Faculty Perceptions of the Research-Teaching Nexus in Oman Business School

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Abstract

The research–teaching nexus (RTN) is a core accreditation requirement of the Oman Authority for Academic Accreditation and Quality Assurance of Education (OAAAQA). Embedding research into teaching enhances educational quality, bridges the gap between theory and practice, and develops students' critical and analytical skills. This study investigates faculty perceptions and practices of RTN within a business college in Oman.

A quantitative research design was employed, using a structured survey administered to academic staff and analyzed through descriptive statistics and a one-way multivariate analysis of variance (MANOVA). Results reveal strong engagement with RTN: 76% of faculty integrate their research, 83% embed external research, 80% involve students in projects, and 79% supervise and provide feedback on theses. Moreover, 92% reported that research keeps them updated on emerging trends, 87% indicated it introduces new insights that enrich teaching, and another 87% affirmed it stimulates pedagogical innovation. Significantly, 97% agreed that RTN directly enhances students' competencies and employability skills.

The MANOVA results indicate a statistically significant multivariate effect on respondents' perceptions of RTN practices, educational quality, and student skill development. In contrast, neither gender nor teaching experience produced statistically significant differences, suggesting that these demographic variables exert limited influence on how respondents evaluate institutional RTN practices or their associated outcomes.

Despite these positive practices, challenges remain, including heavy teaching loads, limited time, and restricted research funding. The study concludes that effective implementation of RTN requires institutional support, workload alignment, and faculty development initiatives. The findings provide practical implications for academic leaders and quality assurance bodies seeking to advance innovation and educational quality in higher education.

Keywords: teaching-research nexus, faculty perceptions, Oman business school

1. Introduction

It is widely acknowledged that the research–teaching nexus (RTN) plays a pivotal role in enhancing the quality of higher education. With the growing recognition of research-informed teaching as a driver of academic excellence, many higher education institutions (HEIs) explicitly embed the RTN within their mission statements, vision, core values, and strategic priorities (Holi & Awad, 2025). This institutional commitment reflects an understanding that integrating research into teaching enriches learning experiences, fosters critical inquiry, and strengthens the academic reputation of universities.

Despite this broad consensus, the RTN remains a multifaceted and context-dependent concept, open to varied interpretations and encompassing a wide spectrum of practices (Brew, 2012; Lightfoot & Piotukh, 2015; Macheridis, Pihl, & Paulsson, 2023; Tight, 2016). Its operationalization differs significantly across institutions, shaped by disciplinary traditions, institutional priorities, and available resources. Holi and Awad's (2025) study reveals that in Oman, Higher Education Institutions (HEIs) conceptualize and interpret the RTN in different ways. The authors also identify an absence of a systematic framework for implementing the nexus. Furthermore, they note a notable gap in institutional policies that provide clear guidance or incentives for promoting and embedding the RTN in academic

practice.

Variations in interpretation, coupled with the absence of structured implementation mechanisms, present a significant challenge for research–teaching nexus (RTN) implementations. While the value of the RTN is widely acknowledged, its translation into consistent, measurable, and policy-supported practice remains limited. Such inconsistency not only restricts the potential benefits of the RTN for enhancing student learning and employability but also undermines institutions' capacity to meet accreditation requirements and demonstrate tangible impact (Holi & Awad, 2025).

Internationally, higher education systems have developed diverse strategies to embed the research–teaching nexus into academic practice. In the United Kingdom, for example, universities have integrated inquiry-based learning into undergraduate curricula to actively involve students in research processes from early stages of study (Healey, et.al., 2010). In Australia, the emphasis has been on "research-led" and "research-oriented" curricula, where course design draws directly from faculty scholarship and emerging disciplinary knowledge (Brew and Saunders, 2020). Similarly, in New Zealand, Le Heron et al. (2006) describe a "research–teaching continuum" that encourages collaborative learning environments, blurring the boundaries between learner and researcher roles. These approaches share common elements: structured policy frameworks, clear performance indicators, capacity-building initiatives for academic staff, and recognition systems that reward excellence in research-informed teaching.

Considering these global practices and the documented gaps within the Omani context, this study makes a timely and significant contribution by examining the perceptions and experiences of business school faculty regarding the research–teaching nexus. While existing literature has explored the RTN in various international settings, few studies have investigated its conceptualization, implementation, and perceived impact within the GCC region, and even fewer have focused specifically on Oman. By capturing faculty perspectives, this research provides context-specific insights into the enablers and barriers to RTN adoption, offering evidence that can inform institutional policy development, capacity-building initiatives, and accreditation strategies. Therefore, this study attempts to investigate the perceptions of business school faculty in Oman regarding RTN practices and their impact on educational quality and the development of students' academic and employability skills. By doing so, this research contributes to the global conversation on RTN while offering context-specific insights for Omani higher education.

This paper is structured into five sections. Following this introduction, Section 2 reviews relevant literature on the RTN. Section 3 outlines the research methodology. Section 4 presents the findings and discussion. The final section offers conclusions and implications for policy and practice.

Research Questions

1. What are the faculty perceptions of research–teaching nexus practices at Oman Business School?
2. What impact does the research–teaching nexus (RTN) have on educational quality and students' academic and employability outcomes?

2. Literature Review

2.1 Conceptual Models of The Research-Teaching Nexus

The research–teaching nexus (RTN) captures the multifaceted and evolving relationship between research activities and teaching practices in higher education. Over the past three decades, scholars have developed conceptual models to explain how research and teaching can be meaningfully integrated into curriculum design, thereby enhancing both student learning outcomes and scholarly engagement. According to Kaasila et al (2021), the theoretical underpinnings of the TRN have evolved, reflecting shifts in educational paradigms and institutional missions. Early perspectives posited the dual roles of faculty as both researchers and teachers, often treating these functions as complementary.

Both Wuetherick (2009) and Healey et al. (2010) offer influential frameworks for conceptualizing the relationship between teaching and research, commonly referred to as the teaching–research nexus. While their models share several points of convergence, they employ different terminologies and emphasize slightly different dimensions of integration.

