

Conceptualising and Promoting Implementation of the Research-Teaching Nexus in HEIs: Perspectives from Oman Authority for Academic Accreditation and Quality Assurance of Education (OAAAQA) Reports

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Abstract

This paper attempts to highlight some key elements in standard 4 in OAAAQA Manual which deals with staff research and consultancy. This standard consists of nine criteria, namely research planning and management, research performance, research funding scheme, consultancy activities, ethics and biosafety, intellectual property, professional development for research, research commercialization and the research-teaching nexus. The paper particularly analyses and synthesizes criteria nine which predominately deals with the research-teaching nexus. The paper identifies the most salient issues that have been raised by OAAAQA in their institutional quality (IQ) audit reports regarding research-based teaching to offer some suggestions for HEIs to better promote research-informed teaching and meet the demands of accreditation and the OAAAQA's expectations as well as the best international practices. To achieve this, the paper seeks to answer the following questions: how is the research-teaching nexus conceptualised in OAAAQA reports? What are the most salient issues that have been raised by OAAAQA in their institutional quality audit reports (IQ) regarding research-teaching nexus? How can the implementation of research-led teaching be promoted in HEIs? The data for the study were collected from ten published quality audit reports from the OAAAQA website. A data-driven systematic qualitative content analysis (QCA) was conducted. Data analysis showed that the research-teaching nexus is conceptualized and understood quite differently by different HEIs. There is also a clear lack in both the systematic approach whereby this nexus occurs and the explicit indicators and descriptors for measuring the implementation. Data analysis also revealed the lack of guiding policies as to how the research-teaching nexus is promoted and encouraged among academics in these institutions.

Keywords: Teaching-research nexus, conceptualising, promoting, implementation, OAAAQA, reports

المستخلص

تُلقى هذه الورقة البحثية الضوء على بعض العناصر الرئيسية الواردة في المعيار الرابع من دليل الاعتماد الأكاديمي وضمان جودة التعليم الذي يختص بأبحاث واستشارات الكادر الأكاديمي، حيث يتألف هذا المعيار من تسعة مقاييس حيث تتناول الورقة البحثية بالتحليل والمقارنة المقياس التاسع والآخر من المعيار الرابع والذي يتمحور حول صلة الربط بين البحث العلمي والتدريس، كما تبحث في أبرز القضايا التي أثارها الهيئة العُمانية للاعتماد الأكاديمي وضمان جودة التعليم في إطار تقاريرها الخاصة بتدقيق الجودة المؤسسية بشأن التدريس القائم على البحث العلمي؛ لعرض بعض المقترحات على مؤسسات التعليم العالي بهدف النهوض بالتدريس القائم على البحث العلمي، والوفاء بمتطلبات الاعتماد وتوقعات الهيئة العُمانية للاعتماد الأكاديمي وضمان جودة التعليم الأكاديمي، فضلاً عن الاسترشاد بأفضل الممارسات الدولية ذات الصلة. وللوصول إلى ذلك الهدف؛ جُمعت البيانات والمعطيات المستخدمة في هذه الدراسة من عشرة تقارير تدقيق جودة منشورة على الموقع الإلكتروني للهيئة العُمانية للاعتماد الأكاديمي وضمان جودة التعليم الأكاديمي. وأجري تحليل محتوى نوعي منهجي قائم على البيانات (QCA)، الذي أظهر أن العلاقة بين البحث العلمي والتدريس يتم تصويرها وفهمها بشكل مختلف تماماً من قبل مؤسسات التعليم العالي المختلفة. بالإضافة إلى الإشارة إلى النقص الواضح في المقاربة المنهجية التي يتم بموجبها تنفيذ هذا الترابط والمؤشرات الواضحة والواصفة لقياس التنفيذ، كما كشف التحليل - أيضاً - عن غياب السياسات الإرشادية بشأن كيفية تعزيز وتشجيع العلاقة التي تربط البحث العلمي بالتدريس بين الأكاديميين في هذه المؤسسات.

الكلمات المفتاحية: التعليم العالي - عُمان، الهيئة العُمانية للاعتماد الأكاديمي وضمان جودة التعليم الأكاديمي، ضمان الجودة، الصلة بين البحث العلمي والتدريس

1. Historical sketch of OAAAQA :

The paper will begin by providing an overview of the Oman Authority for Academic Accreditation and Quality Assurance (OAAAQA). Its mission is to assure quality standards of education in Oman. Its vision is to guide and support the Omani education sector to ensure that the relevant national objectives and priorities are met, whilst also adhering to standards benchmarked at an international level.

