designed to align with the specific needs and objectives of teacher education within the QI framework, with a mean score of (3.49) and a standard deviation of (0.66). Item 5 the majority of respondents agreed that cultural and contextual factors in Rivers State are considered in the curriculum design to enhance content validation through the QI model, with a mean score of 3.53 and a standard deviation of 0.58. Overall, the grand mean of 3.52 and the answer to research question one states that the use of curriculum improves teacher education content validation through the QI model in public universities in Rivers State.

Research Questions 2.

How does pedagogical approach used to improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?

Table 2: Summary of descriptive statistics on how pedagogical approach used to improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State

S/N		SA	A	D	SD	Mean	SD	Decision
6	Academic Staff incorporate pedagogical principles when designing and delivering teacher education content within the QI model.	311	257	44	0	3.44	0.62	Agreed
7	Pedagogical approaches address the diverse quadrants of the QI model in teacher education content validation.	366	216	26	4	3.54	0.61	Agreed
8	Communication channels are effective in conveying the objectives of pedagogical approaches within the QI model to educators.	317	262	32	1	3.46	0.60	Agreed
9	There are collaborative efforts among stakeholders in the successful implementation of pedagogical approaches in the QI model for teacher education.	295	292	25	0	3.44	0.57	Agreed
10	Pedagogical approaches within the QI model foster active student engagement in teacher education content.	352	233	27	0	3.53	0.58	Agreed
Grand mean						3.48	0.43	Agreed

The data in table 2 indicate that the pedagogical approach used to improve teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State is effective, as indicated by the high level of agreement among respondents. Item 6, the respondents agreed that academic staff incorporate pedagogical principles when designing and delivering teacher education content within the QI model with the mean score of (3.44) and a standard deviation of (0.62), Item 7, the respondents agreed that pedagogical approaches effectively address the diverse quadrants of the QI model in teacher education content validation with a mean score of (3.54) and a standard deviation of (0.61) item 8 the majority of respondents agreed that communication channels are effective in conveying the objectives of pedagogical



approaches within the QI model to educators with the mean score of (3.46) and a standard deviation of (0.60), item 9 the respondents agreed that there are collaborative efforts among stakeholders in the successful implementation of pedagogical approaches in the QI model for teacher education. with a mean score of (3.44) and a standard deviation of (0.57), item 10 the data indicates that pedagogical approaches within the QI model foster active student engagement in teacher education content. The mean score of (3.53) and a standard deviation of (0.58) which reflects a high level of agreement among respondents. Overall, the grand mean of (3.48) and the answer to research question two states that the pedagogical approach used to improve teacher education content validation through the QI model in public universities in Rivers State is effective and well-received by stakeholders.

Research Questions 3.

How does the involvement of faculty members in ongoing professional development on instructional leadership improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State?

Table 3: Summary of descriptive statistics on the involvement of faculty members in ongoing professional development on instructional leadership improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

S/N		SA	A	D	SD	Mean	SD	Decision
11	Professional development enhances understanding of instructional leadership principles within the QI model.	197	377	38	0	3.26	0.56	Agreed
12	Staff engage in ongoing professional development activities specifically designed for instructional leadership in the context of the QI model.	216	329	65	2	3.24	0.64	Agreed
13	Professional development contribute to the overall effectiveness of instructional leadership within the QI model for teacher education content validation.	211	309	60	32	3.14	0.80	Agreed
14	Professional development activities align with the specific needs and objectives of instructional leadership within the QI framework.	158	326	118	10	3.03	0.72	Agreed
15	Involvement of faculty members in ongoing professional development contribute to the successful implementation of the QI model in instructional leadership.	393	202	10	7	3.60	0.58	Agreed
Grand mean						3.26	0.45	Agreed

The data in table 3 indicate that the involvement of faculty members in ongoing professional development on instructional leadership improves teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State, with a high level of agreement



among respondents. Item 15 the respondents agreed that professional development enhances understanding of instructional leadership principles within the QI model, with a mean score of (3.26) and a standard deviation of (0.56), item 16 respondents agreed that staff engage in ongoing professional development activities specifically designed for instructional leadership in the context of the QI model, with a mean score of (3.24) and a standard deviation of (0.64) Item 17, professional development contributes to the overall effectiveness of instructional leadership within the QI model for teacher education content validation, with a mean score of (3.14) and a standard deviation of (0.80), item 19 the respondents agreed that professional development activities align with the specific needs and objectives of instructional leadership within the QI framework, with a mean score of (3.03) and a standard deviation of (0.72), item 15 the involvement of faculty members in ongoing professional development contributes to the successful implementation of the QI model in instructional leadership, with a mean score of (3.60) and a standard deviation of (0.58). Overall, the grand mean of (3.26) indicates that the involvement of faculty members in ongoing professional development on instructional leadership significantly improves teacher education content validation through the QI model in public universities in Rivers State.