Wuetherick's (2009) framework identifies five pathways through which research can be embedded into teaching: Research-led teaching, where curriculum content is shaped by the latest developments in the field, ensuring students engage with current and relevant knowledge. This closely aligns with Healey et.al (2010) notion of students learning about research through exposure to disciplinary content. Research-informed teaching emphasizes equipping students with the methodologies and processes of research, thereby cultivating inquiry skills and critical thinking. This parallels Healey et al.'s focus on students learning about the research process. Research-oriented teaching – in which students conduct their research projects, reflecting Healey et al.'s emphasis on students learning as researchers. Research-based

teaching – where faculty actively involve students in their ongoing research projects, providing authentic, hands-on experience in scholarly inquiry. Pedagogical research, a distinctive element of Wuetherick's model, highlights faculty engagement in research on teaching and learning practices themselves, often framed as the scholarship of teaching and learning (SoTL).

By contrast, Healey et al. (2010) focus primarily on the student experience of research, categorizing engagement into four modes: Research-led, students are introduced to the latest research findings and disciplinary knowledge through expert instruction, a largely content-driven and teacher-centered approach, corresponding to Wuetherick's first category. Research-oriented – students develop an understanding of how knowledge is generated and validated through engagement with research processes, like Wuetherick's second category. Research-based – students actively participate in research activities such as designing studies, collecting data, and analyzing findings, which mirrors Wuetherick's emphasis on active student engagement in research. Research-tutored – students engage in dialogue, debate, and critical discussion of research findings with faculty, often in small-group or one-to-one contexts. This dimension, with its emphasis on discursive inquiry, is less explicitly addressed in Wuetherick's model but could be seen as an extension of research-based teaching.

Neumann (1994) reinforces the earlier perspective by identifying three types of connection within the RTN. The tangible nexus refers to the direct transmission of new research findings to students. The intangible nexus emphasizes the development of scholarly dispositions such as curiosity, critical inquiry, and a commitment to knowledge creation. The global nexus reflects the influence of a department's overall research culture on curriculum design. Neumann stresses that actively researching academics are uniquely positioned to convey these intangible and cultural dimensions, underscoring the importance of institutional, disciplinary, and political contexts in shaping the RTN.

Simons and Elen (2007) further refine the debate by identifying two broad philosophical orientations toward the RTN. The functional approach aims to equip students with skills for participation in a knowledge-based economy, emphasizing employability and practical outcomes. In contrast, the idealistic approach views academic education as an immersion in research as a scholarly practice, yielding mutual benefits for both students and researchers. This tension between utilitarian and scholarly rationales remains a defining feature of ongoing RTN discourse.

Building on these earlier frameworks, Smith (2020) introduces Three Constructions of the Nexus, offering an integrated perspective that considers research as *product*, *process*, and *pedagogical inquiry*. In research-informed teaching, research is treated as a product, with curricula updated to reflect the latest disciplinary developments and empirical findings, ensuring academic currency. In research through teaching, research is understood as a process, with students engaging in systematic inquiry and developing research skills through coursework. In research of teaching, the focus shifts to pedagogical research, using systematic inquiry, including student feedback and learning analytics, to enhance teaching quality. Smith's model bridges the conceptual and practical dimensions of the RTN, positioning it as both a scholarly and a reflexive process.

Rene and Ahmed (2019) examine how a Higher Education Institution (HEI) navigated organizational change to secure institutional accreditation, using Lewin's change model and the McKinsey 7-S framework as guiding lenses. The process involved three stages: documenting existing practices, evaluating gaps concerning research–teaching nexus (RTN) standards, and implementing targeted reforms. This structured approach enabled the institution to align its practices with accreditation requirements and ultimately achieve accreditation.

The authors adopt Healey's (2005) definition of RTN, which emphasizes four dimensions: integrating faculty research into teaching, embedding external research in the curriculum, mentoring students in research, and engaging students in faculty-led projects. By framing RTN within these dimensions, Rene and Ahmed demonstrate how systematic change management can strengthen both institutional transformation and educational quality.

2.2 Recent Developments: Digital and AI-Supported RTN

In the last five years, technological advances have reshaped the possibilities for RTN. The rise of digital learning environments and artificial intelligence (AI)-driven tools has expanded access to research processes and data analysis in ways previously limited to advanced-level study. For example, García-Holgado et al. (2020) highlight that virtual research environments allow students to collaborate on data-driven projects across geographical boundaries, enhancing inclusivity and intercultural competence. Similarly, Bond et al. (2021) argue that AI-powered platforms for literature mining, plagiarism detection, and predictive analytics can scaffold student inquiry and reduce the cognitive load associated with large-scale research tasks, enabling deeper engagement with conceptual understanding.

Contemporary inquiry-based approaches are increasingly digitally mediated, allowing students to design, conduct, and disseminate research in hybrid or fully online formats (Virtanen et al., 2022). These formats are particularly effective

for fostering research-based learning for employability, where digital competencies such as data visualization, online survey administration, and virtual collaboration are integrated into project work. Moreover, emerging studies suggest that AI-supported inquiry can democratize research participation by guiding novice researchers through hypothesis generation, methodology selection, and initial data interpretation (Tlili et al., 2023).

While these digital and AI-driven advancements have strengthened the RTN's potential reach, they also raise critical questions about academic integrity, algorithmic bias, and the need for digital literacy as a core graduate attribute. Therefore, integrating research and teaching in the digital age requires striking a balance between technological affordances and ethical and pedagogical considerations.

2.3 Previous Studies on RTN

Empirical studies underscore the value of student involvement in research. Seymour et al. (2004) demonstrate that participation in authentic research experiences enhances methodological and analytical competencies, increases motivation, and deepens learning engagement. Similarly, Vereijken et al. (2016) find that such experiences not only strengthen research skills but also help students clarify their professional trajectories and identity as emerging scholars. These findings support the argument that embedding research into teaching contributes to both academic development and career preparedness.