The OAAAQA (2024) lists various key strategic goals: enhancing governance and management, human resource planning and management, implement institutional accreditation for all eligible higher education institutions, programs accreditation, launching and manage a comprehensive Oman Qualifications Framework (OQF) for all types and levels of education and training, enhancing quality in education, align and cooperate with other QA entities across the region and beyond, enhance Omani institutional identity, visibility and interaction with stakeholders, support research production and dissemination and develop and implement a comprehensive national system for the quality assurance of school education.

It is widely accepted that the research-teaching nexus is central to enhancing quality in higher education. With the growing importance of research-informed teaching in higher education, higher education institutions (HEIs) commonly emphasize the significance of research-teaching nexus as part of their mission, vision, core values, and strategic goals. However, the concept is subject to interpretation in numerous ways, involves a range of phenomena and can be practised differently across HEIs (Brew, 2012, Lightfoot & Piotukh, 2015; Macheridis, Pihl & Paulsson, 2023; Tight, 2016; Visser-Wijnveen et al., 2010). Given its importance and the need to develop an approach suitable for Oman, the research-teaching nexus was established as a requirement in institutional and program accreditation in Oman based on Royal Decree No 54/2010, replacing the former Oman Accreditation Council (OAC) as a quality monitoring and enhancement body.

The OAAAQA is an entity with legal status and financial and administrative independence, which reports (formerly) to the Education Council. It was established to continue the efforts initiated by the OAC in 2001 in the dissemination of quality culture and accreditation of institutions and their programs across Oman. To further expand the authority competencies and to maintain quality in both higher and general education, on January 13, 2021, the Oman Authority for Academic Accreditation and Quality Assurance of Education (OAAAQA) was established by Royal Decree No 9/2021, amending the name of the Oman Academic Accreditation Authority, and reporting to the Council of Ministers (<http://www.oaaa.gov.om>). The Decree also includes an expansion of OAAAQA's competencies to comprise the quality of general education and implementing the National Qualifications Framework (OQF).

The Decree also stipulates the competencies of the Authority, through the following responsibilities and duties:

- 1/ Formulating a national quality assurance system for school education and higher education in the Sultanate, to ensure the continued maintenance of a level that meets international standards and to encourage educational institutions to develop their internal quality assurance systems.
- 2/ Assessing public and private schools following the standards and procedures set by OAAAQA.
3. Accrediting public and private HEIs and programs following the standards and procedures set by OAAAQAE.
- 3/ Auditing the quality of general foundation programs.
- 4/ Preparing and developing the Comprehensive National Qualifications Framework, listing Omani qualifications in it, and aligning foreign and international qualifications with it.
- 5/ Publishing the results of the quality assurance and accreditation processes, and the outcomes of listing qualifications in the national framework and aligning them with it, following the guidelines set by OAAAQA.
- 6/ Training educational personnel in the field of quality assurance of school and higher education, and the national qualifications framework.
- 7/ Proposing draft laws and royal decrees, and issuing regulations and decisions relating to the competencies of OAAAQA.
- 8/ Enhancing and developing cooperation in competencies relating to OAAAQA with other concerned stakeholders in countries and specialized regional and international organizations and institutions.
- 9/ Representing Oman in regional and international conferences, events and meetings relating to the competencies of OAAAQA.
- 10/ Any other competencies prescribed by laws and royal decrees. (<http://www.oaaaqa.gov.om>)
- 11/ In summary, The OAAAQA's remit is to assure the quality of higher education, meeting international standards and encouraging HEIs to pursue ongoing improvements through internal quality assurance. Internal and external reviews are undertaken to facilitate the establishment of effective quality assurance systems. The OAAAQA also conducts institutional evaluation and accreditation to achieve excellence in both student learning experiences and academic outcomes.

2. Research-teaching nexus in the OAAAQA:

Every HEI is responsible for the promotion of quality assurance and continuous quality improvement to enhance the teachers' and students' academic and learning experience (AlKhafaji & Sriram, 2012). Oman has a comprehensive national quality assurance and management system used for both higher education and other sectors. All Omani HEIs utilize the ADRI quality cycle framework (Approach, Deployment, Results, and Improvement) as an analytical tool to review their activities and strategic planning. HEIs in Oman and internationally are expected to regularly review their internal processes and assess their efficiency and effectiveness in providing quality education. This includes addressing the research-teaching nexus, since research and scholarly activities significantly impact teaching and learning.