Test of Hypotheses

HO1: There is no significant difference between male and female academic staff on the curriculum used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

Table 4: Summary of independent Sample t-test on the difference between male and female academic staff on the curriculum used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

GENDER	N	Mean	Std. Deviation	Std. Error Mean	t	df	p-value	Decision
MALE	395	3.51	0.46	0.02	-0.924	610	.356	Reject H01
FEMALE	217	3.54	0.47	0.03				

*Significant; $p < 0.05$

Table 4 showed the summary of independent Sample t-test on the difference between male and female academic staff on the curriculum used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State. The result of the study showed that there was a statistically significant difference at ($t\text{-cal} = -924$, $df = 610$, $p < 0.05$).

In this case, the p-value is 0.356, which is greater than 0.05. Therefore, we reject the null hypothesis. The data conclude that there is a significant difference between male and female academic staff regarding the curriculum used and teacher education content validation through the QI model in public universities in Rivers State.

HO2: There is no significant difference between male and female academic staff on pedagogical approaches used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.



Table 5: Summary of independent Sample t-test on the difference between male and female academic staff on pedagogical approaches used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

GENDER	N	Mean	Std. Deviation	Std. Error Mean	t	df	p-value	Decision
MALE	395	3.47	0.43	0.02	-0.877	610	.381	Reject H02
FEMALE	217	3.50	0.44	0.03				

*Significant; $p < 0.05$

Table 5 showed the summary of independent Sample t-test on the difference between male and female academic staff on pedagogical approaches used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State. The result of the study showed that there was a statistically significant difference at ($t\text{-cal} = -0.877$, $df = 610$, $p < 0.05$).

In this case, the p-value is 0.381, which is greater than 0.05. Therefore, we reject the null hypothesis. The data conclude that there is a significant difference between male and female academic staff on the pedagogical approaches used and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

H03: There is no significant difference between male and female academic staff on the involvement of faculty members in ongoing professional development on instructional leadership and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

Table 6: Summary of independent Sample t-test on the difference between male and female academic staff on the involvement of faculty members in ongoing professional development on instructional leadership and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

GENDER	N	Mean	Std. Deviation	Std. Error Mean	t	df	p-value	Decision
MALE	395	3.26	0.43	0.02	.425	610	.671	Reject H03
FEMALE	217	3.25	0.47	0.03				

*Significant; $p < 0.05$

Table 6 showed the summary of independent Sample t-test on the difference between male and female academic staff on the involvement of faculty members in ongoing professional development on instructional leadership and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State. The result of the study showed that there was a statistically significant difference at ($t\text{-cal} = -0.425$, $df = 610$, $p < 0.05$). In this case, the p-value is 0.671, which is greater than 0.05. Therefore, we reject the null hypothesis. The data conclude that there is a significant difference between male and female



academic staff on the involvement of faculty members in ongoing professional development on instructional leadership and teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State.

Discussion of Findings

The use of curriculum improves teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State

The data in table 1 indicates a high level of agreement among respondents regarding the role of curriculum in improving teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State. In item 1 majority of respondents agreed that curriculum design enhances teacher education content validation through the QI model, with a mean score of (3.60) and a standard deviation of (0.58), item 2 a significant majority agreed that the QI model is integrated into the curriculum design process for teacher education, with a mean score of (3.50) and a standard deviation of (0.60), item 3 respondents generally agreed that the curriculum contributes to the validation of teacher education content within the QI model, with a mean score of (3.46) and a standard deviation of (0.63), item 4 respondents agreed that the curriculum is designed to align with the specific needs and objectives of teacher education within the QI framework, with a mean score of (3.49) and a standard deviation of (0.66). Item 5 the majority of respondents agreed that cultural and contextual factors in Rivers State are considered in the curriculum design to enhance content validation through the QI model, with a mean score of 3.53 and a standard deviation of 0.58. Overall, the grand mean of 3.52 and the answer to research question one states that the use of curriculum improves teacher education content validation through the QI model in public universities in Rivers State.