The teaching-research nexus is crucial for business schools as they pursue their twin academic and societal missions. By linking classroom work with ongoing scholarship, institutions maintain program relevance, rigor, and adaptability to rapidly evolving corporate environments. When faculty integrate their research into lectures and projects, students learn more deeply, the professional standing of faculty members increases, and the institutional reputation of schools is enhanced (Gutman 2021). Cornuel (2022) argues that today's programs must revive their purpose, turning toward relevance and the public good so that they help tackle complex, global problems, such as climate change and widening wealth gaps. Achieving this mission-driven vision depends on a robust research-teaching link that disseminates novel concepts and fosters critical, evidence-based discourse on the complex challenges confronting economies and communities.

According to Elton (2001), Healey (2005), Healey et.al. (2020), inquiry-based learning emerges as a powerful pedagogical approach that meaningfully bridges research and teaching. It is particularly valued for fostering a critical, analytical, and interdisciplinary mindset, while equipping learners with transferable skills that are highly prized in professional and academic contexts. As Le Heron et al. (2006) observe, this model nurtures a collaborative learning environment that benefits both instructors and students. Such collaboration not only enhances learning outcomes but also deepens the integration of research into educational practice, reinforcing the reciprocal relationship between the two domains (Healey, 2005).

Investigating how faculty perceive the connection between teaching and research is crucial when universities develop policies that aim to integrate classroom work and research. Professors usually hold different opinions about the value and extent of research-led teaching, and these opinions can be influenced by basic background factors such as gender, age, tenure status, and academic rank. For example, Khanal (2022) found that business school teachers in Nepal generally welcomed university social responsibility programs tied to corporate social responsibility, and they noted that women in the sample were noticeably more positive than men. By contrast, longer service and older age showed only weak links to differences in attitude.

Rank and research-output levels further shape how faculty view their dual missions. Siddiqui and Lento (2022) found that scholars with solid research pedigrees such as those trained in prestigious programs, are much more likely to pursue the scholarship of teaching and learning (SoTL), pushing classrooms into research-led territory. In contrast, Krishen et al. (2019) show that women faculty report lower job satisfaction, a shortage of time, and a skewed perception of workload and promotion speeds, all of which reduce their willingness to tie teaching directly to inquiry. Together, these studies suggest that most staff members welcome the nexus idea, yet everyday pressures and systemic unfairness still limit what they can accomplish.

2.4 Challenges to Research – Teaching Nexus

Despite the breadth of conceptual models and technological innovations, operationalizing the RTN remains a challenging task. Brew (2010) identifies barriers, including narrow research priorities, insufficient integration of research activities into undergraduate curricula, and institutional policies that artificially separate research and teaching. Additionally, external pressures such as government funding models, performance metrics, and the priorities of research bodies often reinforce this divide by prioritizing outputs that exclude undergraduate.

It is also worth mentioning that there is a lack of formal training in research-informed pedagogy. Mitchell and Rich (2021) observe that many faculty members rely on personal teaching experience rather than structured pedagogical frameworks, leading to inconsistency in the quality of undergraduate research supervision. This gap underscores the need for capacity building in integrating research into teaching practice.

It is also worth mentioning that faculty members, as highlighted by Bennett et al. (2018), often contend with heavy teaching loads, leaving limited time and resources to engage meaningfully in research. Balancing these dual responsibilities can be both demanding and complex. Indeed, the RTN itself is inherently multi-dimensional (Elken & Wollscheid, 2016), with Malcolm (2014) describing it as a dynamic relationship shaped by personal motivations, institutional priorities, and broader socio-academic contexts. Understanding the RTN's effectiveness, therefore, requires a clear and nuanced conceptualization of how research and teaching intersect at different levels.

Moreover, one risk lies in creating an imbalanced curriculum, overemphasizing certain areas while neglecting others. Additionally, disparities in access to research opportunities (Hordósy & McLean, 2022) can lead to the marginalization of faculty whose roles are primarily teaching-focused (Al-Nofli, 2021; Clark & Hordósy, 2019). This is particularly evident in teaching-intensive institutions, which may expect faculty to remain research-active and integrate research into their teaching, yet fail to provide the necessary structural or resource support (Alhassan & Holi, 2020). Such conditions not only hinder research productivity but also diminish the potential for the RTN to enhance student learning, foster innovation, and strengthen academic quality.

Given these complexities, developing a coherent understanding of the RTN is critical for both scholars and practitioners. Various conceptual models have been proposed to clarify how research and teaching can be connected in practice, each offering distinct perspectives on the nature of integration and the roles of students and faculty. One of the most influential among these is Healey's (2005) four-quadrant framework, which systematically categorizes how research can be embedded in the learning experience.

2.5 Conceptual Model

Figure 1 illustrates the conceptual model of the study. The conceptual model is drawn from Neumann (1994), Wuetherick (2009), and Healey et al. (2010), theories on the Research-Teaching Nexus (RTN). It is a multidimensional framework that operates at the intersection of research activity and pedagogical practice. The model identifies four interrelated dimensions: (1) the integration of faculty's own research into teaching, whereby instructors use their scholarly outputs to inform curriculum design and classroom delivery; (2) the incorporation of external research into teaching, which broadens students' exposure to contemporary debates and diverse perspectives within their disciplines; (3) collaborative research initiatives between faculty and students, fostering active engagement and co-creation of knowledge; and (4) faculty supervision of student-led research projects, which nurtures autonomy, critical thinking, and applied research skills.

Within this expanded framework, the RTN is theorized not only as an academic mechanism for improving the quality and relevance of higher education but also as a dynamic and iterative process that generates innovation, enhances students' intellectual and professional competencies, and strengthens their employability in knowledge-based economies. By engaging with authentic research practices, students develop critical inquiry, problem-solving, and communication skills, aligning their academic experiences with real-world demands.

However, the model also acknowledges enduring structural and institutional challenges that constrain the effective realization of the RTN. These include heavy teaching workloads that limit research engagement, insufficient research funding opportunities, and the ongoing need for systematic faculty development to build capacity for integrating research into pedagogy. Addressing these barriers requires institutional commitment, supportive policy frameworks, and the cultivation of a research-informed teaching culture that values both scholarly productivity and pedagogical excellence.