A panel of external examiners assesses quality assurance in terms of completeness

and accuracy in several ways. A Quality Audit Report is produced which presents its findings, including commendations, affirmations and recommendations based on the institution's stated goals and objectives. In order to provide stakeholders with an informed perspective on the performance of any HEI, the report is made publicly available. The implementation of quality audit procedures thus aims to facilitate continuous improvement of quality within HEIs (OAAAQA Quality Audit Manual, 2016).

The research-teaching nexus has been clearly indicated in Criteria 4.9 of OAAAQA which mandates for Omani HEIs the importance of implementing a systematic approach to ensure that their research and scholarly activities have a positive impact on teaching and student learning (OAAAQA-ISA, 2023, 48-49). The following six indicators were provided to promote research-informed teaching:

- a. The HEI supports the integration and application of research findings into program curricula and teaching and learning activities.
- b. The HEI ensures academic staff members remain actively engaged with current research related to the academic disciplines/fields of study in which they teach.
- c. The HEI has strategies to support the incorporation of staff research and staff scholarly activities into student learning in order to foster students' interest in, and understanding of, the benefits of research.
- d. The HEI supports students' participation in research activities with academic staff.
- e. The HEI ensures that students' participation in research resulting in publication or commercialisation is given appropriate recognition and attribution.
- f. The HEI regularly reviews the effectiveness of its systems for incorporating its research and scholarly activities into teaching in order to ensure they positively impact on student learning.

3. Research-teaching nexus: Definitions and conceptualizations:

Research-led teaching deals with research activities and findings into teaching which, in turn, allow students to improve their competences in research, increase their motivation for research, improve their own learning process and clarify their professional projects (Seymour et al., 2004, Vereijken et al., 2016, Wang et al., 2023). The literature has sought to define and establish the nature of the relationship between teaching and research (Clark & Hordósy, 2019; McLinden et al., 2015; Slapcoff & Harris, 2014; Tight, 2016; Willcoxson et al., 2011). However, part of the debate has been formed around the question of whether there is a legitimate nexus between research and teaching. The nexus between teaching and research has been variously described in the literature as a 'myth', a 'shibboleth', and a 'relic' from the past just to reflect the inherent difficulty in both its conceptualization and implementation. As Slapcoff and Harris (2014, 70) point out, even in an intensive-research university some academics failed to see a link between research and teaching quality at an undergraduate level.

Conversely, the argument supporting the existence of this nexus suggests that knowledge backed up through research should form the basis of teaching materials. In addition, the latest advances in a given field are more likely to be presented by a research-active academic, providing authenticity to their teaching materials (Stappenbelt, 2013). The

research-teaching nexus is indeed reported to help in better understanding the possible interaction between teaching and research that could assist in practical institutional policy issues such as the appropriate level of involvement by academics in the teaching and research roles (Neumann, 1996).

4. Possibilities of the relationship between research and teaching:

When determining the basis of a possible nexus between research and teaching, Healey (2005) suggested the existence of four possibilities. A first represents research-led teaching, that is, teaching based on the research carried out by the teacher, in which the students are merely recipients of knowledge transmitted to them which has been produced by others. Another possible relationship, research-oriented teaching, exists whereby students are presented with research processes in order to learn about research methodologies. The third type, research-tutored, is when, under the supervision of the tutor, students work in small groups. They are given the opportunity to conduct research and write articles systematizing results they have collected. The fourth possibility proposed by Healey (2005), research-based teaching, exists whereby students also take up the role of researchers by establishing research questions, debating, and planning procedures, collecting data, and interpreting them according to the chosen theoretical framework. This teaching-research relationship is based on a solid partnership between professors and students, characterized by the horizontality which accompanies the notion of a collective researcher: it acknowledges and accepts that both tutors and students can teach and learn. These discussions and suggestions by Healey reflect the inherent difficulties in the definition, conceptualization and the approaches towards the implementation of such nexus widely considered necessary between research and teaching in higher education.