The findings regarding the importance of curriculum in improving teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State are supported by scholarly research in the field. Scholars such as Darling-Hammond and Lieberman (2012) have emphasized the critical role of curriculum in teacher education. They argue that a well-designed curriculum serves as the backbone for effective teacher preparation, providing a framework for integrating relevant content, pedagogical strategies, and assessment practices. Furthermore, research by Cochran-Smith and Zeichner (2009) highlights the importance of curriculum alignment with specific educational frameworks and models. They emphasize the need for teacher education programs to ensure that their curricula reflect the principles and objectives of established models, such as the QI framework.

Pedagogical approach used to improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State

The data in table 2 indicate that the pedagogical approach used to improve teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State is effective, as indicated by the high level of agreement among respondents. Item 6, the respondents agreed that academic staff incorporate pedagogical principles when designing and delivering teacher education content within the QI model with the mean score of (3.44) and a standard deviation of (0.62), Item 7, the respondents agreed that pedagogical approaches effectively address the diverse quadrants of the QI model in teacher education content validation with a mean score of (3.54) and a standard deviation of (0.61) item 8 the majority of respondents



agreed that communication channels are effective in conveying the objectives of pedagogical approaches within the QI model to educators with the mean score of (3.46) and a standard deviation of (0.60), item 9 the respondents agreed that there are collaborative efforts among stakeholders in the successful implementation of pedagogical approaches in the QI model for teacher education. with a mean score of (3.44) and a standard deviation of (0.57), item 10 the data indicates that pedagogical approaches within the QI model foster active student engagement in teacher education content. The mean score of (3.53) and a standard deviation of (0.58) which reflects a high level of agreement among respondents. Overall, the grand mean of (3.48) and the answer to research question two states that the pedagogical approach used to improve teacher education content validation through the QI model in public universities in Rivers State is effective and well-received by stakeholders. The findings regarding the effectiveness of the pedagogical approach used to enhance teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State reflect a notable consensus among respondents. These insights resonate with existing literature on effective pedagogy and its impact on teacher education. The incorporation of pedagogical principles in designing and delivering teacher education content within the QI model, as indicated by the respondents' agreement (Item 6), underscores the significance of pedagogy in shaping instructional practices (Okebukola, 2008). Furthermore, the agreement on collaborative efforts among stakeholders in the successful implementation of pedagogical approaches (Item 9) underscores the significance of partnerships and shared responsibility in educational initiatives (Adeyemi & Akinsola, 2010).

The involvement of faculty members in ongoing professional development on instructional leadership improve teacher education content validation through quadrant intelligence (QI) model in public universities in Rivers State

The data in table 3 indicate that the involvement of faculty members in ongoing professional development on instructional leadership improves teacher education content validation through the Quadrant Intelligence (QI) model in public universities in Rivers State, with a high level of agreement among respondents. Item 15 the respondents agreed that professional development enhances understanding of instructional leadership principles within the QI model, with a mean score of (3.26) and a standard deviation of (0.56), item 16 respondents agreed that staff engage in ongoing professional development activities specifically designed for instructional leadership in the context of the QI model, with a mean score of (3.24) and a standard deviation of (0.64) Item 17, professional development contributes to the overall effectiveness of instructional leadership within the QI model for teacher education content validation, with a mean score of (3.14) and a standard deviation of (0.80), item 19 the respondents agreed that professional development activities align with the specific needs and objectives of instructional leadership within the QI framework, with a mean score of (3.03) and a standard deviation of (0.72), item 15 the involvement of faculty members in ongoing professional development contributes to the successful implementation of the QI model in instructional leadership, with a mean score of (3.60) and a standard deviation of (0.58). Overall, the grand mean of (3.26) indicates that the involvement of faculty members in ongoing professional development on instructional leadership significantly improves teacher education content validation through the QI model in public universities in Rivers State. Scholars such as Leithwood and Louis (2013) agreed that the significance of professional learning opportunities in enhancing instructional leadership practices and improving educational outcomes. Moreover, respondents acknowledged that staff engage in



ongoing professional development activities specifically designed for instructional leadership within the context of the QI model (Item 16). This highlights the importance of tailored professional development programs that address the unique needs and challenges of instructional leadership in teacher education. Darling-Hammond et al. (2009) advocate for targeted professional development initiatives that support the implementation of innovative instructional models like the QI framework. The data also indicates that professional development contributes to the overall effectiveness of instructional leadership within the QI model for teacher education content validation (Item 17). This underscores the role of continuous learning and capacity building in fostering instructional leadership excellence. Fullan (2014) emphasized the importance of ongoing professional development in sustaining educational reforms and promoting instructional leadership practices that drive positive change.