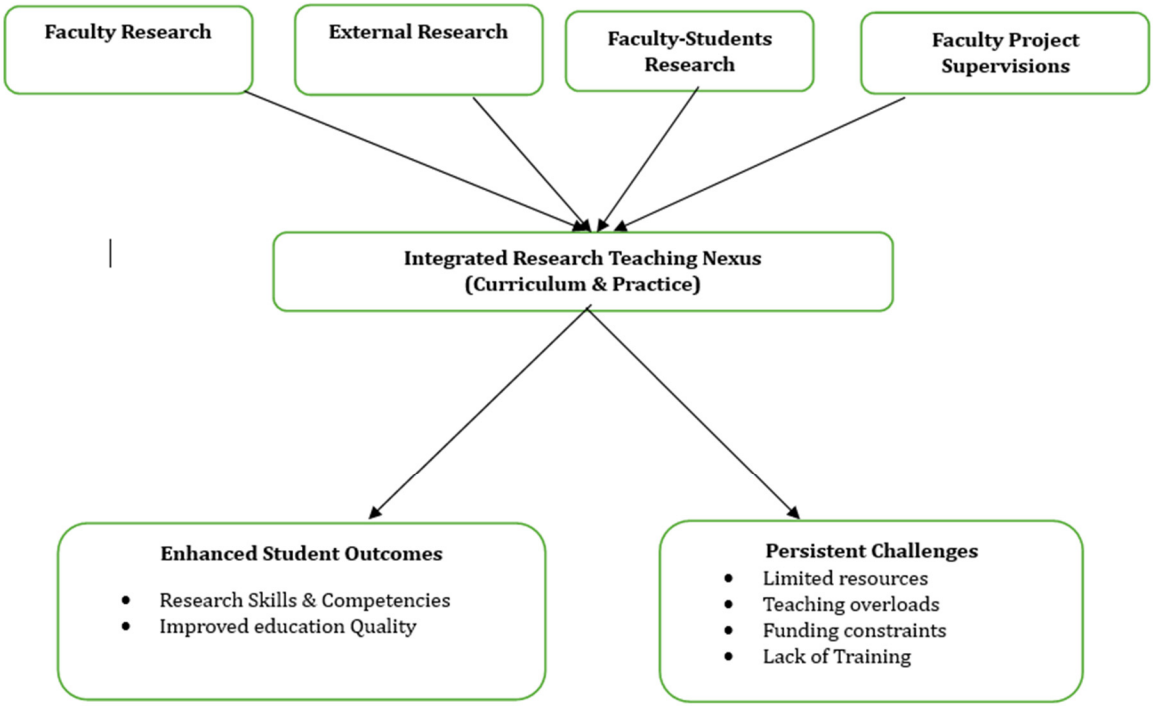

Figure 1. Conceptual Model of Research – Teaching Nexus

3. Research Methodology

3.1 Research Design and Rationale

This study adopted a cross-sectional survey design to examine business school faculty members' perceptions in Oman regarding the integration of research into teaching practices (RTN) and its perceived impact on educational quality and students' academic and employability skills. The survey method was selected for its effectiveness in capturing structured, comparable data on attitudes and experiences across diverse respondent groups (Sekaran & Bougie, 2016).

3.2 Population, Sampling, and Response Rate

The study targeted faculty members from multiple departments within the business school. Simple random sampling was employed to reduce selection bias, with 120 faculty members invited to participate. Of these, 95 completed the questionnaire in full, yielding a high response rate of 86%, which enhances the validity and generalizability of the results.

3.3 Instrument Development and Structure

The survey instrument was adapted from validated tools in RTN research (Healey et al., 2010; Awad & Holi, 2020) to ensure conceptual alignment with established constructs. It was designed using Microsoft Forms and distributed via official institutional email accounts, enabling broad reach and efficient data capture.

The questionnaire comprised three sections:

1. Demographic and Professional Profile – capturing participants' background characteristics.
2. Perceptions of RTN Practices – assessing perceived impacts on educational quality and student skill development, measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) to allow nuanced responses.
3. Implementation Challenges – identifying barriers to effective RTN integration.

3.4 Reliability and Validity

Table 1 presents the descriptive statistics of the integration score. The mean value of 4.334 indicates that respondents generally reported a high level of integration, suggesting a strong presence of integration practices across the sample. The standard deviation of 0.607 reflects relatively low variability, implying that perceptions were consistent among

participants. The minimum score of 1.0 and maximum score of 5.0 demonstrate that while some respondents perceived integration at its lowest level, others viewed it as fully achieved. Importantly, the reliability of the measurement scale was confirmed, with a Cronbach's alpha of 0.914**,** which falls within the "excellent" range. This indicates that the items used to measure integration were highly consistent and internally reliable (Hair et al., 2019). The descriptive statistics suggest that the integration score is both high and consistent across respondents**,** with only a few outliers at the low end. The measurement instrument itself is statistically reliable**,** supporting the robustness of the findings.

Table 1. Descriptive Integration Score

Mean	Std	Min.	Max.	Cronbach Alpha
4.334	0.607	1.0	5.0	0.914

Overall score averages $\bar{x}$=4.33 with SD=0.61 on the 1–5 scale.

3.5 Data Collection and Analysis

Data collection was conducted in May 2025 through an electronic link shared with eligible participants. Responses were automatically recorded in Excel and exported for analysis in SPSS version 23. Descriptive statistics (means, standard deviations, and frequencies) were employed to summarize perceptions, while the high reliability score ensured confidence in the measurement of RTN constructs.