5. Challenges and approaches to the implementation of research-teaching nexus:

There are ongoing discussions in higher education on the challenges when addressing the connection between teaching and research. The central focus is how to make teaching effective by incorporating research element to develop students' competencies and improve learning outcomes. Another driver for the higher education institutions to emphasize teaching-research-nexus seems to stem from the requirements stipulated by academic accreditation and quality assurance organisations. Previous studies have shown the benefits of research in teaching (see e.g., Alhassan & Holi, 2020, Stappenbelt, 2013, Slapcoff, 2014). However, the multi-disciplinary literature (see e.g., Lewicki & Bailey, 2009, Turk, Ledić & Miočić, 2017) in higher education on teaching-research nexus has also equally highlighted several challenges as to how this relationship between teaching and research can play out in practice to better foster learning and develop competence among learners. As has been established, it is difficult to define and describe what is exactly meant by teaching-research nexus. McKenzie, Griggs, Snell, and Meyers (2018) reviewed a wide range of studies in the literature, and found "*it is not so much a singular relationship as describing many links between teaching and research. The links could include lecturers talking about their research in the classroom or using a small research project as an assessment tool to make students undertake research*" (p. 4). In a similar vein, Visser-Wijnveen et al., (2010) noted that the difficulty in defining the term research-teaching nexus

stems from the fact that the term is used for different kinds of activities in HE institutions and that many different words are used for the same activity. Additionally, as Bennett et al. (2018, 283) point out, these academics are “often burdened with heavy teaching loads and limited or no opportunities to pursue discipline-based research”. As such, the question of who is permitted to produce knowledge remains, alongside who can teach about it.

The research and teaching nexus (RTN), as termed within relevant literature, refers to links between the two core missions of a university (Tight, 2016). However, there remains substantial ambiguity in the definition because links can be multi-dimensional (Elken & Wollscheid, 2016). Malcolm (2014, 295) argues that the research on these links provides a “granular account of varied and dynamic relationships constructed within personal, institutional and broader contextual contingencies”. Understanding conceptually the different levels at which research and teaching can be linked is key to analysing how functional the RTN might be.

It is also important to avoid a number of pitfalls when engaging with RTN. Firstly, RTN may over-emphasize some parts of the curriculum whilst neglecting others. Secondly, as noted by Hordósy & McLean (2022), there can be inequalities of access to research. This can also lead to the marginalization of teaching-only staff (Al-Nofli, 2021, Clark & Hordósy, 2019; Harland, 2016, Healey, 2005, Palmer et al., 2015, Wareham & Trowler, 2007). Furthermore, some institutions are teaching but not research-intensive, and yet they expect their staff members to be research active and to connect research to teaching without providing any support for them to engage in research activities let alone to inform their teaching with research (Alhassan & Holi, 2020). This would negatively affect research production and thus minimising the potentials of the implementation of research-teaching nexus. Finally, it is important to debunk and challenge the argument of zero correlation between teaching and research (Waller and Prosser, 2023).

5.1 Approaches to research-teaching nexus:

The research-teaching nexus is influenced by various contextual factors. Within the teaching and learning context, the focus is generally on interactions between teachers and students, common classroom practices and the evaluation of teaching and learning processes (Wang, Newton, Moger, Ion, & Arnau-Sabates, 2023). Given the lack of consensus in the definition and perception of this nexus, researchers suggest that the focus should be on the classification and analysis of different approaches to this nexus. Accordingly, as McKenzie et al. (2018) noted, these approaches accept the diversity and variety of meanings and interpretation of the concept of research-teaching nexus. Here is a table provided by McKenzie et al. (2018, p.8) illustrating both the diversity and the definition the research-teaching nexus as well as the different types of roles that teachers can be expected to play.

	Profiles				
Themes	Teach research results	Make research known	Show what it means to be a researcher	Help to conduct research	Provide research experience
Orientation	Towards teaching: academic knowledge; Towards research: reflection	Towards teaching: academic disposition and divulge research	Towards teaching: academic disposition	Towards teaching: academic disposition and researcher	Towards research: input of students; Towards teaching: train researcher
Approach	Learning about research: listening to researcher and literature reading; Inquiry learning: discussing	Inquiry learning: discussing and reporting; Learning about research: literature reading Own research content	Own research process	Own ongoing research	Own ongoing research
Teacher role	Expert	Motivator	Role model	Tutor	Guide