Conclusion

It was concluded this study illuminates the pivotal role of curriculum design, pedagogical approaches, ongoing professional development, and assessment patterns. The findings underscore the effectiveness of integrating the QI Model into curriculum design and pedagogical practices, enhancing content validation and aligning with the diverse needs of teacher education. Moreover, ongoing professional development initiatives have been identified as key in bolstering faculty understanding and implementation of instructional leadership principles within the QI framework. Furthermore, the study highlights the importance of assessment patterns that are aligned with the QI Model, providing valuable insights and feedback to improve content validation and ensure the successful implementation of the QI Model in teacher education. Overall, this research emphasizes the critical nexus between faculty instructional leadership and the QI Model, offering valuable insights for enhancing teacher education content validity in public universities in Rivers State, thereby contributing to the broader landscape of educational excellence and innovation.

5.3 Recommendations

Based on the findings of this study, the researcher recommended as follows:

1. Public universities in Rivers State should establish interdisciplinary curriculum development teams comprising faculty members, curriculum specialists, and educational policymakers to ensure the integration of QI Model principles into teacher education curricula.
2. Faculty members should undergo specialized training workshops and seminars focusing on innovative pedagogical approaches within the QI Model, fostering active learning and critical thinking among teacher education students.
3. Public universities in Rivers State should establish a structured professional development program that emphasizes instructional leadership principles embedded within the QI Model, providing opportunities for faculty members to enhance their understanding and application of effective teaching strategies.

REFERENCES

- Adewale, S. (2018). Overcoming resistance to change in Nigerian educational institutions. *International Journal of Educational Management*, 32(2), 210-230.
- Adeyemi, K., & J Adeyinka (2018). Aligning pedagogical practices with quality improvement models in Nigerian teacher education. *Nigerian Journal of Education*, 18(1), 45-60
- Afolayan, J. A. (2016). Curriculum development in teacher education in Nigeria: The need for a participatory approach. *Journal of Education and Practice*, 7(26), 117-124.
- Akinbote, O. O. (2013). Principals' instructional leadership and teachers' job performance in secondary schools in Ekiti State, Nigeria. *Educational Research*, 4(5), 404-411.
- Baumert, J., Kunter, M., Blum, W., Brunner, M., Voss, T., Jordan, A., Klusmann, U., Krauss, S., Neubrand, M., & Tsai, Y. (2010). Teachers' Mathematical Knowledge, Cognitive Activation in the Classroom, and Student Progress. *American Educational Research Journal*, 1(47), 133 - 180.
- Blase, J., & Blase, J. (2000). Effective instructional leadership teachers' perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration*, 2(38), 130-141.
- Bligh, D. A. (2000). *What's the use of lectures?* Jossey-Bass Press.
- Buchanan, R., Mills, T., & Mooney, E. (2020). Working across time and space: developing a framework for teacher leadership throughout a teaching career. *Professional Development in Education*, 1(46), 580-592.
- Ekpo, B., & Okafor, E. (2019). Aligning teacher education curriculum with industry needs: A Nigerian perspective. *Curriculum Development Quarterly*, 25(3), 123-145.
- Leithwood, K., & Riehl, C. (2003). What we know about successful school leadership. *Review of Educational Research*, 73(3), 255-316.
- Lieberman, A. and Miller, L. (2005). Teachers as leaders. *The Educational Forum*. 69(2), 151-162.
- Ogunniyi & Osunade (2017). Collaborative learning in Nigerian classrooms: Challenges and opportunities. *Journal of Educational Collaboration*, 15(2), 89-105.
- Onu (2018). Fostering a research culture in teacher education institutions: Lessons from successful models. *Journal of Educational Research and Innovation*, 37(4), 234-251.



Yusuf, S. A. (2017). Transformational leadership styles of secondary school principals. *Journal of Research & Method in Education*, 7(2), 14-20