4. Results

4.1 Profile of the Respondents

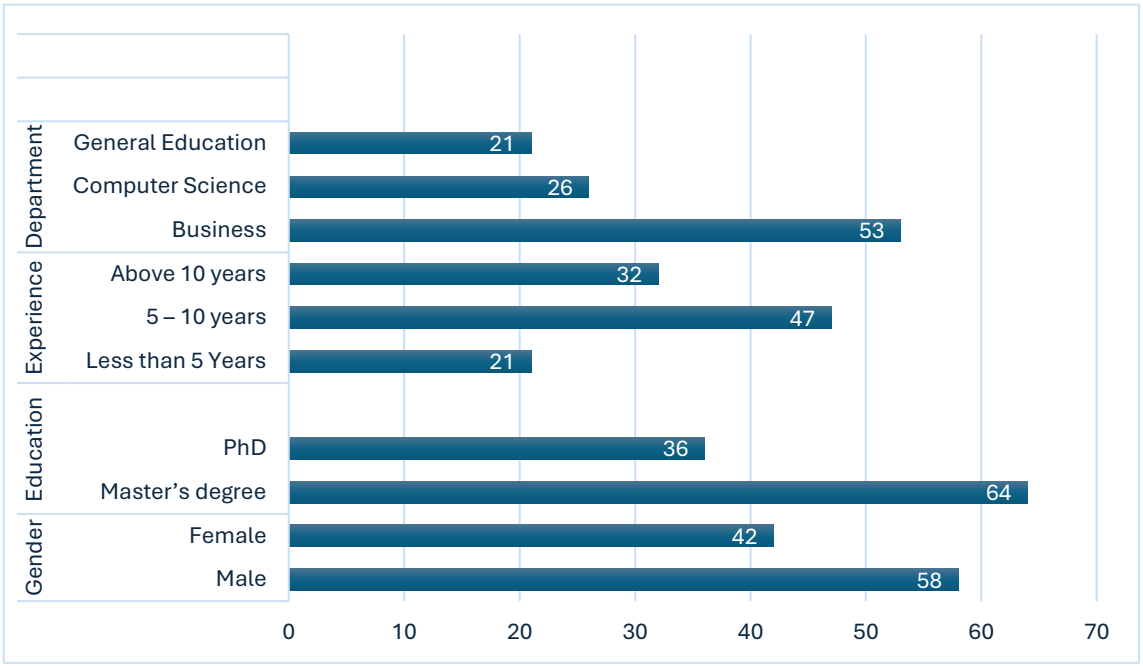

Figure 2. Demographic Background of the Respondents

Figure 2 presents the demographic profile of the respondents. The gender distribution indicates that 58% of the participants were male, while 42% were female, suggesting a moderate gender imbalance among the respondents. In terms of educational qualifications, a significant majority (64%) held a master's degree, whereas only 36% possessed a PhD, highlighting a predominance of master's degree holders in the sample. Regarding teaching experience, 47% of respondents reported having between 5 to 10 years of teaching experience, indicating a solid representation of mid-career educators. Additionally, 32% had more than 10 years of teaching experience, suggesting

a substantial presence of seasoned faculty members. Only 21% had less than 5 years of experience, reflecting a smaller proportion of early-career educators. Disciplinary distribution reveals that 53% of respondents were affiliated with the Business Department, making it the most represented academic unit. This was followed by 26% from the Computer Department, and 21% from the General Education Department, illustrating a diverse disciplinary background among participants, with a dominant business faculty presence.

4.2 Results on the Research Teaching Nexus Practices & Their Impacts

4.2.1 Research- Teaching Nexus Practices

The results for integration research into teaching was widely evident in Figure 3 and Table 2, respectively. Approximately 76% of respondents agreed or strongly agreed that they incorporate their research findings into course syllabi (M = 4.01, SD = 0.959). In contrast, 14% indicated they do not, while 10% remained neutral. This practice reflects a deliberate effort to align classroom content with ongoing scholarly contributions, ensuring that teaching is informed by the lived research experience of faculty.

Even stronger support was observed for the use of external research. A substantial 83% of faculty members agreed or strongly agreed that they draw upon the research of others in their teaching (M = 4.13, SD = 0.844), while only 12% disagreed and 5% remained neutral. This tendency highlights the importance placed on exposing students to cutting-edge scholarship, thereby keeping course content current and equipping students with a deeper appreciation of disciplinary developments.

Student involvement in academic research emerged as another prominent practice. About 80% of faculty reported engaging students directly in their research activities (M = 4.36, SD = 0.799). A smaller proportion, 13%, did not involve students, while 7% were neutral. This finding underscores the recognition of research participation as a high-impact pedagogical strategy, known to foster critical thinking, enhance methodological competence, and strengthen students' academic motivation.

Supervision of student projects and theses was also widely practiced. Seventy-nine percent of faculty indicated that they actively mentor students in research-related tasks, including projects, theses, term papers, and assignments (M = 4.12, SD = 0.938). Meanwhile, 15% reported no engagement, and 6% remained neutral. Faculty mentorship plays a pivotal role in cultivating independent research skills, advancing learning outcomes, and preparing students for future academic and professional challenges.

Across these four dimensions, descriptive statistics revealed mean values ranging between 4.01 and 4.36, signifying strong agreement with research–teaching nexus practices. Standard deviations, mostly below 1.0, indicate consistency in faculty perceptions. Collectively, these findings affirm the strong integration of research into teaching at the business school and highlight the institution's commitment to research-informed pedagogy.

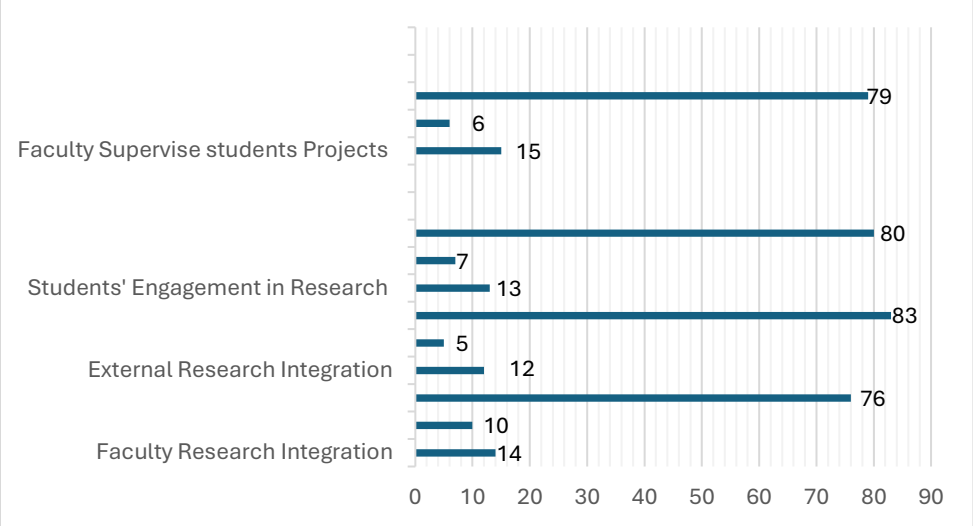

Figure 3. Research – Teaching Nexus Practices

4.2.2 Impacts of Research – Teaching Nexus on Education Quality & Students' Skills

Figure 4 and Table 2 results provide further insights into faculty perceptions, underscoring the significant benefits associated with integrating research into teaching. An overwhelming 94% of respondents agreed that embedding research into teaching ensures that course content remains current and aligned with emerging topics (M = 4.43, SD = 0.679). Only 6% expressed disagreement or neutrality. This finding affirms the view that research integration enhances the timeliness and relevance of academic curricula, allowing students to engage with knowledge at the forefront of disciplinary debates.