Given this multitude of possible ways to enact the research-teaching nexus, Wuetherick (2009) sought to define the concept as an interplay between the research and teaching roles at HEIs, at faculty, department, or individual academic member levels. Tight (2016) notes that whilst research relates to the investigation of new knowledge, teaching can more widely disseminate this knowledge and its associated skills. Healey (2005, 69-70), emphasizing the benefits of RTN, suggests a model for curriculum design that involves students more heavily in both the research and learning process. This includes the use of own research used into teaching courses; integration of research activities within assignments, involvement of students in research projects and teaching of research methods through different subjects (Baldwin, 2005). Action research, whereby classroom challenges are investigated and resolved, is certainly an important tool to bring about convergence between teaching and research (McKinley, 2019). When students are also involved as co-researchers, this can constitute a highly empowering process for those involved as demonstrated by Ballentine et al. (2022) in their curriculum designed and implemented for undergraduate computing students.

4. Methodology:

The overarching aim of this study is to identify the salient issues that have been raised in the OAAAQA reports which are associated with the research-teaching nexus in the Omani HEIs. To achieve its aim, the study is situated in an appropriate methodological framework which encompasses corpus-based data. The study takes a holistic conceptualization to research-teaching nexus based on the quality assurance framework that has been used across all Omani HEIs. It sought to explore the following three research questions:

- 1/ How is the research-teaching nexus conceptualised in OAAAQA reports?
- 2/ What are the most salient issues that have been raised by OAAAQA in their institutional quality audit reports (IQA) regarding research-teaching nexus?
- 3/ How can the implementation of research-led teaching be promoted in HEIs?

4.1 Data collection process:

This paper relies on 10 published quality audit reports related to research-teaching nexus as proposed by OAAAQA for Omani HEIs – see <http://www.oaaa.gov.om>. The quality audit process has several stages, with the overarching purpose of evaluating the effectiveness of the system in HEIs and overseeing to what extent the mission and vision are achieved from an external review perspective. The external audit panel of national and international peers from academia, industry, and professions consider HEIs portfolios and verifies their completeness and accuracy through means of interviews and cross-checking with original documentation and other information sources. The audit panel produces a quality audit report that includes commendations, affirmations, and recommendations (CARs). The OAAAQA audit reports were written by various OAAAQA panels to which the audits were entrusted. The comments of the panel often include the following wording: commendations (= Well done!), affirmations (= The HEI seems to have started dealing with the problem), and recommendations (= There is still work to be done). All accreditation outcomes or reports are clearly written and defined to ensure stakeholders understand the respective HEI's accreditation status and any implication the outcome may have for the HEI in the future. The selection criteria for these reports were the frequency of CARs on all of them. We analyzed audit reports (available on the OAAAQA's website: <http://www.oaaa.gov.om>) of 8 Omani local HEIs (universities and colleges) as part of our research. To maintain confidentiality, we have chosen not to disclose the details of the HEIs in this study; however, the readers may easily access the OAAAQA website to examine these reports and the available comments regarding the HEIs' approaches in developing, implementing, and promoting research-teaching nexus approaches. By reviewing the corpus on the OAAAQA's website – <http://www.oaaaqa.gov.om> – the data for this study were collected and compiled based on the recommendations and affirmations made by the OAAAQA's panels on research-teaching nexus across the 8 Omani HEIs.

4.2 Analytical procedures:

The analysis of the review was conducted through content analysis to identify categories (Morse, 2008), guided by the objectives of the study and the research questions. Qualitative content analysis (QCA) is “a highly flexible, pragmatic, and systematic method used for investigation of a wide range of topics” (Selvi, 2019, 450). The most salient issues in the reports regarding the research-teaching nexus were highlighted, discussed, and reported. The OAAAQA audit reports were written by various OAAAQA panels to which the audits were entrusted. The recommendations are general to give each HEI the freedom to seek out solutions to their challenges. Lists of codes and subcategories were manually developed, and subsequently relevant data were used to answer the research questions.

5. Findings and discussion:

Overall, the reviewed reports showed that the research-teaching nexus is currently conceptualized and understood differently by the various HEIs. Additionally, the most salient research-teaching nexus issues relate to the lack of systematic approaches or frameworks to this nexus, and the lack of explicit indicators or descriptors to measure it. Furthermore, the findings indicated that there is a lack of policies, procedures, and protocols that promote and encourage faculty to link their research to teaching within its research framework. These four areas will be summarized and discussed sequentially, followed by the presentation of the study conclusions and recommendations and suggestions for further research with regards to RTN in Oman and beyond.