Similarly, 92% of faculty emphasized that incorporating research into teaching helps them stay abreast of new trends in their fields (M = 4.55, SD = 0.703). This reflects the reciprocal nature of the research–teaching nexus, wherein teaching is not merely enriched by research, but research engagement also deepens faculty expertise and maintains their scholarly vitality. In line with prior literature, this finding supports the argument that ongoing scholarly inquiry ensures teaching remains informed by the latest disciplinary advancements.

A further 87% of respondents affirmed that research introduces fresh insights and perspectives into teaching, thereby elevating its overall quality (M = 4.64, SD = 0.681). By bringing cutting-edge knowledge into the classroom, faculty foster dynamic learning environments that go beyond static content delivery. This demonstrates the synergistic value of research-informed pedagogy in cultivating a richer and more intellectually stimulating student experience.

The study also revealed that 87% of faculty believe the research–teaching nexus stimulates pedagogical innovation and sparks new avenues of inquiry (M = 4.33, SD = 0.806). This highlights the bidirectional nature of the nexus: while research enriches teaching, teaching interactions also inspire novel research questions and methodologies, creating a cycle of continuous academic innovation

Perhaps most strikingly, 97% of respondents agreed that integrating research into teaching directly contributes to students' academic competencies and employability skills (M = 4.53, SD = 0.663). Only 3 % of the respondents were either disagreed or remained indifferent. Faculty reported that research-informed teaching strengthens students' abilities in reading, writing, analytical thinking, communication, numeracy, and research methodology. Such skills are essential not only for academic success but also for professional readiness, positioning graduates more competitively in the labor market.

Taken together, these findings provide compelling evidence that faculty perceive the research–teaching nexus as a driver of both educational quality and professional development. By ensuring curriculum relevance, strengthening faculty expertise, enriching pedagogical approaches, and enhancing student skills, the nexus emerges as a cornerstone of effective higher education practice.

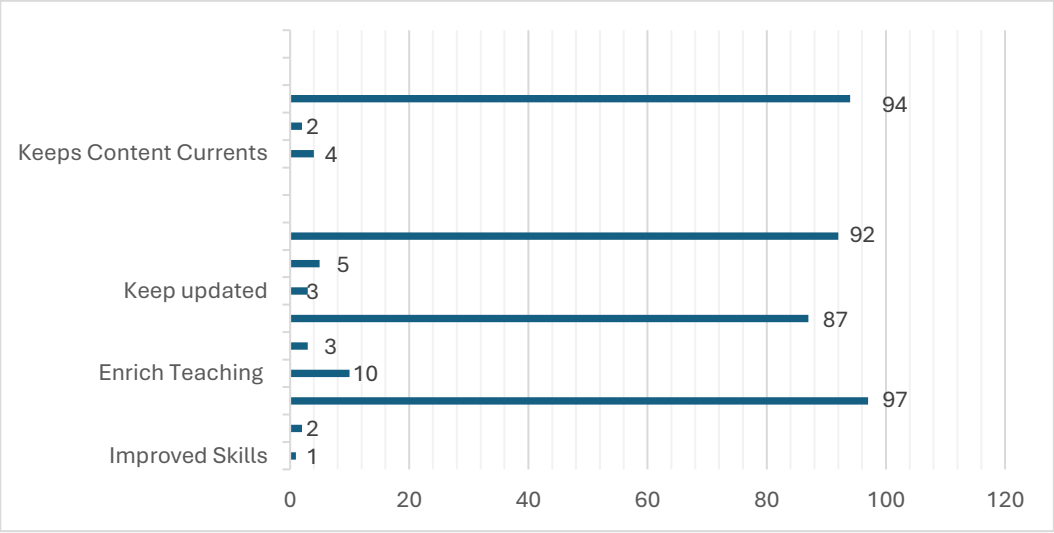

Figure 4. Impacts of Research – Teaching Nexus on Education Quality & Students' Skills

Table 2. Descriptive Analysis of Research-Teaching Nexus

	Mean	Std	Min	Max
I incorporate my research findings into my teaching syllabi.	4.013	0.959	1.0	5.0
I incorporate research from other scholars into my teaching syllabi.	4.133	0.844	1.0	5.0
I engage my students in research activities.	4.36	0.799	1.0	5.0
I have overseen my students' projects and research papers.	4.12	0.938	1.0	5.0
I believe that integrating research into teaching positively impacts students' reading, writing, analytical, and research skills.	4.526	0.663	1.0	5.0
I believe that research enriches teaching by providing fresh insights and perspectives.	4.644	0.681	1.0	5.0
Incorporating research into my teaching keeps me continuously updated on the latest trends in my field of expertise.	4.552	0.7003	1.0	5.0
The research-teaching nexus allows me to embrace innovative teaching methods and inspires fresh ideas for future research endeavors.	4.329	0.806	1.0	5.0
Integrating research into teaching ensures that the content is current and relevant.	4.434	0.6799	1.0	5.0

4.3 The Inferential Results

This section evaluates the study's hypotheses, which propose that respondents' perceptions of institutional research–teaching nexus (RTN) practices, their perceived impact on educational quality, and their contribution to students' academic and employability skills may differ according to demographic characteristics such as gender, educational level, and teaching experience. To test these assumptions**,** a one-way multivariate analysis of variance (MANOVA) was conducted. MANOVA is particularly appropriate when the goal is to examine whether groups differ across multiple conceptually related dependent variables at the same time (Tabachnick & Fidell, 2019; Hair et al., 2019). Compared to running separate ANOVAs, MANOVA provides a more rigorous approach by accounting for intercorrelations among dependent variables and reducing the likelihood of Type I errors (Field, 2018). More specifically, it tests whether the observed differences between groups are statistically significant concerning a composite of dependent variables, while also providing follow-up univariate results for each dependent variable independently (Hair et al., 2019).

4.3.1 Gender

The MANOVA results in Table 3 did not reveal statistically significant differences across gender on the combined set of dependent variables (Pillai's Trace = .046, Wilks' Lambda = .955, F(12, 624) = 1.219, p = .265, Partial η^2 = .023). Similarly, Roy's Largest Root (F (4, 312) = 1.902, p = .080, Partial η^2 = .035) approached but did not achieve statistical significance. Collectively, these findings suggest that gender does not have a meaningful multivariate effect on the outcomes measured, with observed effect sizes being small.

Table 3. MANOVA Results for Gender

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's Trace	.046	1.219	12	624	.265	.023
Wilks' Lambda	.955	1.220	12	622	.265	.023
Hotelling's Trace	.047	1.220	12	620	.265	.023
Roy's Largest Root	.037	1.902	4	312	.080	.035

4.3.2 Education Level

The MANOVA results in Table 4 revealed a statistically significant multivariate effect of education level on the combined dependent variables (Pillai's Trace = .875, F(24, 1248) = 1.252, p = .028, Partial η^2 = .032; Wilks' Lambda = .923, F(24, 1079) = .852, p = .035, Partial η^2 = .029). Similarly, Hotelling's Trace and Roy's Largest Root confirmed the significance, with the latter indicating the strongest effect (F(3, 312) = .994, p = .006, Partial η^2 = .081). These results suggest that differences in education level meaningfully influence the combined outcomes, though the effect sizes are modest.

Table 4. MANOVA Result for Education Level

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's Trace	.875	1.252	24	1248	.028	.032
Wilks' Lambda	.923	.852	24	1079.	.035	.029
Hotelling's Trace	.356	1.613	24	1230	.029	.027
Roy's Largest Root	.0932	.994	3	312	.006	.081

4.3.3 Teaching Experience

The MANOVA test result in Table 5 for differences based on teaching experience did not reach statistical significance across the multivariate set of dependent variables (Pillai's Trace = .022, Wilks' Lambda = .982, F(4, 95) = 0.847, p = .23, Partial η^2 = .025). This indicates that experience does not have a meaningful effect **o**n the combined outcomes under investigation. The effect size was very small, suggesting that any differences attributable to experience are negligible in practical terms.

Table 5. MANOVA Results for Teaching Experience

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's Trace	.022	.847	4	95	.23	.025
Wilks' Lambda	.982	.847	4	95	.23	.025
Hotelling's Trace	.041	.847	4	95	.23	.025
Roy's Largest Root	.041	.847	4	95	.23	.025

Table 6. Summary of Hypotheses Testing Results

Hypothesis	**Description**	**Result**
Hypothesis 1	There are statistically significant differences between male and female respondents in their mean scores on RTN practices, perceptions of educational quality, and the development of academic skills.	Rejected
Hypothesis 2	There are statistically significant differences between PhD and master's degree holders in their mean scores on RTN practices, perceptions of educational quality, and the development of academic skills.	Accepted
Hypothesis 3	There are statistically significant differences in mean scores on RTN practices, perceptions of educational quality, and the development of academic skills among respondents based on their teaching experience.	Rejected

The summary of hypotheses testing results in Table 6 indicated that education level exerted a statistically significant multivariate effect on respondents' perceptions of RTN practices, educational quality, and student skill development, though the effect sizes were modest. By contrast, gender and teaching experience did not yield significant differences, suggesting that these demographic factors do not meaningfully shape how respondents evaluate institutional RTN practices or their perceived outcomes. These findings underscore the nuanced role of demographic background in shaping faculty perceptions and point to education level as a particularly influential factor in understanding how RTN is experienced and valued within higher education settings.

4.4 Challenges to Implementations of Research- Teaching Nexus

Respondents identified several key systemic and institutional barriers hindering the effective integration of research and teaching. These challenges can be categorized as a lack of resources, insufficient institutional support, and limited faculty training and awareness.

4.4.1 Resources and Financial Constraints

Respondents emphasized that publishing in high-impact journals often requires significant financial resources. While faculty members may be able to produce high-quality research papers, limited access to publication funding prevents them from targeting top-tier outlets. This financial barrier not only reduces the visibility of their work but also constrains citation opportunities, limiting their scholarly impact and recognition. Comment from participant:

A common concern was the lack of institutional subscriptions to comprehensive academic databases such as Scopus, Web of Science, and ScienceDirect, where most high-impact journals are indexed. Respondents noted that, while valuable and relevant articles are often discovered, exorbitant subscription fees create barriers to access. Institutions typically subscribe to a limited selection of databases, leaving faculty to depend on personal subscriptions—an option that is financially burdensome and unsustainable. This restriction hinders their ability to stay updated with cutting-edge research and integrate new knowledge into teaching and scholarly output.

Respondents also pointed out that research funding within institutions is often limited, with a greater focus on teaching-related activities. This creates a challenge for faculty members who require financial support not only for publication fees but also for activities such as data collection, conference participation, and professional networking. Without adequate institutional support, it becomes difficult to maintain a strong research profile that aligns with international standards.

While open-access journals are increasingly promoted to increase visibility and ensure wider dissemination of research, respondents highlighted that article processing charges (APCs) in reputable open-access outlets are often prohibitively high. This places faculty in a dilemma: publishing in subscription-based journals limits accessibility, while publishing in open-access outlets demands funding that is not always available. Both scenarios create structural barriers to maximizing the reach and impact of their research contributions.