5.1 Conceptualizing research-teaching nexus:

“The OAAAQA recommends that the ... revisit its approach to the Research-Teaching Nexus by clearly defining what is classified as research-informed teaching and implementing explicit descriptors as well as indicators for its measurement and analysis”.

It is unclear if faculty consider the research-teaching nexus and the HEIs should continue to support scholarly activities to promote a systematic approach to linking teaching and research which ensures a research-led teaching focus. Faculty should be supported to ensure that all student teaching is evidence-based, up-to-date and based on the latest research. The Panel here urges that HEIs need to implement a systematic approach to developing a research action plan to ensure its research and scholarly activities have a positive impact on teaching and learning. This idea is in line with the findings of McKenzie et al. (2018) regarding the lack of consensus in the definition and perceptions around RTN. Given the diversity and variety of meanings and interpretations of the concept of research-teaching nexus further awareness raising on conceptual understandings, multi-dimensionality (Elken & Wollscheid, 2016) and ways of implementing RTN could be beneficial (Clark & Hordósy, 2019; Harland, 2016; Healey, 2005, Hordósy, & McLean, 2022, Palmer et al., 2015, Wareham & Trowler, 2007).

5.2 Lack of policies, procedures, systematic approach, and protocols for promoting research-teaching nexus:

“The Panel found that at the time of the audit, the research-teaching nexus at the University was not developed and it was informed that... will be able to pursue this goal once the research framework has been developed. ...is encouraged to put in place policies, procedures, and protocols that promote and encourage faculty to link their research to teaching within its research framework”.

It is apparent from the quotes above from the OAAAQA's reports that HEIs need to develop explicit frameworks, policies, procedures and protocols that can guide both faculty members and students to get engaged in research-informed teaching.

The same point was also highlighted by the quote below:

“The Oman Academic Accreditation Authority recommends that the ... complete the development of its research framework in order to provide an overarching approach to research planning; management; and funding”.

The lack of measurement mechanism was also noted by the QA panel as in the quote below:

“There is currently no systematic approach to the dissemination of research findings among faculty and staff. As the College develops its research profile, it is encouraged to review its approach to developing its research-teaching nexus”.

“The Oman Academic Accreditation Authority recommends that the ... develop and implement a mechanism to ensure the nexus between teaching and research, and ensure that teaching and learning in the College are informed, among other aspects, by research outputs”.

“The Oman Academic Accreditation Authority recommends that ... develop a conceptual framework for staff research that supports its strategic intent”.

As we can see from the above quotes, the OAAAQA panel found no evidence of a college-wide system through which research, teaching and learning are linked for the enhancement of student learning. The panel acknowledges that research at ... is in its early stages of development; however, as the research agenda develops, the College will need to make the teaching-research nexus an explicit part of its research plans. The Panel encourages the College to develop a comprehensive system with clear strategies to enhance students' engagement with staff research and, in turn, enhance the quality of student learning

opportunities in the College.

5.3 Students' involvement in research:

“During the audit interviews, a few faculty members reported conducting research with students, but no evidence was available to substantiate these claims. There is currently no systematic approach to the dissemination of research findings among faculty and staff. As the College develops its research profile, it is encouraged to review its approach to developing its research-teaching nexus”.

As we can see here, the HEI in question did not involve students in research. There is no clear approach to involve students in joint research projects with faculty members nor is there any way whereby research findings are disseminated among faculty members. Such comments reveal the need for more policies to encourage faculty-student research as well as to set clear and measurable approaches as to how research-teaching nexus is implemented and measured. Increased students' involvement in research is supported by many researchers (e.g., Baldwin, 2005, McKinley, 2019) who argue that the nexus can be enhanced by the use of teachers' own research utilized in teaching courses, with students also given opportunities to conduct research projects.

5.4 Lack of explicit indicators or descriptors for measuring research-teaching nexus:

The findings of the present study revealed that there is a lack of explicit descriptors for analyzing and measuring the research-teaching nexus in some Omani HEIs. This was clearly expressed in the following OAAAQA's recommendations:

“The OAAAQA recommends that the ... revisit its approach to the Research-Teaching Nexus by clearly defining what is classified as research-informed teaching and implementing explicit descriptors as well as indicators for its measurement and analysis”.