Comments from Participants on resources and financial constraints:

- Faculty members face difficulties with the high costs associated with publishing in reputable, high-impact journals. The need to pay for publication fees often limits the visibility and citation potential of their work, as they are unable to publish in prestigious journals.
- Lack of access to reputable databases is among the challenges. In most cases, do not subscribe to high-impact academic databases, such as Scopus or Web of Science. Sometimes this forces faculty members to personally bear the exorbitant costs of accessing scholarly articles.

4.4.2 Insufficient Institutional Support

A recurring concern is the disproportionate teaching load, which significantly restricts the time faculty can dedicate to research. Respondents advocate for institutional policies that would reduce teaching commitments for research-active staff, enabling them to focus more on scholarly activities.

The comments also highlight the need for enhanced motivation and rewards to encourage research engagement. Faculty members suggest that institutions should provide a transparent system for funding and grants. Additionally, they propose a system of appreciation or reward for faculty who effectively mentor students in research. Suggestions include prioritizing conference participation and publication opportunities for student-led research to showcase their work and motivate faculty. Comment from one of the participants:

- Time constraint is another problem facing academic staff as a difficulty in balancing between teaching and research activities. I believe that the institutions should reduce the teaching load for the staff members who are interested in research, so that they can focus more on research activities

4.4.2 Limited Training and Awareness

Finally, respondents noted a general lack of awareness among junior faculty regarding the importance and practical application of the research-teaching nexus. To address this, they recommend the formalization of research training. This includes incorporating research-based practices into syllabi and conducting workshops to equip faculty with creative methods for integrating research into their teaching. A key suggestion is to create internal forums and workshops to provide ongoing support and training for faculty, thereby improving their ability to effectively bridge the gap between research and teaching. Comments from participants:

- Faculty need to be trained on how to creatively incorporate research into teaching, not using conventional methods
- Creating awareness and incorporating more research into syllabi, involving students more in research
- Create forums or workshops (internally) to provide further training and support for faculty to improve their ability to integrate research into teaching.
- Conduct a workshop for junior faculty on research research-teaching nexus

5. Discussion

This study provides important insights into how the Research-Teaching Nexus (RTN) is practiced and perceived within higher education, particularly in the Omani context. The findings underscore the RTN's role in enhancing educational quality while fostering students' academic growth and employability skills, echoing broader scholarly debates on how best to integrate research into teaching to stimulate engagement, inquiry, and long-term development (Rene & Ahmed, 2019; Wuetherick, 2009; Healey et al., 2010; Neumann, 1994; Simons & Elen, 2007; Smith, 2020).

At the institutional level, RTN practices emerged across four core pillars: faculty embedding their research into teaching, integrating external research into curricula, engaging students in faculty-led projects, and supervising student-led research initiatives. These align closely with conceptual models such as Wuetherick's (2009) five pathways - research-led, research-informed, research-oriented, research-based, and pedagogical research and Healey et al.'s (2010) distinctions between learning about, for, and through research. Neumann's (1994) tangible, intangible, and global nexus further enriches this view, stressing how both disciplinary knowledge and research culture influence teaching. Similarly, Smith (2020) positions the nexus as a reflexive and scholarly process, while Griffiths (2004) emphasizes that connecting students to evolving frontiers of knowledge strengthens learning relevance.

The study also highlighted the RTN's multifaceted benefits. Students engaged with research-based assignments developed critical reasoning, evidence-based argumentation, and stronger subject mastery. At the same time, communication, teamwork, and presentation skills were strengthened, supporting employability in diverse professional contexts. Exposure to cutting-edge scholarship further deepened curiosity, linking classroom learning with real-world knowledge creation. These findings resonate with earlier studies showing how RTN enriches both academic and professional formation (Vereijken et al., 2016; Gutman, 2021; Cornuel, 2022; Healey, 2005). For example, Vereijken et al. (2016) stress that such integration helps students refine their scholarly identities, while Gutman (2021) finds that embedding research into curricula enhances institutional reputation and faculty standing. Cornuel (2022) extends this argument by suggesting that mission-driven RTN initiatives can prepare graduates to address global challenges, while Healey (2005) highlights inquiry-based learning as an effective pedagogical bridge between teaching and research.

Despite these positive contributions, significant challenges remain. Faculty frequently reported resource limitations, heavy teaching loads, and insufficient institutional support barriers, also noted by Brew (2010, 2012) and Bennett et al. (2018). External pressures such as funding models and performance metrics further exacerbate the divide between research and teaching, reinforcing a culture where outputs are prioritized over student integration (Brew, 2010). Moreover, a lack of structured faculty training in research-informed pedagogy, as emphasized by Mitchell and Rich (2021), risks inconsistency in supervision quality and weakens the potential of RTN. These concerns are especially acute in teaching-focused institutions, where research activity is encouraged but not adequately resourced, a tension reflected in the multidimensional nature of the RTN (Elken & Wollscheid, 2016; Alhassan & Holi, 2020; Al Nofli, 2021).

Taken together, the findings suggest that while the RTN has clear potential to elevate academic quality and student outcomes, realizing its promise requires sustained institutional commitment. Reducing teaching loads for research-active staff, offering capacity-building workshops, and creating structured incentives for student-faculty collaboration would provide a more enabling environment. Ultimately, embedding research meaningfully into teaching is not simply an academic strategy but a transformative practice that strengthens institutions' societal impact, cultivates inquiry-driven graduates, and aligns higher education with global and local priorities.

6. Conclusion and Implications

This study demonstrates that faculty members in Oman generally hold positive perceptions of integrating research into teaching, actively engaging in practices such as embedding research into curricula, involving students in projects, and supervising theses. These approaches were perceived to enhance students' critical inquiry, academic skills, and engagement, while simultaneously enriching faculty members' scholarly thinking and professional growth. The findings affirm that the research–teaching nexus not only strengthens pedagogy but also stimulates innovation and faculty development.

At the same time, the study highlights enduring institutional challenges, particularly heavy teaching loads, limited funding, and time constraints, which hinder meaningful integration. To advance the research–teaching nexus, higher education institutions must adopt policies that provide protected time for research, expand access to grants and resources, and invest in professional development programs. Aligning these efforts with accreditation standards will

strengthen educational quality and institutional reputation. Future research should examine disciplinary differences and employ longitudinal approaches to capture the long-term impact of integration on both faculty and students.

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