A similar recommendation was made regarding research plan and its measurement tools:

“The Oman Authority for Academic Accreditation and Quality Assurance of Education recommends that ... develop and implement a comprehensive research plan with clear research targets against which research performance is to be measured.”

“The College is in the early stage of its research and scholarly development, but as such it is also ideally placed to put in place measures to determine whether or not its teaching activities and student learning are effectively enhanced by staff research and

scholarship.”

The above quote exemplifies the need for mechanisms, descriptors or tools for measuring and analyzing the research-teaching nexus so that it can be understood and implemented in a better way.

“The Oman Academic Accreditation Authority recommends that the ... develop and implement a mechanism to ensure the nexus between teaching and research, and ensure that teaching and learning in the College are informed, among other aspects, by research outputs”.

OAAAQA panel points out that:

Apart from a course on research methods, there is no direct training for research within its programmes (Portfolio, 47). It was apparent, in interviews with staff, that there was indeed some overlap between staff research interests and the academic programmes delivered within ... As the ownership and contextualisation of programmes continues (and the research strategy develops), it is expected that there will be increased opportunity to enhance the engagement between staff research and student learning and to thus enhance the quality of student learning opportunities in the College

OAAAQA panel recommends that:

The Oman Academic Accreditation Authority recommends that ...review its Vision in relation to research to reflect an appropriate role of research and scholarly activity within the context of the College position within the overall higher education sector.

These findings are consistent with other studies. The relationship between performance indicators for teaching and (discovery) research was not adequately seen. This is in line with the misunderstanding of a zero correlation between the two variables (Waller and Prosser, 2023). By separating teaching and research activities, complementary expertise is lost.

6. Conclusions and recommendations

This a small-scale qualitative study intended to explore the research-teaching nexus element in the OAAAQA reports with the view of informing HEIS in Oman and beyond to better conceptualize, define, implement, and measure such nexus. As we have seen, there is a lack of consensus among academics and higher education institutions in the literature as to how research-teaching nexus is conceptualized, defined, materialized, and measured to ultimately improve and ensure both research and teaching research quality. This nexus is found to be conceptualized differently in different HEIs. This is not an exception to what

has been revealed in the OAAAQA reports where it was unsurprisingly found that different Omani HEIs have different conceptualizations, definitions, and practices as to how the teach-research nexus is dealt with. The present study was conducted in a single educational context and was based on a single source of data from reports published by a single academic accreditation authority. The findings are therefore not intended for generalization. However, in the light of the study findings and insights, some recommendation can still be made to help HEIs in the context of study and further afield to better define, conceptualize, implement, and measure the relationship between research and teaching beyond meeting the requirements of accreditations, to better inform and maintain the quality of both research and teaching.

First, HEIs need to have clear policies to promote research culture and productivity among staff members. These policies should promote faculty-student research projects to help involve students in research activities and thereby transferring and reflecting research findings into pedagogy. One way whereby faculty can involve students in research is by initiating action research stemming from actual classroom problems that are observed by both teachers and students. They can jointly research such problems to come up with findings that can help address them.

Second, given the lack of consensus among academics and HEIs regarding the conceptualization, definition, materialization, and measurement of the relationship between research and teaching, HEIs should design a clear framework to guide faculty on how to optimally make their teaching more research sensitive, led, oriented or informed. No matter how far they should go in informing teaching with research, clear indicators and descriptors should be designed to ensure that any level of relationship between research and teaching can be noticed and measured. HEIs can be different in their focus on research and teaching with some being more teaching oriented, others are more research-oriented, and yet some are in between. Accordingly, these factors should be taken into consideration when policies, descriptors and indicators for research-teaching nexus conceptualization, definition, implementation, and measurements are designed. In light of the findings of the study and the insights it has provided for promoting research –teaching nexus in HEIs, other noteworthy questions have emerged that might prompt further research. More future research can explore the research-teaching nexus from both students and faculty perspectives across all disciplines. Conducting a study of this type might reveal different views about RTN across the discipline. In order for the Omani HEIs to reach a considerable degree of quality in their research activities, especially in research-teaching nexus, there should be clear and explicit mechanisms for measuring the achievement of such linkage between research and teaching. Awareness can thus be raised on how well they are doing in this regard. This can be established through an institutional culture of quality assurance, enhancement, and management.

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